

STS

T2.2-38 a: Recommended Critical Spares STS

Note to Tenderer:

Tenderers are to complete this schedule with regards to recommended critical spares required to support the equipment supplied for the first 5 years of operation, excluding the 'Mandatory Critical Spares'.

Tenderers to indicate those spares that will be available in South Africa (i.e. locally available) and provide a method statement detailing procedure/action plan on how stock will be made available in South Africa.

Prices to be fixed for a period of 12 months.

#	Description	Supplier	Locally Avail (Yes/No)	Delivery Lead Time	Price
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
Etc.	Additional page/s to be added to supply comprehensive list				

Signed

Date

Name

Position



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (AQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

Tenderer

T2.2-38 b: Guarantees and Warranties

Note to tenderers:

The extent of guarantees and warranties in excess of the standard 12 months that can be offered by the Tenderer on electrical, mechanical and electronic Plant will play an important role in the evaluation of the tenders, as well as an extended guarantee on the structure in excess of 20 years.

The Tenderer is required to indicate on the below schedule what guarantee or warrantee period is offered for each of the items listed, as well as much detail as possible on the extent of the guarantee or warrantee.

Item	Guarantees and Warranties offered	Description of guarantees or warranties
Structure		
Spreader		
Energy chain		
Electrical Drives		
Gearboxes		
Hoist Brakes		
PLC's		
Electrical Motors		
Wire Ropes		

The scoring of the Guarantees and Warranties on electrical, mechanical and electronic plant will be as follows:

Score	Guarantees and Warranties (electrical, mechanical and electronic plant)
100	For all of the following components having a guarantee of > or = 2 years, then 100 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes
80	For at least 6 of the following components having a guarantee of > or = 2 years, and the remaining 2 having a guarantee of at least > or = 1 year, then 80 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes
60	For at least 4 of the following components having a guarantee of > or = 2 years, and the remaining 4 having a guarantee of at least > or = 1 year, then 60 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes
40	For all of the following components having a guarantee of at least > or = 1 year, then 40 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes
20	For at least 4 of the following components having a guarantee of > or = 1 year, and the remaining 4 having a guarantee of < 1 year, then 20 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes
0	For the following components having a guarantee of < 1 year or less than prescribed above, then 0 %: spreader, energy chain, electrical drives, gearboxes, hoist brakes, PLC's, electric motors and wire ropes

The scoring of the Guarantees and Warranties on the structure will be as follows:

Score	Guarantees and Warranties (Structure)
100	For a guarantee on the structure > or = to 20 years = 100 %
80	For a guarantee on the structure > or = to 18 years but less than 20 years = 80 %
60	For a guarantee on the structure > or = to 15 years but less than 18 years = 60 %
40	For a guarantee on the structure > or = to 12 years but less than 15 years = 40 %
20	For a guarantee on the structure > or = to 10 years but less than 12 years = 20 %
0	For a guarantee on the structure < 10 years = 0 %

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 c: Site Establishment

Tenderers are to indicate their site establishment requirements for the supply of the Ship-to-shore Crane, including the following:

- Erection site area required (m²).
- Site lay-down area required (m²) and preferred proximity to the erection site.
- Estimated electricity usage per month including average usage and peak demand.
- Estimated water consumption per month including average usage and peak demand.
- Special requirements on site e.g. hard standing or concrete beams, access etc.

Signed

Date

Name

Position



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Tenderer _____

Ship to Shore Crane (STS)	Origin of Parts / Components Making up Ship to Shore Crane	Tender Schedule: T2.2-38 d
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Tenderers are to indicate where the different parts and components for the STS will be fabricated or sourced from for the STS offered. Parts / components making up the entire Ship to Shore Crane are to be listed.

<u>Part / Component</u>	<u>Sub-Contractor / Supplier</u>	<u>Country</u>

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Signed

Date

Name

Position

Tenderer

T2.2-38 e: Mandatory Critical Spares

Tenderers are to complete this returnable for the critical spares identified by Employer below, for the crane.

