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SECTION 1

DESCRIPTION OF THE WORKS

1 DESCRIPTION OF THE WORKS

1.1 Employers objectives

1.1.1 This contract covers the Supply, Operate and Maintain for a new technology on-track logistical machine process for Loading, Transporting and Off-loading of new and second hand rails of a variety of rail masses in approximate lengths of 60m, 120m, 180m and 240m utilizing the minimum amount of manual labour, on all lines owned and or operated by Transnet Freight Rail. This Rail Train (RT) will be required to work on site at any place within the area specified.

1.1.2 All ancillary and associated equipment necessary for the effective and safe functioning of the RT shall be included as well as all necessary equipment, to operate the machine safely in line with tendered production rates and within available occupation times.

1.1.3 This Contract shall include for a RT design, built, supply, operate and maintain inclusive of all its equipment to be able to load and offload approximately 70 loads of 30 x 240m new/second-hand rails varying from 30kg/m to 60kg/m per annum for the contract period of 2 years at an operational availability of 97% while travelling loaded and empty on Transnet Freight Rail lines for approximately 70000km per year. This Availability shall be defined as: Total Normal Working Hours Available per year = 365days – 3x7 crew leave days - 49x2 weekend days = 246 work days x 24 hours normal working hours (loading/off-loading/travelling) = 5904 hours per year. Hours of Availability required during normal working hours (loading/off-loading/travelling) per annum for 97% availability: Total Hours per year x 97% = 5904 hour x 97% = 5727 hours per year.

1.1.4 Based on the damage potential in monetary terms to TFR's business of allowing a defective performing machine to continue affecting the train service the Project Manager may terminate the execution of work and/or order the machinery to be moved to another place of Work and/or order the removal of mechanic(s) and/or operator(s), and/or order the temporary or permanent removal and replacement of a machine under the following conditions:

1.1.4.1 When the output of the machinery is less than 70% of the required minimum productivity for a period of two consecutive months, or

1.1.4.2 when the percentage operational availability of the machinery as described above is less than 75% for a period of two consecutive months.

1.2 Overview of the works

1.2.1 At the Rail Supply Depot, the train will be loaded and off-loaded by overhead cranes of the Rail Supply Depot. The RT shall therefore specifically be compatible with the loading and off-loading systems of the Rail Supply Depot.

1.2.2 The RT must be able to safely transport rail loads at speeds up to 80 km/h during daylight and night time. The new or second hand rails are to be off-loaded at designated sites on lines anywhere on any of the Infrastructure Depot areas

1.2.3 The RT may be required to load rail of track to be uplifted. Tenders must comprehensively specify the ability of the machine offered in this respect. Loosening of rail fastenings will not form part of the function required from the RT Contractor.

1.2.4 The RT is specifically required to comply with all the Requirements as contained in the Particular Specification

1.3 Extent of the works

1.3.1 The RT will be required to handle much of the distribution of Transnet Freight Rail's annual new rail distribution from the Rail Supply Depot to anywhere on all of the Infrastructure Depot Areas around the country.

1.3.2 The RT will also be required to pick up from sections most of the released rail where rail replacement has been completed and transport the released rail either back to Rail Supply Depot for refurbishment or to other lines for cascading purposes.

1.3.3 The RT will be required to also handle most of the distribution of Transnet Freight Rail's annual refurbished rail distribution from the Rail Supply Depot to all the Infrastructure Depot Areas around the country.

1.3.4 Work that shall specifically be excluded from this contract are:

1.3.4.1 Preparation work for re-railing.

1.3.4.2 Re-railing.

1.3.4.3 Loosening and Fastening of rail to sleeper fastenings

1.4 Location of the works

Rails with be replaced on all of TFR's lines from time to time. Hence the RT will be required to distribute new and second-hand rails to all these places by travelling there and off-loading rails. Furthermore where ever rails are replaced, the released rails have to be removed from the section by way of RT loading it in section in the longest possible lengths of up to 240m and either transporting it back to the Rail Supply Depot or to any other place on the TFR network for cascading purposes. This implies that the RT will be required to load/off-load at any place on the TFR network of lines, travel to and from those places empty/loaded and load/off-load rails at any other place on the TFR network of lines. The loading/off-loading of the RT with new/refurbished/released rails at the Rail Supply Depot will be done by means of overhead cranes.

1.5 Temporary works

Released rails are normally placed next to the running rails where it will not interfere with passing rolling stock or maintenance machines. As a consequence it often slides down the ballast profile and even down the bank to varying degrees. The ability of the RT with the total of its resources to load such rails onto the RT must be considered by the Contractor. The Contractor shall be responsible for all preparation and temporary works required to make it possible for the RT to pick the rails up while maintaining the tendered production rate. This shall also apply to off-loading of rails. The nature of these temporary works must be such that it does not present a physical obstruction for the trains or result in delays for trains that are required to pass over the work site. It shall also be allowed to remain in track only while the contractor's team under suitable supervision is physically present on site. At the end of each occupation on completion of the work it shall be completely removed before the site will be accepted by TFR.

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ENGINEERING

2 ENGINEERING

2.1 Design matrix and activity matrix

Rails to be loaded transported and off-loaded will be 30kg/m, 40kg/m, 48kg/m, 57kg/m and 60kg/m. New rails as well as second-hand rails will be required to be transported, loaded and off-loaded. See Particular Specification for requirements as well as Annexure 14 of the Manual for Track Maintenance (2000) for rail profiles. (Available on request)

2.2 Employers design.

The RT must be able to comply with TFR's Trains Working Rules i.e. General Appendix 6 Part (I) Clause 1016. It must be designed and built to be declared "Rail Worthy" by TFR Train Design Department before being commissioned into regular service. The Contractor shall also ensure compliance with all directives issued from time to time by the Rail Safety Regulator (RSR). See Particular Specification.

2.3 Drawings

The RT shall be built to fit within the Track Structure Gauge as per Annexure 1 and 2 of the Manual for Track Maintenance (2000), when travelling and when loading or off-loading rails on multiple lines. In the event that the RT or the load fouls the Track Structure Gauge as mentioned above at any time, the movement of the RT shall be handled strictly in terms TFR Abnormal Load Procedure.

2.4 Design procedures

2.4.1 It is a specific requirement of this Contract that any modifications to cabooses and wagons for use in the RT shall be pre-approved at the design stage by TFR Train Design Department.

2.4.2 During commissioning and before putting the modified cabooses/wagons into service the modified cabooses/wagons shall be finally approved by TFR Train Design Department as being "Rail Worthy".

