



**PROVISION OF CONVEYOR BELT SERVICES AT THE
IRON ORE TERMINAL (IOT) AND MULTI-PURPOSE
TERMINAL (MPT) AT THE PORT OF SALDANHA, ON
AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD
OF 36 MONTHS**

Document Reference Number:

PCBSS-IOT-MPT-15022024

Site:

Transnet Port
Terminals: Saldanha

Date: 15 February 2024

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1. DEFINITIONS

Commissioning:

The process of assuring that all systems and components of a building or industrial plant or product designed, installed, tested, operated, and maintained according to the operational requirements of the owner or final client.

Contract

A Legal and binding agreement with specific terms between two or more parties or entities based on mutual consent, which has legal effects and involves transfer – of consideration usually financial or some other type of benefit.

Contract Manager

Transnet employee who is authorized to represent Transnet in terms of the contract and appointed to supervise and/or liaise with the contractor to ensure that the specifications of the contract met (with special emphasis on technical specifications, inspection of quality, on health and safety, environment and quantity of work). A contract manager has the role of executing the plan to achieve the deliverables. This person receives all his authorizations from the project initiator and the stakeholders.

Contract Owner

The person who requires a specific product, goods or services and who is responsible to provide the budget and approval.

Contractor

An employer (organization) or a person performing any work and has entered into a legal binding business agreement contract to supply a product or provide services to Transnet. This applies to the Suppliers, Vendors, and Consultants, Service providers and Contractors.

Contractor Execution Plan

A site, activity or project specific documented plan in accordance with the client's project requirements. The Contractor to Transnet submits a plan for approval prior to mobilization on site. The Contractor Execution Plan includes, inter alia: Health and Safety, Environmental, Energy, Quality, Delivery plans etc.

Contractor Compliance File a file or other record containing the information in writing required by Transnet.

NB: A file must be submitted for each discipline where applicable e.g. health and safety, environment file etc.

Job Owner:

Any permanent employee of BTS who been trained, tested and found competent, and appointed in writing for the purpose of carrying out or supervising work on plant, machinery and equipment.

Risk Assessment

A risk assessment in this procedure means the process where all risks associated with the contract and its execution identified, mitigated and managed.

Specification

A detailed prescription of the Integrated Management System (IMS) requirements to which equipment, construction, product or service has to comply with this includes various models, drawings and documents. It noted that the specification might even comprise of a multitude of different elements.

Lockout:

The fitting of a padlock (or calliper and padlocks) to an isolator switch so that it cannot be returned to an operating condition.

Permit Acceptor:

Any person who has been appointed in writing to receive a Permit to Work for the purposes of carrying out or supervising work on equipment.

Permit Issuer:

The operations shift manager will be responsible for the issuing of permits.

Permit Number:

A number issued by CCR that logs the work performed, the person responsible for the work and the approximate duration. Note: This is not the same as the sequential number on the Permit to Work.

Permit to Work:

A written document indicating the equipment to work on, the potential hazards, how and where these hazards negated, signatures indicating that equipment is safe and the names of all persons working on the equipment.

Responsible Supervisor:

The Operations and Maintenance Supervisor who been assigned responsibility for the operation and maintenance of a particular section/s of the plant.

2. ABBREVIATIONS

IMS:	Integrated Management System
ISO:	International Organization for Standardization
OHSAS:	Occupational Health and Safety Assessment Series
POM:	Policy Manual
PROC:	Procedure
SOP:	Safe Operating Procedure
QMS:	Quality Management System
SANS:	South African National Standard
SMS:	Safety Management System / Service Management System
TCC:	Transnet Corporate Centre which is the Transnet Head Office
SLD:	Saldanha
TPT:	Transnet Port Terminals
WI:	Work Instructions

3. BACKGROUND

Transnet Port Terminal: Port of Saldanha utilizes Conveyor Belt systems are an integral part of the main core of equipment which the Operation department requires to offload and load iron ore. The conveyor belts systems vary in lengths and belt class types. New belting is supplied in various lengths of rolls and therefore splicing (joining) is required when replacing a conveyor belt where more than one roll of belting is required. Furthermore, splicing and repairs are also required for doing overlap splices, belt inserts and repairs (Hot or Cold) where the maintenance team has identified defects.