Item #	Description	Supplier	No Required	Cost per unit	Total Cost
1	Hoist gearbox		1		
2	Hoist motor		1		
3	Hoist coupling		2		
4	Hoist service brake with pads		1		
5	Hoist E-brake with pads		1		
6	Hoist sheave and pin		1		
7	Trolley sheave and pin		1		
8	Headblock sheave and pin		1		
9	Boom service brake with pads		1		
10	Boom E-brake with pads		1		
11	Trolley motor		2		
12	Trolley gearbox		2		
13	Trolley brake		2		
14	Trolley wheel and shaft		2		
15	Gantry gearbox		1		
16	Gantry motor		2		
17	Gantry bogie		1		
18	Gantry brake		2		
19	Storm brake		1		
20	Storm brake hydraulic unit		1		
21	TLS electro-valves		1		
22	TLS cylinder		1		

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23	PLC CPU		1		
24	PLC power supply				
25	PLC input card		3		
26	PLC output card		3		
27	PLC analogue output		3		
28	PLC analogue output		3		
29	Trolley joystick		1		
30	Hoist/gantry joystick		1		
31	TLS joystick		1		
32	Loadcell +monitoring unit		2		
33	Anemometer		1		
34	HMI for operation cabin		1		
35	Backup harddrive with software for main PLC and SCADA		1		
36	HT cable		1		
37	Cable reel motor +brake + coupling		1		
38	Cable reel VSD		1		
39	Hoist wire rope RHL		1		
40	Hoist wire rope LHL		1		
41	Spreader centre cable +plugs		2		
42	Aux trolley rope wire front		2		
43	Aux trolley rope wire rear		2		
44	Aux trolley wheel		2		
45	PLC Inputs (Active Front End)		1		
46	PLC Output (Active Front End)		1		
47	Income supply unit complete		1		
48	Hoist Drives		1		
49	Trolley Drive		1		

Mandatory Critical Spares

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50	Gantry Drive		1		
51	Boom Drive		1		
52	Long travel buffer		2		
53	Trolley buffer		2		
54	Boom main contractor		1		
55	Trolley main contractor		1		
56	Hoist main contractor		1		
57	Gantry main contractor		1		
58	Energy chain (select parts)		1		

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

Mandatory Critical Spares

All Equipment Categories	Plant and Material Schedules	Tender Schedule: T2-2-38 f
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Note to Tenderers:

Tenderers are to list in this schedule all major mechanical (including brakes), hydraulic , air- conditioning, electrical and electronic components proposed to be incorporated in the equipment offered, as well as the speed control systems. These items are to be listed by type, rating and proposed make/supplier. A motivation for why this particular make/model of component is proposed must be submitted, taking into consideration the local support environment, previous experience with the local conditions.

Component and application	Type	Rating / size	Supplier / make / model	Motivation

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 g: Compliance to Eligibility Criteria

Tenderers are to list in this schedule compliance to the below Eligibility Criteria of the Ship-to-Shore Crane.

Tenderers are to note that these are the minimum technical requirements that the Ship-to-Shore Crane must c

In as far as possible Tenderers are to provide brochures, specifications, etc. to substantiate their compliance to the eligibility criteria. The Tenderer's sign-off at the bottom of the returnable is deemed as confirmation that the Tenderer commits that they will comply to the listed eligibility criteria.

Parameter for Ship-to-Shore Crane	Comply (Yes/No)
Tenderer is an original equipment manufacturer (OEM) of STS cranes. (Letter from OEM declaring they will be supplying TPT directly will be required.)	
Design Compliance to F.E.M.	
Minimum Twin Lift Hoisting Capability of 65 ton	
Twin Lift Capability	
Crane designed for 11,000 Volt, 3 phase, 50 Hertz power supply	
All motors and drives are AC	
Minimum In-Service wind Speed of 90 km/hr	
Hoist Speed with 65 ton Load : Minimum 90 m/min	
Trolley Speed with 65 ton Load : Min 210 m/min	
Hatch Cover placement position: Pier 1, on the crane and behind land side rail, Pier 2, CTCT PE, NCT on ground between the legs.	

