

E.7/2 (Amended April 2016 and
April 2017)



(1990/000900/30)

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

(This Specification shall be used in Transnet Contracts)



TRANSNET SOC LTD
(1990/000900/30)

ACTING THROUGH ITS OPERATING DIVISION TRANSNET FREIGHT RAIL

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

NO. E.7/2

AGREEMENT made and entered into by and between Transnet SOC Ltd, registration number 1990/000900/30 a state-owned company with limited liability and incorporated in terms of the company laws of the Republic of South Africa (hereinafter referred to as "Transnet"), acting through its operating division Transnet Freight Rail with its address at Inyanda House 3, 11 Girton Road, Parktown, 2193, of the one part, and

_____ hereinafter referred to as the "Grantee" and represented by _____ in his capacity as _____ of the other part.

WHEREAS the Grantee intends to construct or perform or cause to be constructed or performed Works consisting of _____ on a site situated at _____ and which will be *on, *over, *under or *adjacent to a railway line *and near high voltage electrical equipment.

Reference numbers:

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:-

1. Transnet hereby grants to the Grantee, which the Grantee hereby accepts, authority to perform work on, over, under or adjacent to a railway line on the defined site and subject to the conditions and requirements stipulated herein and in the General Conditions and Specification for Works On, Over, Under or Adjacent to a Railway Line and near High Voltage Equipment (E.7/2), which document forms part of this Agreement.
2. The Grantee undertakes to ensure that the conditions and requirements set out in the E7/2 are observed and complied with in all respects by himself, his employees and any contractor and subcontractors and their employees that may be appointed by the Grantee for the construction or performance of the Works.
3. The Grantee undertakes also to provide the indemnities, safeguards and insurances required in terms of the said General Conditions and Specifications.
4. Failure by the Grantee or any Contractor, subcontractor or their employees to observe and comply with these requirements of Transnet, may result in the cancellation of this Agreement and the authorisation granted in terms hereof being withdrawn.
5. The domicili citandi at executandi of the parties to this agreement are :-
 - (i) TRANSNET:
Inyanda House 3
11 Gorton Road
Parktown
2193
 - (ii) THE GRANTEE :

Signed by _____ on behalf of the Grantee at
_____ on this _____ day of _____ 20_____
in the presence of the undersigned witnesses.

AS WITNESSES: _____ p.p. GRANTEE

1. _____

2. _____

Signed by _____ on behalf of Transnet at
_____ on this _____ day of _____ 20_____
in the presence of the undersigned witnesses.

_____ TRANSNET SOC LTD

AS WITNESSES :

1. _____

2. _____

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1. **DEFINITIONS**

PART A : GENERAL CONDITIONS

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

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

Bond. A short conductor installed to provide electrical continuity.

Contractor. The person or organisation appointed by the Grantee to carry out work on his/its behalf.

Dead. Isolated and earthed.

Duly Authorised Representative of Transnet. Any Transnet employee whose responsibilities include the safety of trains, persons and Transnet property in the area in which the work is being undertaken.

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

Grantee. A person or organisation to whom authorisation has been granted by Transnet to perform work on, over, under or adjacent to a railway line.

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

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

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

Occupation between trains. An occupation during an interval between successive trains.

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

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

Site. The land and other place on, over, under, in or through which the Works are to be executed or carried out and any other land or place made available by Transnet in connection with the Works.

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

Transnet. Transnet SOC Ltd, registration number 1990/000900/30 a state-owned company with limited liability and incorporated in terms of the company laws of the Republic of South Africa

(hereinafter referred to as "Transnet"), acting through its operating division Transnet Freight Rail with its address at Inyanda House 3, 11 Girton Road, Parktown, 2193.

Transnet Freight Rail An operating division of Transnet SOC Ltd, registration number 990/000900/30.

Transnet Technical Officer's Deputy. Any person appointed by the Transnet Technical Officer to act on his behalf.

Transnet Technical Officer. The engineering officer appointed by Transnet to liaise with the Grantee and his Contractor to ensure that Transnet's interests are safeguarded.

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 works, on, over, under or adjacent to a railway line to be executed by the Grantee or Contractor and for which permission has been obtained from Transnet.

PART A : GENERAL CONDITIONS

2. ADVERTISING AND NOTICE BOARDS ON TRANSNET PROPERTY

- 2.1 Transnet reserves all advertising rights on its property.
- 2.2 No advertisement or notice board may be erected on Transnet property by the Grantee or Contractor unless the written approval of Transnet has first been obtained.
- 2.3 All information on notice boards shall be in one official language and the proposed wording shall be submitted for approval by the Transnet Technical Officer.