2.4.3 It is also a specific requirement that all wagon and caboose modifications shall comply with the requirements of the Rail Safety Regulator (RSR).

2.4.4 Also see requirements as per Particular Specification.

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3 PROCUREMENT

3.1 Preferential procurement procedures

3.2 Procurement process

3.3 Subcontracting

3.3.1 Subcontracting procedures

3.3.1.1 No part of the contract may be sub contracted without written approval from Transnet Freight Rail (TFR).

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4 CONSTRUCTION

4.1 Works Specification

4.1.1 Generic Specifications: (Available on request where not included)

4.1.1.1 TFR Trains Working Rules

4.1.1.2 TFR Protection Manual

4.1.1.3 TFR Electrical Safety Instructions

4.1.1.4 TFR Infrastructure Safety Guidelines

4.1.1.5 E10: Specification for Railway Trackwork

4.1.1.6 E10/1: Specification for laying of rails

4.1.1.7 E4B (November 1996): Minimum Communal Health Requirements in areas outside the jurisdiction of Local Authority

4.1.1.8 E4E (January 2004) – Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act

4.1.1.9 Addendum No 1 to Specification E7/1 (Jul1998)

4.1.1.10 Specification E7/1 (Jul 1998): Specification for works on, over, under or adjacent to railway lines and near high voltage

4.1.1.11 Manual for Track Maintenance (2000)

4.1.1.12 Track Welding Manual (2007)

4.1.2 Particular Specifications (see separately)

4.2 Plant and Materials

4.2.1 Contrary to practice in previous and existing contracts, TFR will no longer make available rail wagons for general use by the Contractor for the duration of the contract. Subject to availability some wagons may still be provided to be modified where such wagon will form an inherent part of the RT machine process. However wagons required for general transporting the contractor's accommodation, stores, plant and equipment, vehicles etc will no longer be available from TFR. The contractor will therefore be required for this contract to provide his own means of transport for all of his accommodation, stores, plant and equipment, vehicles etc necessary for the execution of the contract. Such means may be rail wagons belonging to the contractor. If the contractor provides his own wagons then all the TFR VIT regulations and testing as before will still

be applicable to all of the contractor's wagons and the number of wagons shall be strictly limited to what can fit into one train consist as part of the RT when travelling. The maintenance of the wagons in every respect will be the contractor's responsibility and for his own account. These wagons will be moved "free on rail" for the contractor in accordance with the requirements and processes applicable to normal train traffic. Transnet Freight Rail (TFR) rail traffic is very unpredictable at this stage and no claims regarding delays or standing time resulting from the use of this wagons will be entertained by Transnet Freight Rail (TFR).

4.2.2 Transnet Freight Rail (TFR) shall supply and control all flags and detonators for protection of the work sites.

4.3 Construction equipment

4.3.1 All tools/equipment, perway, small plant, earthworks plant, cranes, lifting equipment and vehicles of every description necessary for the execution of the works shall be supplied by the contractor complete with fuel, spares, maintenance, competent operators and legally compliant with all applicable safety legislation.

4.3.2 All joggle plates and clamps necessary for the work shall be supplied, fitted, removed, controlled and transported between points of usage by the contractor.

4.3.3 Complete sets consisting of three two-way radios for the work site complete with battery chargers and spare batteries shall be supplied by the contractor for use in the protection process between the work site and the flagmen posted +1500m from the worksite. The abovementioned radio equipment shall operate on 12.5 kHz channel spacing and shall comply with specification SABS-1069.

4.3.4 Loading and Off-loading of rails will not normally be required outside daylight hours but the RT will be required to load and off-load rails in dark tunnels. For this purpose the RT shall be equipped with lights to provide light of sufficient spread and intensity over the entire worksite so that work can proceed safely and efficiently. The RT will be required to travel loaded outside of daylight hours.

4.3.5 The contractor shall provide a cellphone with Talk 500 or equivalent airtime to the worksite for the exclusive use of Transnet Freight Rail (TFR) for logistical and operational arrangements. Should the Talk 500 be exceeded during any month Transnet Freight Rail (TFR) will reimburse the contractor subject to authentic prove been submitted by the contractor. Should the phone be damaged or lost the contractor shall immediately replace it and invoice Transnet Freight Rail (TFR) for the cost.

4.4 Existing services

4.4.1 The contractor shall take note of all OHTE equipment, red and other electrical bonds on the worksite and shall not interfere, damage or work on them unless under direct supervision of a designated and competent Transnet Freight Rail (TFR) electrical officer.

4.4.2 The contractor shall take note of all signalling equipment on the work site e.g. signals, signal cables, blockjoints, signal bonds, axle counters, hotbox detectors etc and shall not interfere, damage or work on them unless under direct supervision of designated and competent Transnet Freight Rail (TFR) signal technicians.

4.4.3 Before doing excavation work anywhere on a work site the contractor shall be sure to consult on the presence of existing electrical/signal/telekom cables, water pipes, level crossings or other services with the Maintenance Manager (Track). Only on his specific and written authorization shall any excavation work be carried out.

4.4.4 In the event of contact or damage to any overhead or under ground cable on the worksite, work shall be stopped and the worksite evacuated. The Electrical Officer Contracts shall be notified immediately. Only subject to him or other competent Transnet Freight Rail (TFR) Electrical officer certifying the worksite safe, shall work be allowed to proceed again.

4.5 Site establishment

4.5.1 Contrary to practice in previous and existing contracts, TFR will no longer make available rail wagons for general use by the Contractor for the duration of the contract. Subject to availability some wagons may still be provided to be modified where such wagon will form an inherent part of the RT machine process. However wagons required for general transporting the contractor's accommodation, stores, plant and equipment, vehicles etc, will no longer be available from TFR. The contractor will therefore be required for this contract to provide his own means of transport for all of his accommodation, stores, plant and equipment, vehicles etc necessary for the execution of the contract. Such means may be rail wagons belonging to the contractor. If the contractor provide his own wagons then all the TFR VIT regulations and testing as before will still be applicable to all of the contractor's wagons and the number of wagons shall be strictly limited to what can fit into one train consist as part of the RT when travelling. The maintenance of the wagons in every respect will be the contractor's responsibility and for his own account. These wagons will be moved "free on rail" for the contractor in accordance with the requirements and processes applicable to normal train traffic. Transnet Freight Rail (TFR) rail traffic is very unpredictable at this stage and no claims regarding delays or standing time resulting from the use of these wagons will be entertained by Transnet Freight Rail (TFR).