4. SCOPE OF REQUIREMENTS

- 4.1 TPT intends to contract a preferred Service Provider to perform the Conveyor Splicing and Repairs Services at the TPT Terminals: Port of Saldanha in areas to be designated by TPT on an "as and when" required basis.
- 4.2 TPT requires the provision of two (2) splicing teams, which consists of minimum of five (5) people per team for the support of day-to-day business continuity. Furthermore, provision should be made for two (2) extra teams during shutdown and breakdown periods. The requirements would then be four (4) teams during shutdown and breakdown periods.
- 4.3 For pricing purposes, pricing must be inclusive of labor, accommodation, transportation, vulcanizing equipment, splicing material, a generator, all tools and equipment and sundries required for conveyor belt splicing.
- 4.4 See tables below for estimated splicing and repairs services.

Table.1 estimated splice for IOT

Hot Splicing Belt Class and Width	Minimum splice lengths	Number of steps	Estimated Number of Splices for the Three (3) Year period
Class 800/4/2400	1150 mm	3	6
ST1000/1650	1000 mm	2	18
ST1000/1800	1000 mm	2	18
ST1250/1650	1150 mm	2	60
ST1600/1800	1000 mm	2	12
ST2500/1650	1500 mm	3	60

Table.2 Estimated hot splices for MPT.

Hot Splicing Belt Class and Width	Minimum splice lengths	Number of steps	Estimated Number of Splices for the Three (3) Year period
EP 800/5/2600	1200mm	5	9
EP 800/5/1500	900mm	4	9
EP 630/4/1002	600mm	3	12

Table.3 Hot and Cold repairs for IOT

Hot & Cold Repairs	
Hot repair	21m ²
Cold repair	21m ²
Cold repair with extrusion gun per 100 mm T2	21m ²

Table 4. Hot and Cold repairs estimated for MPT

Hot & Cold Repairs	
Hot repair	9m ²
Cold repair	9m ²
Cold repair with extrusion gun per 100 mm T2	9m ²

- 4.5 The service provider to coordinate all work with the TPT representatives and all work shall be performed so that any interruption of the normal operation will be minimized.
- 4.6 The Service Provider to provide detailed contact details (email address, land line and cell phone numbers) to TPT.
- 4.7 The Service Provider shall respond to scheduled splicing work within 12hrs from receiving the Purchase Order or upon receipt of a notification/callout.
- 4.8 Response time for emergency repairs shall not exceed 2 (two) hours to execute the repair. Emergency service calls are defined as plant failures which cannot wait for regular scheduling.
- 4.9 The Service Provider to ensure that all services are fully supervised by a dedicated supervisor.
- 4.10 The service provider must regularly liaise with the TPT maintenance department in respect of the operational activities that are taking or will be taking place which has an impact on the services being rendered.
- 4.11 The service provider to verify and communicate the duration and completion times of the works to the TPT representative before work commences.
- 4.12 No two splices shall be made within a 25m belt length, unless otherwise specified by the TPT representative.
- 4.13 The splicing material utilized in the execution of the works shall be as per the original belt manufacturer's recommendations and shall be sourced from approved suppliers of conveyor belt splicing material.
- 4.14 All materials utilized shall not be expired which will be dictated by the date of manufacture on the packaging and indicated shelf life.

- 4.15 Splicing cover material to have a nominal Shore hardness specified by material manufacturer.
- 4.16 The service provider shall demonstrate that all the materials used in the splice are compatible with the original belt material.
- 4.17 No material to be used for splicing if the following shelf limits have been exceeded:
 - a. Non fire resistant: 6 months in air-conditioned room
 - b. Fire resistant: 3 months in air-conditioned room
- 4.18 The Service Provider to conduct conveyor belt inspections, belt thickness measurement on all operational conveyor belts and provide a detailed written report on soft copy (PDF format) to TPT monthly for each conveyor belt. The quantity of the operational belts to be inspected and measured are 35 steel core Belts and 7 Ply Belts.
- 4.19 Service Provider shall conduct belt scanning on the 35 steel core conveyor belt on "as and when" required basis. TPT responsible personnel shall inform the Service Provider in advance of the time and date when the service shall be executed.
- 4.20 The service provider shall utilize a suitably qualified technician with 5 years cumulative experience in conveyor belt scanning and analysis to render the required inspection and belt scanning services.
- 4.21 The service provider shall be responsible for the installation and the removal of the equipment for the scanning of the conveyor belts.
- 4.22 The conveyor shall be scanned during normal operations, during maintenance windows or requested stoppages as operation allows.
- 4.23 The Service Provider shall supply their own generators / power supplies for their scanning equipment. Transportation for the services rendered shall be supplied by the service provider.
- 4.24 Any critical defects observed during the scanning process shall be immediately reported to TPT maintenance management.
- 4.25 A detailed Belt Scan report to be submitted to TPT within a week of the scan date. In the event of an emergency, a belt scan report shall be submitted within 4 hours and the detailed report shall be submitted in the following week.
- 4.26 The service provider shall supply the following information in their report:
 - 4.26.1 Analysis and reporting of defects and severity of those defects together with recommended actions.
 - 4.26.2 Compare belt conditions to historical data / reports.
 - 4.26.3 The report shall contain enough detail to be utilized as the basis of a repair's scope of work.
 - 4.26.4 Report format should include the following data:
 - 4.26.4.1 Name of the conveyor belt and date(s) installed.
 - 4.26.4.2 Belt supplier (there may be belts with different suppliers for the various segments - this information will be supplied from TPT Maintenance department).
 - 4.26.4.3 Rating
 - 4.26.4.4 Belt Width,
 - 4.26.4.5 Both thickness for Top and Bottom Covers,
 - 4.26.4.6 Cord Diameter, Number of Cords and Cord Pitch,
 - 4.26.4.7 Overall Belt Gauge, Conveyor System Information
 - 4.26.4.8 Belt Speed (design) in m/s and Belt Speed (calculated from speed measurement) in m/s
 - 4.26.4.9 Belt Length (design) and Belt Length (calculated)