3. TRADING ON TRANSNET PROPERTY

- 3.1 The Grantee or Contractor shall not trade on Transnet property without the prior approval of the Transnet Technical Officer.

4. ENTRY ON TRANSNET PROPERTY

- 4.1 Entry on, over or under Transnet property is restricted. Permission to enter will be given by the Transnet Technical Officer only for the purpose of carrying out the Works and will be subject to terms and conditions laid down by Transnet.
- 4.2 Permission to enter will be considered on condition that no act or omission on the part of the Grantee, the Contractor or their employees shall affect the safe and uninterrupted passage of trains or the safety of persons or Transnet property, and may be withdrawn at the discretion of the Transnet Technical Officer.

5. INSTALLATIONS AND SERVICES ON TRANSNET PROPERTY

- 5.1 Should it be necessary to maintain, discontinue, disconnect, remove or relocate any installation or service on Transnet property, the Grantee shall, with the prior approval of the Transnet Technical Officer, cause it to be maintained, discontinued, disconnected, removed or relocated as the case may be, in such a manner as may be required either by the

Transnet operating division, the owner of a private installation or service or by the local or statutory authority in the case of a public utility installation or service. The Grantee shall be responsible for sending all requisite notices to the authorities or persons concerned and for making arrangements for the maintenance, discontinuance, disconnection, removal or relocation of the said installations or services as the case may be. He shall be responsible for the payment of all fees or charges that may become payable to the local or statutory authority or persons concerned in connection with any of the above-mentioned matters or

arrangements. Any alterations required to installations or services controlled by Transnet or Telkom SA SOC Ltd will be arranged by Transnet at the cost of the Grantee.

- 5.2 The Contractor shall, before commencing work, ascertain from the Transnet Technical Officer or any local or other authority whether overhead or underground electrical conductors are affected by the Works, and the Contractor shall ensure that any precautionary measures required are strictly observed.

6. ACCESS, FENCING AND GATES ON TRANSNET PROPERTY

- 6.1 The Grantee shall arrange, at his own expense, for access to Transnet property. The Grantee 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 Transnet Technical Officer, the Grantee shall not cut, lower, damage or remove or otherwise interfere with any fence or gate which is either on the Transnet boundary or which restricts access to Transnet property. Where such approval has been given, the Grantee shall prevent entry on to Transnet property by animals or unauthorised persons and shall make the fences safe against trespass at the close of each day's work.
- 6.2 When access is no longer required and before completion of the Works, the Grantee shall, at his own expense, repair, restore or replace fences and gates to the satisfaction of the Transnet Technical Officer.

7. FOSSILS AND ANTIQUITIES ON TRANSNET PROPERTY

- 7.1 All fossils, coins, articles of value or antiquity, and structures and other remains or things of geological or archaeological interest discovered on the site shall be deemed to be the absolute property of Transnet. The Grantee shall take reasonable precautions to, prevent his workmen or any other person from removing or damaging any such article or thing, and shall immediately upon discovery thereof and before removal, inform the Transnet Technical Officer of such discovery, and carry out his orders as to the disposal thereof.

8. AREA NOT TO BE POLLUTED

- 8.1 Pollution of the area inside or adjacent to the Transnet boundaries shall be prevented.

9. COMPLIANCE WITH STATUTES

- 9.1 The Grantee and his Contractor shall comply with:
- 9.1.1 the local, Provincial or South African Government laws in force at the time;
 - 9.1.2 South African National Standards and Codes of Practices;
 - 9.1.3 the provisions of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). For the purpose of this Act, the site occupied by the Grantee or Contractor is transferred, for the duration of the contract, to the control of the Grantee. As an employer in his own right he is in every respect responsible for the compliance with the provisions of this Act.

- 9.2 Where the Works are situated within the borders of a neighbouring independent state and South African legislation referred to in these conditions is not applicable in such place, the Grantee shall be bound by the provisions of the corresponding legislation applicable there.

10. SITE BOOK

- 10.1 The Grantee shall supply and have available on the site at all times an A5 size triplicate carbon copy book with detachable sheets for receiving and recording instructions by the Transnet Technical Officer or other officers of Transnet. The Grantee shall request the person concerned to write the instruction in the site book, to sign it and to record his official designation. The instruction shall be countersigned by the Grantee or his agent. The original sheet of the site book will be removed and retained by the Transnet Technical Officer and carbon copies retained by the Grantee.