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Rail Gauge	
Pier 1, Pier 2 (North Quay), NCT, CTCT: 30 m	
Pier 2 (East Quay), PECT: 20 m	
Pier 2 (South Quay) : 28, 5 m	
Crane Outreach, this is the distance from the center-line of the seaside rail to the center-line of the spreader	
PECT: 52 m	
Pier 1, Pier 2, NCT, CTCT : 65 m	
Lifting height above rail, this the distance from the top of the seaside rail to the bottom of the spreader.	
PECT: 37 m	
Pier 1, Pier 2, NCT, CTCT : 43 m	
Corrosion Protection Guarantee on crane structure: > or = 10 years	
Walkway stringers, staircase stringers, support brackets, kickplates, handrails, knee rails and stanchions to be hot dip galvanised and painted. Stair treads and walkway grating to be hot dip galvanised.	
Number of paint coats including primer: Minimum of 3 coats	
The Ship to Shore Container crane shall comply with the South African Occupational Health and Safety Act, Act 85 of 1993 as amended.	
Maximum Wheel Load on Waterside and Landside Rails (in-service and out of service) of 63,5 tons	
Access from ground to the top of the A-frame is via staircase	
Compliance to clause 4.1.1.1 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.2 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.3 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.4 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.5 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.6 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.7 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.8 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.9 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.10 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.11 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.12 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	

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Compliance to clause 4.1.1.13 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.14 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.15 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.16 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.17 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
The camera system must continually save to the recorder for the 7 day cycle.	
Width of Access Way (stairs and walkways) from floor level to operator's cabin required is a minimum of 700mm	

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 h: Evaluation Schedule: Track Record

Note to tenderers:

Tenderers as an original equipment manufacturer (OEM) of STS cranes, are required to demonstrate their experience in the design, manufacture, delivery, erection, testing and commissioning of twin lift ship-to-shore cranes with a capacity of at least 60 tons under the spreader, over the last 10 years, and to this end shall supply a sufficient detailed reference list with Ship-to-Shore Crane's details and contact details of existing customers. TPT will contact references to confirm track record.

#	Name of Previous Customer	Contact Details	Capacity (ton)	No. of Units	Year
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Additional pages to be added as required to provide a comprehensive list.

The scoring of the Track Record will be as follows:

Score	Track Record
100	> or = 20 units score 100 %
80	> or = 16 but < 20 units score 80 %
60	> or = 12 but < 16 units score 60 %
40	> or = 8 but < 12 units score 40 %
20	> or = 4 but < 8 units score 20 %
0	< 4 units score 0 %

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 i: Delivery Lead Time

Note to tenderers:

The Tenderer must submit a holistic programme for the delivery of the Ship-to-Shore Crane, showing the duration and location of each major related activity e.g. assembly of modules and/or the complete Ship-to-Shore Crane, testing of each module and/or the complete Ship-to-Shore Crane, disassembly (if applicable), cold commissioning, shipping of parts / modules or complete Ship-to-Shore Crane, site erection stages (if applicable), final testing, commissioning, training, endurance test and handover. (Tenderers are reminded that handover is inclusive of operator training and technical training.)

Note: A period of **six weeks** must be allowed for in the schedule for the third party design review

The programme must be in the form of a Gantt or Bar chart, clearly indicating key dates for progress measurements and/or payments due.

Further to the programme, the Tenderer must complete the required information below.

Activity	Duration (months)
1. Order placement to completion of designs	_____
2. Order placement to Cold Commissioning	_____
3. Order placement to Hot Commissioning, Endurance test and Handover	_____

Note: The Delivery Lead Time to be evaluated will be the Delivery Lead Time from order placement to completion of Hot Commissioning, Endurance test and Handover.

The scoring of the Delivery Lead Time from order placement to completion of Hot Commissioning, Endurance test and Handover will be as follows:

Score	Delivery Lead Time
100	< or = 16 months = 100 %
80	> 16 months & < or = 17 months = 80 %
60	> 17 months & < or = 18 months = 60 %
40	> 18 months & < or = 19 months = 40 %
20	> 19 months & < or = 20 months = 20 %
0	> 20 months = 0 %

Signed _____

Date _____



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Name _____ Position _____

Tenderer _____

T2.2-38 j: Compliance to Employer's Technical Specifications

Tenderers are to complete this schedule with regards to Compliance to the Employer's Technical Specification.

Note that this schedule is cross-referenced and must be read in conjunction with the Technical Specification "TPT_TS_TwinLift_AC_STSCrane Rev No. 13". Elements of this document not completed will be deemed as non-compliance to that particular clause.