- 4.26.4.10 Executive summary of Defects in the scanned belt
- 4.26.4.11 Graphical display of the belt profile or a belt map showing location of splices, defects observed (also indicating trends, for example new defects, and defect changes observed). Defects over the length and width of belt must be shown. Relation of defects with regard to splices must be indicated. Direction of belt moving must be indicated.
- 4.26.4.12 The envisaged reporting shall include a condensed segment report to graphically visualize the defect location and severity. Severity should be color coded and to same resolution as detected defects
- 4.26.4.13 "Table of belt sections (lengths between splices) and defects observed within the segments (i.e. reporting of defects per area within the belt profile and the severity.) This table must be a summary of the belt sections with number of defects observed in severity classification with action required.
- 4.26.4.14 Alarms shall be classed for the defects observed based on severity and risky:
- 4.26.4.15 **Critical Alarms;**
 - 4.26.4.15.1 Ten percent (10%) growth from previous scan for an area containing > 10 broken cords"
 - 4.26.4.15.2 Ten percent (10%) of total cords broken across width of the belt
 - 4.26.4.15.3 Ten percent (10%) of total cords broken in the center of the belt
 - 4.26.4.15.4 Five percent (5%) of total cords broken on either edge of the belt

5. QUALITY ASSURANCE

- 5.1 The requirements of ISO 9001-2015 shall apply.
- 5.2 The service provider shall submit a quality plan for all services covered under this Scope Of Work at time of tender for review by TPT.
- 5.3 The following to be Recorded for each splice executed:
 - a. Terminal
 - b. Conveyor No.
 - c. Job No.
 - d. Splice No. (will be supplied by TPT Maintenance dept)
 - e. Batch numbers and date of manufacture of splicing materials
 - f. Curing pressure and temperature measured at 15-minute intervals.
 - g. Finished splice dimensions (i.e., length and thickness) measured at both edges and center
 - h. Splicing date
 - i. Splicer's name
 - j. Hardness of splice bridges
- 5.4 The service provider to provide all the equipment and tools required to ensure a successful splice. All splicing personnel shall, at all times, be under the supervision of an experienced supervisor. The supervisor shall demonstrate to TPT that he has the required skills to complete a successful splice of the applicable type and that he has completed such a splice within the previous 12 months. TPT shall have access to inspect the splicing and curing process to ensure compliance to the applicable

- specification.
- 5.5 The service provider shall guarantee the workmanship and materials for a minimum period of six (6) months following the completion of the splice.
 - 5.6 All materials and supplies called for herein shall be of the best of their grade and type for the application, prepared according to the best available standards, and where required, thoroughly tested and subjected to examinations and standardization.
 - 5.7 Items not meeting these requirements shall be replaced at no cost to TPT. Material, equipment and installation procedures shall comply with all current rules and regulations. Calibration certificates shall be made available to TPT upon request.
 - 5.8 All work shall be executed in a professional manner and shall be neat and professional in appearance when completed.
 - 5.9 All work must comply with TPT QCP.
 - 5.10 If a service provider notices any deviation from the standard when doing the splicing, he shall immediately inform the TPT QA officer or relevant Technical supervisor.
 - 5.11 After completion of the splice, the joints must be checked for dimensions and straightness (the maximum edge length deviation is 1,5 mm) and also for any excess rubber, which shall be removed if necessary. The conveyor belt must be started up and run for two complete cycles in the presence of the TPT representative and re-inspected for compliance prior to the service provider leaving the site.
 - 5.12 Each splice to be marked as follows:
 - a. Markings to be a minimum of 0,5 mm deep and within 150 mm of the belt edge.
 - b. Service providers name or logo
 - c. The belt splice number that will be supplied by TPT QA officer.
 - d. Month and year completed