4.5.2 Normally electrical, water supply and sanitation will not be available to the staged Accommodation Wagons of the Contractor. In such instances the Contractor shall be required to make his own provisions in order to comply with Environmental Health and Safety legislation. On vacating the site, the site shall be cleared up and re-instated to the acceptance of the Depot Engineer.

4.5.3 Security of the Contractor's property, equipment, materials, vehicles and workforce shall at all times during the course of the contract be his sole responsibility. No claims will be entertained by Transnet Freight Rail (TFR) in this regard.

4.5.4 The contractor shall be required for each work site to have available for his work force suitable sanitation in accordance with the Act 85 Construction Regulations.

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SECTION 5

MANAGEMENT

5 MANAGEMENT

5.1 Management of works

5.1.1 The Transnet Freight Rail (TFR) E10 Specification for Track Work

5.1.2 Particular Specification

5.1.3 SANS 1921-1-2004 Part 1

5.1.4 Loading, Transporting and Off-loading of rails will be conducted based on a 3-month rolling work load programme. The first detail workload shall be provided to the Contractor 4 weeks in advance of the starting date of the Contract. This programme shall be updated as regularly as needed, distributed to all role players and used at monthly project meetings to monitor progress.

5.1.4.1 The Contractor will make all the arrangements directly with the National Command Centre (NCC) to move the Machinery by rail from one Infrastructure Depot to another based on the programme agreed with the Technical Officer. Each application shall reflect all relevant and specific details of special conditions for the handling of the Machinery consisting of the RT by TFR during each move. The Technical Officer for each Depot shall be responsible to arrange the daily movements for the RT within the Depot area.

5.1.4.2 Included in the application for the move the Contractor shall provide name, identity number and grade of all employees travelling on the train. Specific details shall be given separately of the person in charge as well as staff required, to travel on machines instead of in the passenger facilities.

5.1.4.3 Should the Contractor delay a move, the full occupation times thus not utilised will be counted as working time for the purpose of calculating required production.

5.1.4.4 Should TFR delay a move of the Machinery from one RTD to the next by not starting the move on the scheduled day no payment of standing time shall apply.

5.1.5 The Contractor must state in his tender what the earliest possible commencement date will be.

5.1.6 TFR will make available to the Contractor lines where the machine may be commissioned and tested. Work done during the commissioning or testing period will be eligible for payment under the Contract provided that the standards as per Contract specification are met.

5.1.7 The distance of moving the machine from the Contractor's premises at the commencement date to the first RTD will not be paid for although the free on rail facility will be available to the Contractor.

5.1.8 The distance of moving the machine from the last RTD to the Contractor's premises on completion of the Contract will not be paid for although the free on rail facility will be available to the Contractor.

5.1.9 A Site Instruction Book with triplicate pages shall be provided by the contractor. The format for written communication on site shall be the Site Instruction Book. One page shall be used for each day. Site Instructions shall be deemed to have been noted by the other party at the end of each work day. For this purpose the Site Instruction Book shall be signed-off by both Transnet Freight Rail (TFR) and the contractor at the end of each work day.

5.1.10 Monthly Project Meetings will be conducted to monitor progress and discuss contractual issues. These meetings shall be attended by all Depot Representatives and the contract's manager. A register will be kept of attendance and a minute of the proceedings will be recorded and distributed afterwards.

5.1.11 A Daily Diary Book with triplicate pages shall be provided by the contractor and be available on site at all times. The number of staff and plant on site for every day shall be recorded. The hours of actual work and the accurate amount of work measured per item as in the Schedule of Quantities completed for each day shall also be recorded and signed off by both Transnet Freight Rail (TFR) and the contractor at the end of each day. This shall be the source document for monthly payment certificates.

5.1.12 On some lines or for some yards of Transnet Freight Rail (TFR) the contractor's staff will be required to obtain permits form Transnet Freight Rail (TFR) before being allowed to work there. The permits will be issued free of charge.

5.1.13 The contract will commence on the commencement date and continue for a period of 24 months and be subject to the following option reserved by TFR:

5.1.13.1 The contractor must submit as part of the tender, details of the remaining capital costs required to purchase the RT from the Contractor. For this purpose a statement that shows the total purchase price for the end of each month of the contract period respectively must be included in the tender. This statement will be considered an offer to sell the RT to TFR which may be taken up by TFR at any stage of the contract period by TFR paying the applicable amount indicated for that month as full and final settlement for the purchasing of the complete RT together with all associated equipment.

5.1.13.2 TFR therefore reserves the right to buy the RT from the contractor by paying the remaining capital costs at any stage during the contract period and then to continue from thereon with the contract consisting only of the operating and maintenance of the RT for the remainder of the contract period.

5.1.14 Temporary stoppage, which may result from a non-continuous flow of the work, must be allowed for in the tendered rate.

5.1.14.1 TFR will advise the Contractor of any temporary stoppage in the work, and 30 days notice will be given of such an impending stoppage. Thirty days (30 days) notice will also be given to commence work when the Machinery was standing due to a temporary stoppage.

5.1.14.2 Payment for De-establishing from site when temporary stoppage begin as well as Re-establishment on commencing of the work after a temporary stoppage will be made under Site Re–establishment.

5.1.15 The Contractor shall allow that weather conditions may adversely affect his rate of progress and plan his progress as well as plant and labour capacity accordingly.

5.1.15.1 Should rain, falling during the period of occupation, make it impossible for the Contractor to make use of such occupation no claims for Standing Time will be entertained by TFR.

5.1.15.2 In the event of adverse weather making production impossible the Productivity requirement will not apply for that period of time.

5.2 Health and safety

5.2.1 The Contractor shall comply with all applicable legislation and Transnet Safety requirements. The cost for such compliance shall be borne by the Contractor and shall be deemed to have been allowed for in the rates and prices of the Contract. Specifically important in this regard is compliance with:

5.2.1.1 TFR Safety Guidelines for Infrastructure (Latest Edition).

5.2.1.2 The Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993).

5.2.1.3 The Occupational Health and Safety Act (Act 85 of 1993).

5.2.1.4 TFR Specification E.4E, Safety Arrangements and Procedural Compliance with Occupational Health and Safety Act, Act 85 of 2993 and Regulations as applicable.

5.2.1.5 Basic Conditions of Employment Act as well as all other relevant labour legislation.

5.2.1.6 TFR Specification for Work on, under or adjacent to Railway Lines and near high Voltage Equipment – E7/1

5.2.1.7 The Contractor shall also comply with all other safety requirements, regulations and guidelines of Transnet applicable to the nature of work carried out under the Contract and shall obtain the particulars thereof from the Project Manager

5.2.2 A formal risk assessment on the RT process has been conducted by TFR and the under mentioned safety critical risks have been identified. The Contractor shall conduct his own formal risk assessment on the RT process offered by him and add any additional risks identified by him, to this list.