In as far as possible Tenderers are to provide brochures, specifications, etc. to substantiate their compliance to the clauses in the Technical Specifications. The Tenderer's sign-off at the bottom of the returnable is deemed as confirmation that the Tenderer commits that they will comply to the clauses where they indicate compliance.

Note: Items greyed out will not be used in scoring the Compliance to Employer's Technical Specifications as they are already accounted for in the Technical Evaluation Scorecard.

<u>Technical Spec. Clause</u>	<u>Comply (Y/N)</u>	<u>Comment (mandatory if non-compliant) and reference to returnable schedule</u>
1. Scope		
1		
2.1 Equipment Functionality		
2.1.1		
2.1.2		
2.1.3		
2.1.4		
2.1.5		
2.1.6		
2.2 Main Crane design parameters		
2.2		
2.3 Ergonomics		
2.3.1 Operator's Cab		
2.3.1.1		
2.3.1.2		
2.3.1.3		
2.3.1.4		

2.3.1.5		
2.3.1.6		
2.3.1.7		
2.3.1.8		
2.3.1.9		
2.3.1.10		
2.3.1.11		
2.3.1.12		
2.3.1.13		
2.3.1.14		
2.3.1.15		
2.3.1.16		
2.3.1.17		
2.3.1.18		
2.3.1.19		
2.3.1.20		
2.3.1.21		
2.3.1.22		
2.3.1.23		
2.3.1.24		
2.3.1.25		
2.3.1.26		
2.3.1.27		
2.3.1.28		
2.3.1.29		
2.3.1.30		
2.3.1.31		
2.3.2 Operator's Controls		
2.3.2.1		
2.3.2.2		
2.3.2.3		
2.3.2.4		
2.3.2.5		
2.3.2.6		
2.3.2.7		
2.3.2.8		
2.3.2.9		
2.3.2.10		

2.3.2.11		
2.3.2.12.1.1		
2.3.2.12.1.2		
2.3.2.12.2.1		
2.3.2.12.3.1		
2.3.2.12.3.2		
2.3.2.12.3.3		
2.3.3 Crane Operational Aids		
2.3.3.1		
2.3.3.2		
2.3.3.3		
2.3.3.3.1		
2.3.3.3.2		
2.3.3.3.3		
2.3.3.3.4		
2.3.3.3.5		
2.3.3.4		
2.3.3.5		
2.3.3.6.1		
2.3.3.6.2		
2.3.3.6.3		
2.3.3.6.4		
2.3.3.7		
2.3.3.8		
2.3.3.9		
2.4 Terminal Specific Requirements		
2.4.1		
3. Technical Requirements		
3.1 Design Requirements		
3.1.1.1		
3.1.1.2		
3.1.1.3		
3.1.1.4		
3.1.1.5		
3.1.1.6		
3.1.1.7		
3.1.1.8		
3.1.1.9		

3.1.1.10		
3.1.1.11		
3.1.1.12		
3.1.1.13		
3.1.2.1		
3.2 Long Travel Structure		
3.2.1		
3.2.2		
3.2.3		
3.2.4		
3.2.5		
3.2.6		
3.2.7		
3.2.8		
3.2.9		
3.2.10		
3.2.11		
3.2.12		
3.2.13		
3.2.14		
3.2.15		
3.2.16		
3.2.17		
3.2.18		
3.2.19		
3.2.20		
3.2.21		
3.2.22		
3.2.23		
3.2.24		
3.2.25		
3.2.26		
3.3 Superstructure		
3.3.1		
3.3.2		
3.3.3		
3.3.4		
3.4 Boom and Boom Operation		

3.4.1		
3.4.2		
3.4.3		
3.4.4		
3.4.5		
3.4.6		
3.4.7		
3.4.8		
3.4.9		
3.4.10		
3.4.11		
3.4.12		
3.4.13		
3.4.14		
3.4.15		
3.4.16		
3.4.17		
3.5 Cross Travel Trolley		
3.5.1		
3.5.2		
3.5.3		
3.5.4		
3.5.5		
3.5.6		
3.5.7		
3.5.8		
3.5.9		
3.5.10		
3.5.11		
3.5.12		
3.5.13		
3.5.14		
3.5.15		
3.5.16		
3.5.17		
3.5.18		
3.5.19		
3.5.20		