11. GRANTEE'S REPRESENTATIVES

- 11.1 The Grantee shall exercise supervision over the Works at all times during working hours, or shall be represented by an agent having full power and authority to act on his behalf. 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 Grantee. The Transnet Technical Officer shall be notified in writing of such appointment.
- 11.2 The Grantee or his Contractor shall be available on the site at all times while the Works are in progress to receive the instructions of the Transnet Technical Officer.
- 11.3 The Grantee shall nominate Responsible Representatives of whom at least one shall be available at any hour for call-out in cases of emergency. The Grantee shall provide the Transnet Technical Officer with the names, addresses and telephone numbers of the representatives.
- 11.4 The Grantee 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.

12. FACILITIES TO TRANSNET OR OTHER CONTRACTORS

- 12.1 The Grantee shall, in accordance with the requirements of the Transnet Technical Officer, afford all reasonable facilities to any of the Transnet workmen or other contractors who may be required by Transnet to perform duties or carry out work on or contiguous to the Works. Any dispute arising in this connection between the Grantee and Transnet workmen or other contractors will be settled by the Transnet Technical Officer who will convey his decision to the Grantee and other parties concerned.

13. CARE OF THE WORKS

- 13.1 The Grantee shall take full responsibility for the care of the Works and any temporary works, and shall be liable for any damage caused by him in the course of any of his operations.

14. TEMPORARY LEVEL CROSSINGS

- 14.1 The Transnet Technical Officer may permit the construction of a temporary level crossing over the railway line at any site approved by him. Applications for temporary level crossings shall be submitted in writing by the Grantee. The period for which the level crossing is permitted will be at the discretion of the Transnet Technical Officer.

- 14.2 Transnet, at the cost of the Grantee, will construct the roadway over the railway line and for a distance of 3m beyond the outermost rails, supply and erect all level crossing signs and height gauges and alter any communication or signal wire route for an approved temporary level crossing. All other work required by the Transnet Technical Officer to establish the level crossing, such as drainage in particular, shall be carried out by the Grantee at his own cost.
- 14.3 The Grantee shall, at his own cost, take all necessary steps including the provision of gates, locks and, where necessary, watchmen to restrict the use of the level crossing to himself and his employees, his contractors and their employees, the staff of Transnet and to such other persons as the Transnet Technical Officer may permit, of whose identity the Grantee will be advised.
- If ordered by the Transnet Technical Officer, the Grantee shall, at his own cost, appoint persons to control road traffic using any temporary level crossing.

Such persons shall stop all road traffic when any approaching train is within 750m of the level crossing and shall not allow the road traffic to proceed over the level crossing until the lines are clear.

15. **BLASTING**

- 15.1 No blasting in the vicinity of railway lines shall be carried out except with the prior written permission of the Transnet Technical Officer.
- 15.2 The Grantee shall advise the Transnet Technical Officer of his intention to blast at least 14 days prior to the commencement of any blasting operation.
- 15.3 The Grantee shall have labour, tools and plant, to the satisfaction of the Transnet Technical Officer, available on the site to immediately clear any stone 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 Transnet.
- 15.4 Before any blasting is undertaken, the Grantee and the Transnet Technical Officer shall jointly examine any buildings, houses or structures on Transnet land in the vicinity of the proposed blasting and record the extent of any cracking or damage that exists. The Grantee shall, at his own expense, make good any deterioration of such buildings, houses, or structures which, in the opinion of the Transnet Technical Officer, is a direct result of the blasting. The Grantee shall provide proof that he has complied with the provisions of clauses 10.17.1 to 10.17.4 of the Explosives Regulations issued under the Explosives Act, 1956 (Act No. 26 of 1956).
- 15.5 Blasting within 500m of a railway line will be permitted only during intervals between trains. A person appointed by the Transnet Technical Officer, assisted by flagmen with the necessary protective equipment, will be in communication with the controlling railway station or Train Control Officer. Only this appointed person will be authorised to give the Grantee or his Contractor permission to blast and the Grantee shall obey his instructions implicitly regarding the time during which blasting may take place.
- 15.6 The flagmen described in clause 15.5 are provided for the protection of trains and Transnet property only, and their presence does not relieve the Grantee in any manner of any of his responsibilities in terms of the Explosives Act, 1956 (Act No. 26 of 1956) or regulations issued thereunder, or any obligation in terms of these general conditions and specifications.