5.2.3 The contractor is required to prepare and submit with his tender a comprehensive safety case in accordance with the requirements of Act 85 and the Construction Regulations.

5.2.4 The contractor shall specify in his safety case the list of all risks identified by TFR together with any additional risks identified by his own risk assessment and indicated specific rules, processes, methods and designs of how he intend to mitigate these risks should he be awarded the contract.

5.2.5 Safety Critical Risks identified by TFR for the RT are:

During Rail Loading

5.2.5.1 Derailment of Rail handling gantry.
5.2.5.2 Rail traffic on the same line during occupation.
5.2.5.3 Rail traffic on adjacent lines during occupation.
5.2.5.4 Preparation of rails to be loaded to within ability of the RT mechanisms.

5.2.5.5 Reliable communication between RT driver-Slinger-gantry operator.
5.2.5.6 Working hours and rest periods for crew.
5.2.5.7 Night working (Option).
5.2.5.8 Wagon or equipment failure – instantaneous emergency stopping of RT.
5.2.5.9 Workers on the train under "live" OHTE.
5.2.5.10 Rail whiplash or buckling contact with "live" OHTE
5.2.5.11 Danger area during loading.
5.2.5.12 Rail defect/obstruction/rail break.
5.2.5.13 Operator and/or train driver failure due to mistakes/ignorance.
5.2.5.14 Effective and competent interaction between RT driver-operator-Slinger.
5.2.5.15 Site conditions : curved track, steep gradients, minimum/maximum temperature, precipitation.

During Rail Off-Loading

5.2.5.16 Derailment of Rail handling gantry.
5.2.5.17 Rail traffic on the same line during occupation.
5.2.5.18 Rail traffic on adjacent lines during occupation.
5.2.5.19 Preparation of rails to be loaded to within ability of the RT mechanisms.
5.2.5.20 Reliable communication between RT driver-Slinger-gantry operator.
5.2.5.21 Working hours and rest periods for crew.
5.2.5.22 Night working (Option).
5.2.5.23 Wagon or equipment failure – instantaneous emergency stopping of RT.
5.2.5.24 Workers on the train under "live" OHTE.
5.2.5.25 Rail whiplash or buckling contact with "live" OHTE
5.2.5.26 Danger area during loading.
5.2.5.27 Rail defect/obstruction/rail break.
5.2.5.28 Operator and/or train driver failure due to mistakes/ignorance.
5.2.5.29 Effective and competent interaction between RT driver-operator-Slinger.
5.2.5.30 Site conditions : curved track, steep gradients, minimum/maximum temperature, precipitation.
5.2.5.31 Track material structure and rail damage due to dropping of rail onto track.
5.2.5.32 Speed of off-loading.
5.2.5.33 Crew climbing up or down the rail train anywhere along its length at any time.

During Rail Transporting

5.2.5.34 Lateral rail movement.
5.2.5.35 Longitudinal rail movement.
5.2.5.36 Integrity of rolling stock (wagon structures, brakes, draw gear, bogies and wheels).
5.2.5.37 Integrity of RT structure.
5.2.5.38 Differing lengths of rail on same load.
5.2.5.39 Effective Slinger observation of load during travel.
5.2.5.40 Effective preventative action by Slinger in case of emergency.
5.2.5.41 Unauthorized access onto RT.
5.2.5.42 Repair of shifted load under "live" OHTE.
5.2.5.43 Effective communication between train driver and Slinger.
5.2.5.44 Movement of gantry or other equipment on RT while RT is in transit.
5.2.5.45 Effective observation of the rail load by Slinger during night travel.

5.2.6 The contractor shall prepare and implement a comprehensive safety case covering all relevant legal safety aspects for their work teams. It shall include details of the site management structures, all safety legal appointments as well as the written safe working procedures for all equipment used on site taking into account the above risk assessments.

5.2.7 The contractor shall be responsible to ensure the use of only technically competent trained staff on all types of work.

5.2.8 The Safety Case together with all supporting documentation shall at all times be available for compliance audit.

5.2.9 The contractor shall ensure that all site staff are trained and inducted in the written safe working procedures for all equipment used on site.

5.2.10 The contractor shall ensure that all workers are appropriately equipped and wearing Personal Protective Equipment (PPE) and that Safety Talks are conducted and noted in the Site Diary before the start of every shift.

5.2.11 The contractor shall be responsible to ensure that site staffs are always competently trained with regards to Electrical Awareness Training.

5.2.12 The contractor shall be responsible to ensure that workers working on machines (high risk areas), operators, machine fitters, area supervisors and contract supervisors site staff are always competently trained with regards to PWC Electrical Educational Training.

5.2.13 The contractor shall also be responsible to ensure that contract managers in charge of sites are always competently trained with regards to COM Competency Electrical Training (to follow PWC Training).

5.2.14 Non compliance with safety requirements will result in an immediate suspension of work without payment.

5.3 Protection

5.3.1 The method of Loading and Off-loading shall be such that work may proceed either under “total occupation” or “between trains occupation” and shall at all times comply with Transnet Freight Rail (TFR) Specification E7/1.

5.3.2 Normal protection measures in accordance with the Transnet Freight Rail (TFR) Protection Manual shall apply.

5.3.3 All protection arrangements shall at all times remain under the supervision and responsibility of a Transnet Freight Rail (TFR) track master or track inspector.

5.3.4 If required the contractor shall supply his own flagmen as required per work site for protection duties. The cost for these flagmen will be deemed included in the rates tendered and no separate payment shall be made

5.3.4.1 If flagmen training can not be provided by TFR when required then TFR shall provide flagmen for the period until the contractor flagmen have completed their training be that successfully or unsuccessfully.

5.3.5 The contractor will be required to supply six of his employees to be trained and certificated in performance of protection duties. The contractor shall appoint at each work site a person whose sole task shall be to be on the lookout for approaching rail traffic. This employee shall operate an audible warning device to timeously warn all people on the work site of approaching rail traffic.

5.3.6 The contractor shall not allow any persons on the work site to venture within the structure gauge when this warning procedure is not operating effectively.

5.3.7 The warning device shall be such that it’s sound can be clearly and effectively heard above the noise on the work site by all personnel within a radius of 100m around the centre of each work site. The cost to the contractor of providing the lookout as well as the warning device shall be deemed to be included in the rates tendered and no separate payment shall be made.