3.6 Catenary Trolleys		
3.6.1		
3.6.2		
3.6.3		
3.6.4		
3.7 Main Hoist		
3.7.1		
3.7.2		
3.7.3		
3.7.4		
3.7.5		
3.7.6		
3.7.7		
3.7.8		
3.8 Headblock		
3.8.1		
3.8.2		
3.8.3		
3.8.4		
3.8.5		
3.8.6		
3.8.7		
3.8.8		
3.9 Spreaders		
3.9.1		
3.9.2		
3.9.3		
3.9.4		
3.9.5		
3.9.6.1		
3.9.6.2		
3.9.6.3		
3.9.7		
3.9.8		
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3.10 Heavy Lift Beam		
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8.2 Employer Specifications

The scoring of the Compliance to Employer's Technical Specification will be as follows:

Score	Track Record
100	>=405 compliant clauses = 100 %
80	<405 but >=385 compliant clauses = 80 %
60	<385 but >=365 compliant clauses = 60 %
40	<365 but >=345 compliant clauses = 40 %
20	<345 but >=325 compliant clauses = 20 %
0	< 325 compliant clauses = 0 %

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 k: Supplier's Components

Tenderers are to indicate the brand of their suppliers of components for the STS crane as per the below schedule:

Electrical Motors

Function	Numbers of	Motor Type	Manufacturer	Rating kW	Duty Type
Hoist					
Trolley					
Long Travel					
Boom					

Motor Drives

Function	Numbers of	Drive Type	Manufacturer	Rating kW	Control Method
Hoist					
Trolley					
Long Travel					
Boom					

PLC

Brief description	Manufacturer of PLC (OEM)	Communication bus system used. Description and make	Manufacturer of Slave stations (OEM)

Spreader

Brief description	Manufacturer of Spreader (OEM)	Communication / control (intelligent) system used

Spreader		
----------	--	--

Electrical Equipment

Function	Numbers of	Type	Manufacturer	Rating	Control Method
Switchgear					
Isolators / circuit breakers					
Control voltage DC power supply					
Main transformer					
Main transformer circuit breaker / isolator					
Cam switches					
Encoders					
Trailing cable					
Energy chain					

Mechanical Equipment

Brief Description	Number of	Point of Application	Type	Manufacturer
Brakes				
Bearings				
Slew bearing				

Buffers				
Wire ropes				
Gearboxes				

Crane Computer Diagnostic System

Function	On board Computer specification	On board Computer Manufacture	Software Manufacture	Configuring Software inclusive? Y/N
SCADA				

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 I: Supplier's Preliminary Design

Tenderers are to list in this schedule all principle design criteria and design standards applicable to the Ship-to-Shore Crane offered. The safety against drifting (due to wind and inclination) during operation in the limiting service wind shall at least comply with FEM 1.001. The Tenderer must state for each mechanism the class of utilization, spectrum class and group classification on which the proposed design will be based and supply a full motivation if this differs from those specified.

Parameter for Ship-to-Shore Crane	Value / Detail	Design Criteria and/or Applicable Standard	Comments
Classification of the structure (group classification, state of loading, class of utilization)			
Classification of the following mechanisms (group classification, state of loading, class of utilization): • Hoisting • Trolley • Gantry long travel • Boom			
Speeds of the following motions: (m/min) • Hoisting / lowering (full load) • Hoisting / lowering (no load) • Trolley cross travel (full load) • Trolley cross travel (no load) • Gantry long travel (full Load)			
Boom up (time in minutes)			

Boom down (time in minutes)			
Angle (degrees) to which a suspended container can be: Trimmed Listed Skewed			
Hoisting Capability (SWL) for crane – under spreader (ton)			
Length across uncompressed buffers, measured along rails (m)			
Overall (outside) width of crane, measured across the rails (m)			
Rail gauge (m)			
Acknowledge crane rail width (crown) is 100 mm (Yes / No)			
Spreader vertical travel distance below seaside rail level to lowest point of spreader (m)			
Spreader vertical travel distance above seaside rail level to underneath of spreader (m)			
Total number of long travel wheels			
Total number of long travel wheels driven and braked			
Total mass of STS Crane (ton)			
Maximum in-service load per wheel (ton)			