15.7 The person described in clause 15.5 will record in a book supplied and retained by Transnet, the dates and times:-

- (i) when each request is made by him to the controlling railway station or Train Control Officer for permission to blast;
- (ii) when blasting may take place;
- (iii) when blasting actually takes place; and
- (iv) when he advises the controlling railway station or Train Control Officer that the line is safe for the passage of trains.

15.8 Before each blast the Grantee shall record in the same book, the details of the blast to be carried out. The person appointed by the Transnet Technical Officer and the person who will do the blasting shall both sign the book whenever an entry described in clause 15.7 is made.

15.9 The cost of all control and protection services provided by Transnet for blasting shall be borne by the Grantee.

15.10 The terms of clause 45 hereof shall be strictly adhered to.

16. WATCHING AND LIGHTING

16.1 The Grantee shall provide and maintain at his own cost, all lights, guards, barriers, fencing and watchmen when and where necessary or as required by the Transnet Technical Officer 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, and red, yellow, green or white flags shall not be used by the Grantee in such a position where they can be mistaken for railway signals. The grantee shall obtain the permission of the Port Captain before installing any light in a harbour area.

17. PROTECTION

17.1 The Grantee, at his own cost, 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 Transnet and the Grantee;
- (iii) avoid damage to and prevent trespass on adjoining properties; and
- (iv) ensure compliance with any instruction issued by the Transnet Technical Officer or by any person appointed by him, or any instruction embodied in these conditions which affects the safety of any person or thing.

17.2 Transnet will, at the cost of the Grantee, provide protection for the safe working of trains during such operations as the Transnet Technical Officer may consider necessary. Protection by Transnet for any purpose whatsoever does not absolve the Grantee from his responsibilities in terms of these conditions.

17.3 The Grantee 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 site of the Works and for the preservation of the peace and protection of persons and property in the neighbourhood of the Works. Any relocation of camps on account of disorder shall be at the Grantee's expense.

18. ROADS ON TRANSNET PROPERTY

- 18.1 The Grantee shall not restrict the free use of any road, right-of-way or path on Transnet property without approval of the Transnet Technical Officer.
- 18.2 The Grantee shall make good or bear the cost of making good any damage caused by him to any road or path on Transnet property.
- 18.3 The Grantee shall construct and maintain any temporary roads which he may require after the Transnet Technical Officer has agreed to such roads and to the details of their construction.

19. INTERFERENCE WITH TRANSNET ASSETS AND WORK ON OPEN LINES

- 19.1 The Grantee shall not interfere in any manner whatsoever with a railway line, nor shall he carry out any work or perform any act which affects the security, use and safety of a railway line or Transnet property except with the authority of the Transnet Technical Officer and in the presence of a duly authorised representative of Transnet.
- 19.2 The Grantee shall not carry out any work, or operate any plant, or place any materials nearer than 3m from the centre line of any railway line except with the written permission of the Transnet Technical Officer and subject to such conditions as he may impose. The cost of implementing such conditions shall be borne by the Grantee.
- 19.3 Care shall be taken not to interfere with or damage any services such as overhead wire routes, cables or pipes on Transnet property except as provided for in 5.1. The Grantee will be held responsible for any damage to or interruption of such services caused by the Grantee or any of his employees or persons engaged by him on the Works. The cost of repairing, replacing or restoring the services, shall be borne by and will be recovered from the Grantee.

20. INDEMNITIES AND INSURANCE

- 20.1 The Grantee indemnifies Transnet against all claims made by third parties against either Transnet or the Grantee or both consequent upon the death of or bodily injury to or illness of any person or loss of or damage to any property and against any other claims, proceedings, damages, costs and expenses arising out of or by reason of the execution of the Works by the Grantee, his employees or any of his contractors or subcontractors or their employees.
- 20.2 The Grantee shall insure in the joint names of the Grantee and Transnet, with a company registered in the Republic of South Africa, against all claims legally enforceable against the Grantee or Transnet by any third party, arising out of any act or omission on the part of the Grantee or Transnet or any of their employees, contractors or subcontractors in the course of and as a consequence of executing the Works.
- 20.3 The limit of indemnity provided by the policy shall be the amount of R15 000 000,00 (the fifteen million rand) in respect of any one occurrence or a series of occurrences arising out of one event inclusive of all costs and expenses of litigation but unlimited in respect of the number of events during the period of insurance. The Grantee shall be responsible for all amounts payable as deductibles in terms of the Policy.