5.3.8 An effective safety procedure to be followed by all personnel on any work site in the case of approaching rail traffic on adjacent lines shall be compiled by the contractor and implemented before any work commences. This procedure shall be updated whenever the need arises and any changes shall be communicated to all employees on a works site before work proceeds.

5.3.9 Transnet Freight Rail (TFR) shall make available a Track Master to be in charge of the protection arrangements on site and to declare the track safe for the passage of trains during the work and on completion of work. He may use flagmen provided either by Transnet Freight Rail (TFR) or the contractor.

5.3.10 A Transnet Freight Rail (TFR) Track Inspector shall on completion of each project inspect and measure for purposes of verifying quality for payment purposes.

5.4 Training

5.4.1 The Contractor shall ensure that all staff working on or with the contract are adequately trained, so as to comply with any relevant safety and quality requirements.

5.4.2 It is the Contractor's responsibility to ensure that his staff are trained. At the commencement of the contract, Transnet Freight Rail (TFR) shall assist the contractor with the initial on-the-job training for the staff as specified below, so as to assist the Contractor to qualify the worker's / staff. The Contractor shall ensure that he has a core group of workers with sufficient previous experience to take the lead in undertaking maintenance tasks.

5.4.3 Where training is required by the Contractor and Transnet Freight Rail (TFR) is committed to provide training, the contractor shall qualify his tender as to what and how many staff, training will be required for. After award of the contract, the contractor shall then arrange with the appropriate Transnet Freight Rail (TFR) Perway Production manager, through the technical officer, for this training / testing.

5.4.4 Training of Track Workers

5.4.4.1 At the commencement of the contract, assistance with the training, to qualify the Contractors workers to perform the following tasks shall be given:

5.4.4.2 Track work (Level crossing blocks, cattle guards, sleeper & Clip replacement / fastening, lubricators, flagmen, ballast boxing etc.).

5.4.4.3 Training of Track Inspectors, Track Masters and or Tradehands (Perway):

5.4.4.4 This training shall be solely the responsibility of the contractor. Only fully qualified people shall be used by the Contractor for these positions. The Contractor shall ensure that staff used, do comply with requirements for the industry.

5.4.4.5 The Contractor's Track Master/Track Inspector shall take full charge of the Contractor's resources on the work site. An employee/agent appointed by the contractor, will not act as, or be allowed to take on any responsibility as, the *person-in-charge-of-the-occupation.* The function of *person-in-charge-of-the-occupation* is restricted to competent Transnet Freight Rail (TFR) employees only.

5.4.4.6 The *person-in-charge-of-the-occupation for an on-track machine* shall be a competent Transnet Freight Rail (TFR) employee, reporting to the Transnet Freight Rail (TFR) Depot Engineer. This person shall be responsible for the following on a work site:

- Taking occupations
- Placing and controlling the flagmen
- Declaring the track safe for the passage of trains
- Cancelling the occupation and recalling the flagmen
- Communication with train traffic control with regard to occupation matters.
- The issue and control of all flags and detonators

5.4.4.7 Training of Flagmen:

5.4.4.8 F*lagmen* used, may be either Transnet Freight Rail (TFR) employees or employees of the Contractor.

5.4.4.9 Where flagmen are required to be provided by the contractor, the appropriate training for the flagmen can be provided by Transnet Freight Rail (TFR) at the start of the contract.

5.4.4.10 Where Transnet Freight Rail (TFR) requires flagmen to be trained, the pre-requisites for such persons to qualify to be trained, shall be basic literacy skills and Basic English language ability.

5.4.4.11 *Flagmen* must be officially trained, evaluated and certified competent, (Transnet Freight Rail (TFR) 407 – Item Number 37/270451 - "Certificate of Competency") by a designated competent person, before being used on protection duties. This certificate of competency shall remain valid for one (1) year only after, which re-testing and re-certification of competency will be required.

5.4.4.12 In cases where a person was not performing flagmen duties for a period of 6 months or longer, he must be re-tested and again be re-certified competent, before he may be re-used for Protection Duties.

5.4.4.13 The Transnet Freight Rail (TFR) Depot Engineer remains ultimately responsible in terms of the requirements of Act 85 for the safe working environment of his own personnel as well as Contractor's personnel within the track maintenance environment on his depot.

5.4.4.14 The Depot Engineer is therefore also responsible for ensuring that any changes in the Protection Procedures that may occur over time are effectively communicated to any flagmen prior to them being used for Protection Duties

Electrical awareness, Educational and competency training:

The following training shall be arranged for the following Contractors staff:

Course	**Objective**	**Duration & trainer**	**Grade to attend**
A) **Awareness** (Electrical)	To inform all contractors staff working near a machine and on the line on electrified sections of the dangerous situations of high voltage OHTE	Two hour on-the-job lecture and training. **Accredited Electrical trainer / Depot's Electrical technical officer.**	• All workers and staff working on the contract
B) PWC **Educational** (Electrical)	For the safe working on and with On-track machinery in the vicinity or near exposed High voltage OHTE.	Lecture room training = 1,25 d On-the-job training = 0,25 d Criterion test = 0,5 d Total = **2 days** **Accredited Electrical trainer**	• Workers working on a machine (High risk area's) • Operators • Machine fitters • Area supervisors • Contract supervisors
C) COM **Competency** (Electrical) (To follow A) (PWC)	Work permits safe working procedures under the direct supervision of a responsible representative.	Lecture room training = 0,25 d On-the-job training = 0,25 d Criterion test = 0,5 days Total = **1 day** **Accredited Electrical trainer**	Supervisor (Responsible person in charge at machine working)

The electrical awareness training must be arranged for beforehand on-the-job.

The electrical educational and competency training may be arranged for at either a depot's lecture room's (Transnet Freight Rail (TFR) property), or at a venue of the Contractors choice (Contractors cost).

The Accredited Electrical trainer from Transnet Freight Rail (TFR) will be provided by Transnet Freight Rail (TFR) at Transnet Freight Rail (TFR) cost, provided that an arrangement for the training session required, is done beforehand and will fit in with the trainers training program for the year.

PART C3

SECTION 7

PARTICULAR SPECIFICATIONS

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PART C3

SECTION 7

PARTICULAR SPECIFICATIONS

1 General Requirements for RT.

1.1 Due to the high risk of injury nature of rail handling it is a specific condition of this contract that loading and off-loading of rails be done by mechanised means involving the minimum number of manual labour. It should be noted that the restricted clearances on certain sections could determine the type of machine that can be used.