6. GENERAL SAFETY AND COMPLAINE SPECIFICATIONS

- The Contractor must submit a detailed Contractor Execution Plan (CEP) to the Contractor Manager for approval as per **TRN-IMS-GRP-GDL 014.5 Contractor Execution Plan minimum requirements**.
- Contractor must submit **TRN-IMS-GRP-TMP 014.3 Employee Personal Profile Dossier** to contractor Manager for approval before induction training confirmed. Approved Employee Profile Dossiers includes certified copies of medicals, identity documents, competencies etc. submitted via email correspondence to **TPTSLD-Induction-booking@transnet.net**.
- Contractor Compliance SHE File within accordance with File Contractor Compliance File **TRN-IMS-GRP-TMP-014.11** and in line with relevant applicable specifications as per respective **TRN-IMS-GRP-GDL 014.2 Contractor Specification Guidelines, TRN-IMS-GRP-GDL 014.4 Contractor Environmental and Sustainable Specification Guideline, TRN-IMS-GRP-GDL 014.6 Contractor Quality Specification Guideline** and **TRN-IMS-GRP-**

GDL 014.5 Contractor Security Specification Guidelines

- Principle contractor approve **Mandatory Agreement** in terms of **section 37(2) TRN-IMS-GRP-TMP-014.1** of the Occupational Health and Safety Act (OHS Act) and submit to Contractor Manager to agree.
- The Principle Contractor must **submit written request** to the Contractor Manager for permission for sub-contract to provide any work or services to TPT and ensure that all **37.2 Agreement between Principle contractor and Sub Contractor** submitted to Contractor Manager.
- Contractor must **submit** completed **SHE File Electronic** to Contractor Manager for approval.
- Contractor undergoes induction training prior to handing over the site to the Contractor as **TRN-IMS-GRP-GDL 014.6 Contractor Induction Minimum Requirements**.
- SITE ESTABLISHMENT:
- All relevant permits and authorizations is as per **TRN-IMS-GRP-TMP 014.7 List of Legal Permits and Authorizations** shared and completed prior to site access. **Contractor appointed** within accordance with **TRN-IMS-GRP-TMP-001.1** prior to site access by TPT.
- Contractor Manager will conduct **TRN-IMS GRP TMP 014.8 Pre-site handover inspection** prior to Site Access grated with Service Provider.
- **No work will commence with approved TRN-IMS-GRP-TMP-014.10 Operational Safe Work Permit** issue to the contractor by Contractor Manager.
- CLOSE OUT PHASE
- Contractor Manager and the Contractor must co-sign the **TRN-IMS-GRP-TMP-014.13 Final Handover and Closeout Inspection Checklist**.
- TESTING AND COMMISSIONING:
- The Contractor Manager will **develop a test and commissioning plan of the project** and communicate it to the contractor.
- The service provider will be responsible for obtaining Hot work permit from TNPA (phone no: 022 703 4331) within conjunction with Fire Safety Management Manual GRM/SHEQ/MAN 001.
- The service provider must have a Fire watch on duty during Hot Work and a Fire extinguisher as per required within Fire Safety Management Manual GRM/SHEQ/MAN 001.
- Service provider will ensure compliance to **TPT SLDT SHEQ-RS PRO 021_Lock Out Procedure** and lock out and isolation done by Trained and competent employees with conjunction with TPT competent.
- Service provider shall implement and maintain applicable Health, Safety, Quality and Environmental regulations and other relevant standards and regulation, example: applicable SANS codes; OHS Act of 1993 , other legislation, ISO 9001, ISO 14001 and ISO 45001, etc.
- Service provider to ensure that all employees involved in activity is informed of the Hazards and risk they exposed to and all other relevant applicable Safety Work Procedures, Fall protections Plans, Environmental Plans, Emergency Plans and any

other relevant procedures, etc. proof to be submitted as part of the SHE File.

Contact the following employees at SHERQ Department:

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