- 20.4 The insurance to be provided in terms clause 20.2, shall have a cross liabilities cover in respect of which Transnet and the Grantee shall be separately indemnified in respect of claims made by any one of them against the other as though a separate policy has been issued to each of them.
- 20.5 The insurance coverage shall be obtained from an insurer in terms of an insurance policy approved by Transnet. The Grantee shall, before commencing work, submit to the Transnet Technical Officer the policy of insurance together with a certificate from the insurer or insurance broker concerned, confirming that the policy provides the full coverage referred to in clauses 20.2, 20.3 and 20.4, Grantee shall furthermore submit to the Transnet Technical Officer, at 3-monthly intervals, proof that premiums have been fully paid up. Under no circumstances shall the policy be cancelled while the Works are in progress without the written consent of the Transnet Technical Officer.
- 20.6 Before payment as settlement of any claim is made by the insurer, the claimant(s) shall certify in writing that such payment releases Transnet of all obligations resulting from any act or omission giving rise to such claim.

Transnet must be advised that the claim has been paid out directly to the claimant(s) concerned.

21. AUTHORITY OF OFFICERS OF TRANSNET

- 21.1 The Grantee, his contractors and subcontractors and their employees shall co-operate with the officers of Transnet and shall comply with all instructions issued and restrictions imposed with respect to the works which bear on the existence and operation of Transnet's railway lines and high voltage equipment.
- 21.2 Without limiting the generality of the provisions of clause 21.1, any duly authorised representative of Transnet, having identified himself, may stop the work if, in his opinion, the safe passage of trains or the safety of Transnet assets or of any person is affected. CONSIDERATIONS OF SAFETY SHALL TAKE PRECEDENCE OVER ALL OTHER CONSIDERATIONS.

22. AUTHORITY OF TRANSNET TECHNICAL OFFICER

- 22.1 The Transnet Technical Officer may direct the Grantee in regard to any measures which he may require for the operations of Transnet, the safety of trains, property and workmen of Transnet. The instructions issued by the Transnet Technical Officer shall not relieve the Grantee of any of his duties and liabilities in terms of these conditions, and shall not imply any assumption by Transnet or by the Transnet Technical Officer of the legal and other duties of the Grantee.
- 22.2 The Transnet Technical Officer may delegate to any deputy or other person any of his powers or functions in terms of these conditions and, on receiving notice in writing of such delegation, the Grantee shall recognise and obey the deputy or person to whom any such powers or functions have been delegated as if he were the Transnet Technical Officer.

23. OCCUPATIONS AND WORK PERMITS

- 23.1 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 Transnet Technical Officer and

at times to suit Transnet requirements.

- 23.2 The Grantee shall organise the Works in a manner which will minimise the number and duration of occupations and work permits required.
- 23.3 Transnet shall not be liable for any financial or other loss suffered by the Grantee his contractors or subcontractors arising from his/their failure to complete any work scheduled during the period of an occupation or work permit.
- 23.4 The Grantee shall submit to the Transnet Technical Officer, in writing, requests for occupations or work permits together with details of the work to be undertaken at least 14 days before they are required. Transnet does not undertake to grant an occupation or work permit for any particular date, time or duration.
- 23.5 Transnet reserves the right to cancel any occupation or work permit at any time before or during the period of occupation or work permit. If due to cancellation or change in date or time the Grantee is not permitted to start work under conditions of total occupation or work permit at the time arranged, all costs shall be for the Grantee's account.
- 23.6 Before starting any work for which an occupation has been arranged, the Grantee shall obtain from the Transnet Technical Officer written confirmation of the date, time and duration of the occupation.
- 23.7 Before starting any work for which a work permit has been arranged, the Responsible Representative shall read and sign portion C of form No. T.1276 signifying that he is aware of the limits within which work may be undertaken. After the work for which the permit was granted has been completed, or when the work permit is due to be terminated, or if the permit is cancelled after the start, the same person who signed portion C shall sign portion D of the T.2376 form, thereby acknowledging that he is aware that the electrical equipment is to be made "live". The Grantee shall advise all his workmen, Contractors or subcontractors accordingly.

24. SPEED RESTRICTIONS AND PROTECTION

- 24.1 When speed restrictions are imposed by Transnet because of the Grantee's activities, the Grantee shall organise and carry out his work so as to permit the removal of the restrictions as soon as possible.
- 24.2 When the Transnet Technical Officer deems protection necessary Transnet will provide, at the cost of the Grantee, personnel and equipment for the protection of trains. The Grantee shall consult the Transnet Technical Officer whenever he considers that protection will be necessary, taking into account the minimum permissible clearances set out in Appendixes 1 to 4.
- 24.3 The Grantee shall appoint a Responsible Representative to receive and transmit any instruction which may be given by Transnet personnel providing protection.
- 24.4 The Grantee shall provide all protection other than the protection of trains.