1.2 THE EXTEND TO WHICH THE RT PROCESS MINIMIZES THE NEED FOR OTHER LABOUR INPUTS TO PREPARE RAILS BY TURNING OR MOVING BEFORE OR AFTER LOADING/OFF-LOADING, THIS WILL BE CONSIDERED AN ADVANTAGE AND TAKEN INTO ACCOUNT DURING ADJUDICATION OF THE TENDER. THE CONTRACTOR MUST CLEARLY STATE IN HIS TENDER THE RT CAPABILITIES IN THIS REGARD. THE RT MUST BE ABLE TO LOAD AND OFF-LOAD ITSELF WITH UP TO 30 NEW OR SECOND-HAND RAILS OF VARYING RAIL MASS WHICH SHALL INCLUDE 30KG/40KG/48KG/57KG/60KG.IN LENGTHS OF 60M, 120M, 180M OR 240M ON NORMAL TRACK AND CURVES.

1.3 THE RT SHALL BE BI-DIRECTIONAL IN TERMS OF ITS CAPABILITY OF EXECUTING THE WORK BY EITHER BEING CAPABLE TO WORK IN ANY DIRECTION OR WITHOUT HAVING TO BE FIRST TURNED AROUND. FEW PLACES FOR TURNING MACHINES ARE AVAILABLE ON TFR NETWORK.

1.4 THE MACHINE SHALL BE ALLOWED A MAXIMUM OF 22 TONS PER AXLE WHEN FULLY LOADED.

1.5 At the Rail Supply Depot, the train will be loaded and off-loaded by overhead cranes of the Rail Supply Depot. The RT shall therefore specifically be compatible with the loading and off-loading systems of the Rail Supply Depot.

1.6 The RT may be required to load rail of track to be uplifted. Tenders must comprehensively specify the ability of the machine offered in this respect. Loosening of rail fastenings will not form part of the function required from the RT Contractor.

1.7 During off-loading, it shall be possible for the rail ends to be let down onto the track by means of spring loaded shutes and shall not be allowed to drop onto the track structure by more than 100mm.

1.8 The system of loading and off-loading shall take proper and due care not to damage rail to sleeper fastenings during loading or off-loading of rails.

1.9 The system shall allow for the rails to be off-loaded between the existing rails or onto the sleeper heads on the outside of the running rails but always such that as it is not to be a danger to normal rail traffic.

1.10 The system shall be such that it can load rails from between existing rails or alternatively from either side of the track from some distance down the ballast or bank. The Contractor in his tender shall clearly state the capability of the RT in this regard.

1.11 Rails shall not be off-loaded in such a way as to cause permanent deflection to the rails.

1.12 The method of clamping the rails during loading, transporting or off-loading shall be such as not to cause permanent stress risers on the rail metal.

1.13 The system shall provide for that rails shall be unloaded in such a way that it does not damage or interfere with signalling, electrical equipment or other infrastructure equipment.

1.14 The system shall be capable of handling rails on which normal size and finished exothermic or flash butt weld collars protruding from the rail surface up to 15 mm exist while performing to minimum production requirements. The Contractor shall inspect the rail for oversize collars, stop the process in time to prevent damage to his equipment, remove the problem and then continue with the normal process. In the event that an oversize collar occurs the normal production requirements shall cease to apply for the time being until the normal process can continue again.

1.15 The RT shall comply with all TFR safety requirements while it is working, travelling or when staged. All reasonable measures for fire prevention and fire fighting shall be included and form part of this Contract. The cost thereof shall be deemed to be included in the rates tendered and no separate payment shall be made.

1.16 The RT shall not foul the vehicle gauge for 1065mm-gauge track shown in Annexure 1 & 2 of MTM (2000). Should the RT exceed the vehicle gauge in any respect, this shall be clearly indicated by the Tenderer by means of suitable drawings.

1.17 The RT train shall not work on track which is not at least strapped 1-over-20 sleepers to prevent the rails from toppling over. Machinery shall be suitable for use under the following conditions.

1.17.1 Track gauge: 1 065mm.

1.17.2 Single lines or multiple lines with a minimum distance between track centre lines of 3,8m.

1.17.3 Work on open track lines, lines in tunnels and along platform lines.

1.17.4 Move over track with maximum 1 in 30 gradient.

1.17.5 Work on maximum uphill track gradient: of 1 in 50.

1.17.6 Moved around curves of down to 90m radius

1.17.7 Work on curves down to 150m radius.

1.17.8 Work site altitude range: 0 to 2 000m above sea level.

1.17.9 Rail temperature range: -10ºC to + 60ºC.

1.17.10 Minimum structure gauges: Annexures 1 and 2 of MTM (2000).

1.17.11 Mass of rail: 60kg/m, 57kg/m, 48kg/m, 40kg/m, 30kg

1.17.12 Types of sleepers in track: steel, wood or monolithic concrete sleepers.

1.17.13 Sleeper spacing of 500mm to 900mm.

1.18 TFR will test all on-track machines regularly for rail-worthiness before being permitted onto operational tracks. TFR's approval in this regard shall under no circumstances mean to imply that the Contractor is released from his liability and/or responsibility for ensuring that the RT is operationally safe and rail-worthy. The Contractor shall remain ultimately responsible for the safety and condition of his machines and equipment. These tests will include:

1.18.1 Regular testing of braking efficiency. The minimum required braking is 8.5% of gravitational acceleration, measured by Tapley meter, for the service and emergency brakes respectively. Brake testing shall also include for checking for pressure loss on brake cylinders and circuits, wear and setting of brake shoes.

1.18.2 Maximum wheel-tread and rim wear, distance between wheel-flanges and ultrasonic testing for flaws in running axles all measured for compliance with the standards of TFR.

1.18.3 Speedometer, sirens, drawbars and mechanical locks on hydraulic components to function properly.

1.18.4 Should a joint inspection of the RT by representatives of TFR and the Contractor reveal that the RT is not in a safe working condition, the Technical Officer may order the temporary withdrawal of the RT from service.

1.19 The Contractor in his tender shall supply accurate and comprehensive details of all staff and Machinery, which will be available on site for the loading, off-loading and rail transporting operations.

1.20 TFR will supply the following items at no cost to the Contractor:

1.20.1 All rails for loading, off-loading and transporting.

1.20.2 One set of diesel locomotive power capable of handling a load equivalent to 20 loaded DZ type trucks. These units will be made available to the Contractor from commencement of occupations at each RTD where work is to be performed.

1.20.2.1 The locomotive set will be available (inclusive of fuel and driver crews and shunt crew) to work for the Contractor for the duration that a track occupation is arranged.

2 Working in Close Proximity of OHTE

2.1 The RT design shall specifically and comprehensively make provision for Loading as well as Transporting and Off-loading of rails under "live" OHTE of 3kV, 25kV and 50kV by complying specifically with the requirements as per the latest version of Transnet Freight Rail's Electrical Safety Instructions.

2.2 In this respect the RT propulsion system used during loading and off-loading is required to be able to stop the RT instantaneously in the event of any emergency e.g. hydrostatic drive. This instantaneous stopping of the process shall be a critical pre-requisite essential to mitigate the risk of a rail whip lashing or buckling during loading and off-loading. If the risk of the rail whip lashing or buckling during loading and off-loading can be eliminated then the risk of the rail making contact with the OHTE is eliminated. Eliminating the risk of the rail coming in contact with the OHTE during an emergency is therefore one of the safety critical requirements for loading and off-loading under "live" OHTE.

2.3 For crew working on top of the RT to comply with these clearance requirements when working under "live" OHTE, especially 50kV, a specific design will have to be created. This may for example comprise of providing floor standing level sufficiently lower than standard wagon floor level or alternatively an appropriate tropical roof above to shield workers from accidental contact with the OHTE.

2.4 In order to mitigate the risk of workers coming in contact with live OHTE, all RT crew who have to work on the train in close proximity of OHTE is specifically required to obtain an Electrical Certificate of Authority - Category C, prior to work starting work on the train. This involves a 4 day course with exams which must be passed as pre-requisite for certification. The course will be presented free of charge to the contractor. The crew time, transport and accommodation cost will be for the contractor's account. The crew members proposed to be trained for the C - Certificate shall as minimum requirement be literate in terms of reading, writing and speaking of Basic English.

3 Night travel of RT under loaded conditions

3.1 The RT design shall specifically make provision for the train to travel safely loaded as well as empty outside of daylight hours as well as during daylight hours in accordance with TFR Train Operating Rules up to a maximum speed of 80km/h.

3.2 For the loaded train to be authorized for night travel, sufficient lighting of the load of rails is a pre-requisite in order to allow the "Slinger" on duty to do effective supervision of the load during transit to ensure safety of the load. This supervision of the loaded RT is subject to specific requirements as per the Transnet Freight Rail's Trains Working Rules for movement of the RT.

3.3 The contract shall include in his tender for the fact that TFR shall supply two cabooses which shall be modified by the contractor into appropriate "Slinger" facilities conducive to effective supervision of the loaded train while in transit to ensure the safe transport of rail loads both by day and by night.

3.4 The contract shall specifically include for a suitable event recorder system capable of recording the supervision actions of the "Slinger" on duty. The event recorder system shall incorporate an effective failsafe mechanism to ensure continued effective supervision of the rail load in transit in the event of the "Slinger" on duty becoming incapacitated e.g. falling asleep etc.

3.5 The down loading of and format of data from the event recorder for purpose of monitoring, management and reporting of the data shall be simple to use and user friendly conducive to consistent and continued effective supervision of the rail loads in transit.

3.6 An effective real time communication system between the train driver and the "Slinger" shall also be included.

3.7 The RT shall not be required to load or off-load rail in section outside hours of daylight, however it will be required to work in long tunnels not fitted with lights. It shall therefore be equipped to light the whole work area with light of a sufficient spread and intensity to allow work to proceed safely and efficiently in dark tunnels.

4 RT loaded/empty travel and loading/off-loading on Curved track and on Gradients

4.1 TFR maintains track and operates trains on lines where minimum radius of curves are down to 90m and gradients are as steep as 1:35. The majority of track maintenance work will however be required on curves with radii of 150m and more including tangent track and gradients of 1:50 and flatter. Tenders must comprehensively specify the ability of the machine offered with regard to working on minimum curve radius, maximum speed, maximum gradient etc. The following abilities of the machine must be categorically specified in the tender submission:

4.1.1 Minimum Radius of Curve for travel empty.

4.1.2 Minimum Radius of Curve for travel fully loaded.

4.1.3 Minimum Radius for loading rail from section.

4.1.4 Minimum Radius for off-loading rail in section.

4.1.5 Maximum travel speed loaded in daylight and night time.

4.1.6 Maximum travel speed empty in daylight and night time.

5 Minimum required production capability of RT

5.1 A TYPICAL WORK METHOD AND CONCISE CHRONOLOGICAL SEQUENCING OF THE LOADING AND OFF-LOADING OPERATIONS SHOWING ACCURATE PRODUCTION TIMES FOR ALL PARTS OF THE OPERATIONS SHALL BE SUBMITTED WITH THE TENDER.

5.2 THE ORDER OF OPERATIONS IS LEFT TO THE CONTRACTOR WITH THE PROVISO THAT ALL LOADING AND OFF-LOADING, INCLUDING PREPARATION FOR TRAVEL, OFF-LOADING AND LOADING SHALL TAKE PLACE DURING OCCUPATIONS AS APPROVED AND THAT THE MINIMUM PRODUCTION RATES AS SPECIFIED ARE ADHERED TO.

5.3 In terms of minimum requirements the RT shall be capable of off-loading or loading rails of up to 240m lengths in the section, from or onto the track either between the existing rails or either side of the existing running rails.

5.4 The Machinery shall be capable of off-loading an entire load of 30 rails in no more than 90 minutes of Working Time. This off-loading time shall be taken from the time of arrival on site to the time of the train being fully off-loaded and ready for travel.

5.5 The Machinery shall be capable of loading an entire load of 30 released rails in no more than 150 minutes of Working Time. This loading time shall be taken from the time of arrival on site to the time of the train being fully loaded and ready for travel.

5.6 The Machinery shall be capable of loading an entire load of 30 rails on track to be uplifted in no more than 360 minutes of Working Time. This loading time shall be taken from the time of arrival on site to the time of the train being fully loaded and ready for travel.

5.7 The Contractor shall give clear details of production rates offered in his tender referenced to all factors e.g. track curvature, gradient etc. that might have an influence on it.

5.8 Any shortfall in the production rates of the RT shall be penalised. If the Contractor does not meet the minimum or tendered production rate, TFR reserves the right to either reduce payments on a proportional rate basis on all production related rates in accordance with the actual production rate or to cancel the contract with immediate effect.

6 "Slingers" to supervise the RT.