25. CLEARANCES

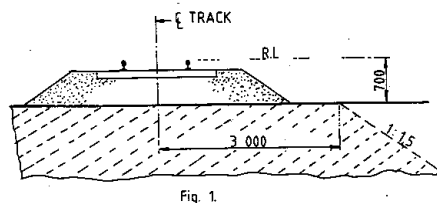
- 25.1 No temporary works shall encroach on the appropriate minimum clearances set out in Appendixes 1 to 4.

26. **STACKING OF MATERIAL**

- 26.1 The Grantee shall not stack or cause material to be stacked closer than 3m from the centre line of any railway line without prior approval of the Transnet Technical Officer.

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

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



- 27.2 Where required by the Transnet Technical Officer, drawings of shoring for any excavation under or adjacent to a railway line shall be submitted and permission to proceed obtained before the excavation is commenced.
- 27.3. The Grantee shall prevent ingress of water to the excavation and where water does enter, he shall dispose of it as directed by the Transnet Technical Officer.
- 27.4 The Grantee 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.

28. **FALSEWORK FOR STRUCTURES**

- 28.1 Drawings of falsework for the construction of any structure over, under or adjacent to any railway line shall be submitted and permission obtained to proceed 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.

- 28.2 After the falsework has been erected and before any load is applied, the Grantee shall submit to the Transnet Technical Officer a certificate signed by a registered professional engineer certifying that he has checked the falsework and that it has been erected in accordance with the drawings. Titles and numbers of drawings shall be quoted in the certificate. Notwithstanding permission given by the Transnet Technical Officer to

proceed, the Grantee shall be entirely responsible for the safety and adequacy of the falsework.

29. PILING

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

30. UNDERGROUND SERVICES

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

31. RAIL TROLLEYS

- 31.1 The use of rail or trestle trolleys on a railway line will be permitted only if approved by the Transnet Technical Officer and under the conditions stipulated by him.
- 31.2 All costs in connection with rail trolley working requested by the Grantee shall be borne by the Grantee.

32. SIGNAL TRACK CIRCUITS

- 32.1 Where signal track circuits are installed, the Grantee shall ensure that no material capable of conducting an electric current makes contact between rails of a railway line/lines.
- 32.2 No signal connections on track-circuited tracks shall be severed without the Transnet Technical Officer's knowledge and consent.

33. PENALTY FOR DELAYS TO TRAINS

- 33.1 If any trains are delayed by the Grantee a penalty will be imposed on the Grantee of R10 000 per hour or part thereof for the period of delay, irrespective of the number of trains delayed.

34. PAYMENT FOR SERVICES OF THE TRANSNET TECHNICAL OFFICER & OTHERS

- 34.1 The Grantee shall pay Transnet for the services and time of the Transnet Technical Officer, his deputy the Electrical Officer (Contracts) and any authorised persons and representatives of Transnet on an hourly basis and at the scales of fees recommended by the South African Association of Consulting Engineers or as otherwise agreed. The Grantee shall, in addition, pay all costs and expenses in respect of accommodation, travelling and other disburseable amounts incurred by the Transnet representatives, as a consequence of such services provided.

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

35. GENERAL

- 35.1 This specification is based on the contents of Transnet Freight Rail's publication SAFETY INSTRUCTIONS, HIGH-VOLTAGE ELECTRICAL EQUIPMENT as amended, a copy of which will be made available on loan to the Grantee or his Contractor for the duration of the Work. These instructions apply to all work near live high-voltage equipment maintained and/or operated by Transnet, and the onus rests on the Grantee to ensure that he obtains a copy.
- 35.2 The Grantee's attention is drawn in particular to the contents of Part I, Sections 1 and 2 of the Safety Instructions : High-Voltage Electrical Equipment.
- 35.3 The Safety Instructions : High-Voltage Electrical Equipment cover the minimum safety precautions which must be taken to ensure safe working on or near high-voltage electrical equipment, and must be observed at all times. Should additional safety measures be considered necessary because of peculiar local conditions, these may be ordered by and at the discretion of the Electrical Officer (Contracts).
- 35.4 This specification must be read in conjunction with and not in lieu of the Safety Instructions : High-Voltage Electrical Equipment.
- 35.5 The Grantee 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.
- 35.6 The Grantee shall regard all high-voltage equipment as live unless a work permit is in force.
- 35.7 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 Grantee. The Grantee shall, unless otherwise agreed, bear the cost of the provision of the barriers and other safety precautions required, including the attendance of Transnet staff where this is necessary.
- 35.8 No barrier shall be removed unless authorised by the Electrical Officer (Contracts).