6.1 This Contract shall include for the provision of a sufficient number of "Slingers" by the Contractor to supervise the RT for the duration of the Contract in accordance with Transnet's Rail Directives i.e. General Appendix 6 Part (I) Clause 1016 dealing with Rail Trains or such which may be valid at the time of tender submission.

6.2 The contract shall include the provision of, and management of the suitable number of "Slingers" to supervise the loading and off-loading processes both in the section as well as at the Rail Supply Depot. These "Slingers" shall be sufficient in number to ensure the safe loading/off-loading and travelling of the loaded train by supervising the loaded train during night time and day time travel in accordance with TFR Trains Working Rules on a 24hour 10 day work period and 4 day off-period.

6.3 The "Slingers" will be required to undergo training to be certificated as Competent to supervise the RT. This training and certification shall be provided at Transnet's cost. The travel, accommodation and payment of the Contractor's staff while on course will be for the Contractor's account.

6.4 The basic requirement for persons to be trained as "Slingers" will be a person with Grade 12 school qualification and the ability to read, write and speak the English language.

6.5 Two cabooses which will be provided by Transnet Freight Rail will have to be converted by the Contractor to suit as accommodation and facilities for the "Slingers" during the execution of their functions.

6.6 This conversion of the cabooses shall exclude the wheels and bogies, draw gear and brakes. This part of the wagons, generally referred to as the rolling stock portion of the wagons, shall be the responsibility of and for the account of TFR.

6.7 The cost for the conversion of the rest of the wagon, generally referred to as the superstructure portion, will be paid for separately and must be priced separately in the tender. The contractor shall include in his tender a comprehensive and detail specification of what the conversion he tendered for shall consist of.

6.8 Void.

6.9 It is a specific requirement of this Contract that any modifications to cabooses shall be pre-approved at the design stage by TFR Train Design Department.

6.10 During commissioning and before putting the modified cabooses into regular service the modified cabooses shall be finally approved by TFR Train Design Department as being "Rail Worthy".

6.11 It is also a specific requirement that all wagon and caboose modifications shall comply with the requirements of the Rail Safety Regulator (RSR).

7 Flat Wagons to be modified for use with the RT.

7.1 Transnet Freight Rail will make available a limited number of flat type wagons e.g. SKJ or SMLJ or DAJ etc to the Contractor to be modified for use in the RT.

7.2 This conversion of the flat wagons shall exclude the wheels and bogies, draw gear and brakes. This part of the wagons, generally referred to as the rolling stock portion of the wagons, shall be the responsibility of and for the account of TFR.

7.3 The cost for the conversion of the rest of each flat wagon generally referred to as the superstructure portion, will not be paid for separately and the cost thereof will be deemed to be included in the rates tendered.

7.4 It is a specific requirement of this Contract that any modifications to wagons shall be pre-approved at the design stage by TFR Train Design Department. During commissioning and before putting the modified wagons into regular service the modified wagons shall be finally approved by TFR Train Design Department as being “Rail Worthy”.

7.5 It is also a specific requirement that all wagon and caboose modifications shall comply with the requirements of the Rail Safety Regulator (RSR).

7.6 The rates tendered for this Contract shall include for all modifications to flat wagons to convert them into one complete set of rail-carrying wagons suitable for carrying 60m, 120m, 180m and 240m rails as well as for all modifications to all other wagons forming part of the RT and essential for one fully functional RT in accordance with the specifications. Only the cost for modifications to two cabooses shall be separately paid for (see clause 6). No other separate payment shall be made.

7.7 The Contractor is to specify in his tender the exact number and type of wagons required for building the RT.

7.8 It is possible that TFR may require additional sets of rail-carrying-wagons to be built during the course of the Contract. Only for in the event that TFR would require additional sets of rail-carrying-wagons, the Contractor is to provide a total unit cost for converting one flat wagon into a rail-carrying-wagon. This rate shall only apply if and when TFR decides to acquire additional wagons over and above what is described in clause 7.6. and shall therefore be for rail-carrying-wagons over and above the full set required for the RT to be fully functional as per the specification.

7.9 Transnet Freight Rail Rail Directives require that all wagons in a RT carrying long rails i.e. >36m shall be fitted with approved “Safety Couplers” over and above the normal couplers. The purpose of this shall be to prevent accidental uncoupling of individual wagons in a loaded RT. The Contractor shall provide and maintain this as part of the RT and ancillary equipment for the duration of the Contract. The cost thereof shall be deemed to be included in the rates tendered and no separate payment shall be made for this.

7.10 On completion of the contract the Contractor may be required to remove all modifications made to the wagons by him and to restore the wagons to their original condition as before the start of the contract - reasonable wear and tear only excluded.

8 Track Occupations

8.1 Although not guaranteed, the TFR will realistically arrange occupations according to the approved programme of typically 6 hours for any one occupation.

8.2 It may be possible to arrange extended occupations on some sections of the line, on certain days, during which the RT may remain in the section.

8.3 In these cases occupation time will be calculated as the total period that all or any of the on-track machines actually worked.

8.4 Travelling times between R.T.D. and work-site will be included in occupation time.

8.5 During the occupation the line will be closed to normal rail traffic over the section on which the Contractor is working. Protection of the site shall be as per the Protection Manual under direct control and supervision of a Spoornet Platelayer/Track Inspector.

8.6 The Contractor shall control and be responsible for the movements of all plant including that of Spoornet, within the confines of the area of the occupation of the loading and off-loading operation and during its duration. At all times, the movement of plant will be undertaken as laid down by the Technical Officer.

8.7 The Contractor shall however allow that: -

8.7.1 Before the 12H00 on any shift the commencement time (± 1 hour) and duration of the following occupation will be advised in writing.

8.7.2 Occupations may commence at any hour of the day or night and on any day of the week, but will normally be during daylight hours.

8.7.3 Any adjacent track will run normal train services at normal section speed. The Contractor will be required to apply his Safety Procedure in order to safeguard his employees against the danger of normal rail traffic passing close by on the adjacent line.

9 Sufficiency of RT and ancillary equipment supplied:

9.1 All ancillary and associated equipment together with all transport, accommodations, fuel, lubricants, spare parts for maintenance and repairs and consumables and any other resources necessary for the complete and effective and safe functioning of the RT shall be included in this Contract to consistently and sustainably operate the machine safely in line with tendered production rates and within available occupation times.

9.2 The contract shall include the provision of, and management of a suitable number of basic crew of qualified operators as well as all skilled and unskilled labour to operate the machine safely in line with tendered production rates and within available occupation times.