36. WORK ON BUILDINGS OR FIXED STRUCTURES

- 36.1 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.
- 36.2 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.
- 36.3 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.

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

37.1 No person shall stand, climb or work whilst on any platform, surface or foothold higher than the normal unrestricted places of access, namely :-

- (i) the floor level of trucks;
- (ii) external walkways on diesel, steam and electric locomotives, steam heat vans, etc. and
- (iii) walkways between coaches and locomotives.

When in these positions, no person may raise his hands or any equipment or material he is handling above his head.

37.2 In cases where the Grantee 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.

37.3 The handling of long lengths of material such as metal pipes, reinforcing bars, etc should be avoided, but if essential they shall be handled as nearly as possible in a horizontal position below head height.

37.4 The Responsible Representative shall warn all persons under his control of the danger of being near live high-voltage equipment, and shall ensure that the warning is fully understood.

37.5 Where the conditions in 37.1 to 37.3 cannot be observed the Electrical Officer (Contracts), shall be notified. He will arrange for suitable safety measures to be taken. The Electrical Officer (Contracts), may in his discretion and in appropriate circumstances, arrange for a suitable employee of the Grantee or his Contractor to be specially trained by Transnet Freight Rail and at the Grantee's costs, as an Authorised Person to work closer than 3 metres from live overhead conductors and under such conditions as may be imposed by the Senior responsible Electrical Engineer in Transnet.

38. USE OF EQUIPMENT

38.1 Measuring Tapes and Devices

38.1.1 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.

38.1.2 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.

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

38.1.4 The assistance of the Electrical Officer (Contracts) shall be requested when measurements within the limits defined in 20.1.1 to 20.1.3 are required.

38.1.5 The restrictions described in 20.1.3 do not apply on a bridge deck between permanent parapets nor in other situations where a barrier effectively prevents contact with the live high-voltage equipment.

38.2 Portable Ladders

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

39. CARRYING AND HANDLING MATERIAL AND EQUIPMENT

39.1 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.

39.2 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.

39.3 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.

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

40.1 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.

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

40.3 The provisions of clauses 40.1 and 40.2 shall also apply to the erection or removal of columns, antennae, trees, posts, etc.

41. USE OF WATER

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.

42. USE OF CONSTRUCTION PLANT

42.1 "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.

42.2 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.

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

42.4 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.

42.5 Clauses 42.1 to 42.4 shall apply mutatis mutandis to the use of maintenance machines of any nature.

43. WORK PERFORMED UNDER DEAD CONDITIONS UNDER COVER OF A WORK PERMIT

43.1 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.

43.2 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.

44. TRACTION RETURN CIRCUITS IN RAILS

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

44.2 Broken rails with an air gap between the ends, and joints at which fishplates are removed under "broken bond" conditions, are potentially lethal. The rails on either side of an air gap between rail ends on electrified lines shall not be touched simultaneously until

rendered safe by Transnet personnel.

- 44.3 The Grantee shall not break any permanent bonds between rails or between rails and any structure. He shall give the Technical Officer at least 7 days written notice when removal of such bonds is necessary.
- 44.4 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.

45. BLASTING

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

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

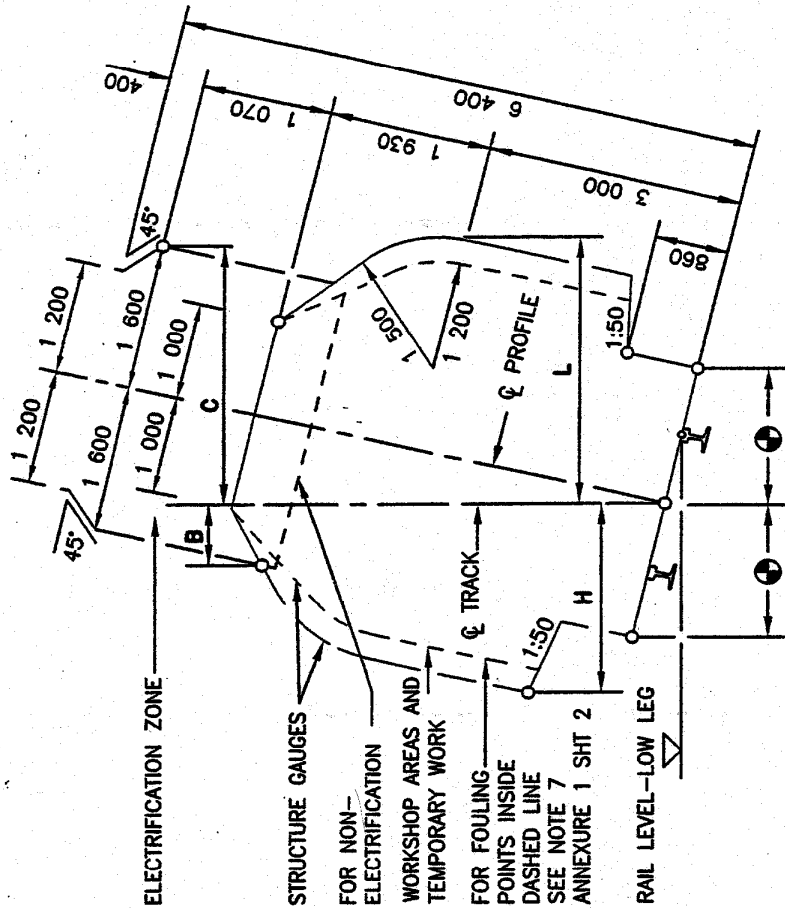
Where the work is undertaken on or near high-voltage electrical equipment on or in close proximity to Transnet Property, which is not maintained and/or operated by Transnet, the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and Regulations and Instructions issued thereunder shall apply, together with the Safety Instructions (Regulations of the Owner of the Equipment).

Such equipment includes :-

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

ANNEXURE 1
SHEET 1 of 5
AMENDMENT

HORIZONTAL CLEARANCES :
1 065mm TRACK GAUGE



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

REMARKS:

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

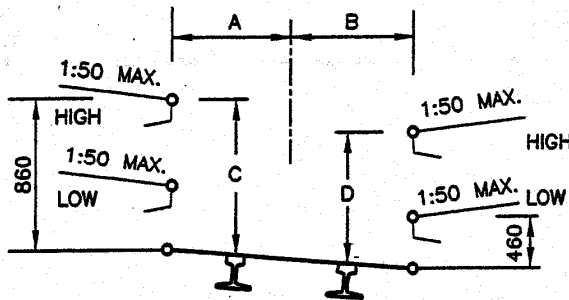
E.7/2 (Amended April 2016 and
April 2017)

ANNEXURE 1
SHEET 3 of 5
AMENDMENT

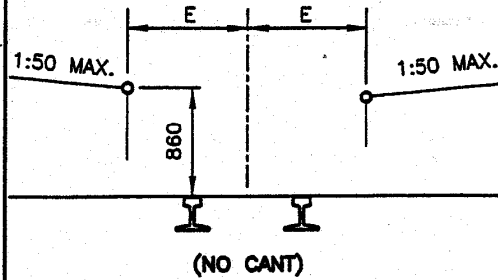
CLEARANCES : PLATFORMS

PLATFORMS : TRACK GAUGE 1 065mm

PASSENGERS



GOODS

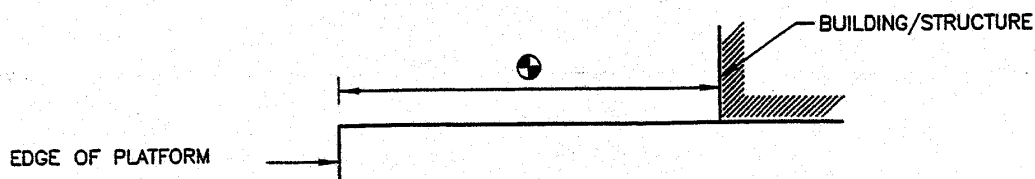


RADIUS (m)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
90	1 690	1 820	890	810	1 840
100	1 650	1 790	890	810	1 810
120	1 610	1 740	890	810	1 760
140	1 580	1 700	890	810	1 720
170	1 550	1 660	890	810	1 690
200	1 530	1 630	890	820	1 670
250	1 520	1 600	890	820	1 640
300	1 520	1 580	890	830	1 620
350	1 520	1 560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

REMARKS:

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

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



ANNEXURE 1
SHEET 5 of 5
AMENDMENT

CLEARANCES : 610mm TRACK GAUGE