Maximum out-of-service load per wheel (ton)			
Maximum load distribution on rail			
Wheel spacing, in same bogie (m)			
Wheel spacing, between bogies (m)			
Wheel diameter (mm)			
Type of wheel			
Confirm trailing cable reel off-set shall be 1240 mm to the water side (outside) of water side rail			
Confirm the storm pins shall be 450 mm off-set to the inside of both crane rails			
Maximum in-service wind speed (km/hr)			
Minimum in-service stability factor			
Maximum out-of-service stability factor without anchoring devices			
Load eccentricity between left and right side hoist wire ropes (as a percentage of total load lifted), before crane trips out on eccentricity			
Cabin Dust & Noise Mitigation			
Width of access way (stairs and walkways) from floor level to operator's cabin			
Height of long travel buffers above rail (m)			

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Acknowledge cable on cable reel is 400m long (Yes / No)			
<u>Corrosion Protection:</u>			
Number of Coats of Paint			
Minimum overall Paint Thickness			
Other "Value-add" systems; designs; innovations			
1.			
2.			
3.			

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

T2.2-38 m: Recommended Maintenance Spares STS

Note to Tenderer:

Tenderers are to complete this schedule with regards to recommended maintenance spares, not included in the 'Mandatory Critical Spares' list (T2.2-19) and 'Mandatory Maintenance Spares' list required for the first year of operation.

Tenderers to indicate those spares that will be available in South Africa (i.e. locally available) and provide a method statement detailing procedure/action plan on how stock will be made available in South Africa.

Prices for the spares to be valid for one year (12 months).

#	Description	Supplier	Locally Avail (Yes/No)	Delivery Lead Time	Price
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
Etc.	Additional page/s to be added to supply comprehensive list				

Signed

Date

Name

Position



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Tenderer

T2.2-38 o: Compliance to Eligibility Criteria

Tenderers are to list in this schedule compliance to the below Eligibility Criteria of the Ship-to-Shore Crane.

Tenderers are to note that these are the minimum technical requirements that the Ship-to-Shore Crane must c

In as far as possible Tenderers are to provide brochures, specifications, etc. to substantiate their compliance to the eligibility criteria. The Tenderer's sign-off at the bottom of the returnable is deemed as confirmation that the Tenderer commits that they will comply to the listed eligibility criteria.

Parameter for Ship-to-Shore Crane	Comply (Yes/No)
Tenderer is an original equipment manufacturer (OEM) of STS cranes. (Letter from OEM declaring they will be supplying TPT directly will be required.)	
Design Compliance to F.E.M.	
Minimum Twin Lift Hoisting Capability of 65 ton	
Twin Lift Capability	
Crane designed for 11,000 Volt, 3 phase, 50 Hertz power supply	
All motors and drives are AC	
Minimum In-Service wind Speed of 90 km/hr	
Hoist Speed with 65 ton Load : Minimum 90 m/min	
Trolley Speed with 65 ton Load : Min 210 m/min	
Hatch Cover placement position: Pier 1, on the crane and behind land side rail, Pier 2, CTCT PE, NCT on ground between the legs.	

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Rail Gauge	
Pier 1, Pier 2 (North Quay), NCT, CTCT: 30 m	
Pier 2 (East Quay), PECT: 20 m	
Pier 2 (South Quay) : 28, 5 m	
Crane Outreach, this is the distance from the center-line of the seaside rail to the center-line of the spreader	
PECT: 52 m	
Pier 1, Pier 2, NCT, CTCT : 65 m	
Lifting height above rail, this the distance from the top of the seaside rail to the bottom of the spreader.	
PECT: 37 m	
Pier 1, Pier 2, NCT, CTCT : 43 m	
Corrosion Protection Guarantee on crane structure: > or = 10 years	
Walkway stringers, staircase stringers, support brackets, kickplates, handrails, knee rails and stanchions to be hot dip galvanised and painted. Stair treads and walkway grating to be hot dip galvanised.	
Number of paint coats including primer: Minimum of 3 coats	
The Ship to Shore Container crane shall comply with the South African Occupational Health and Safety Act, Act 85 of 1993 as amended.	
Maximum Wheel Load on Waterside and Landside Rails (in-service and out of service) of 63,5 tons	
Access from ground to the top of the A-frame is via staircase	
Compliance to clause 4.1.1.1 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.2 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.3 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.4 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.5 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.6 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.7 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.8 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.9 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.10 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.11 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.12 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	

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Compliance to clause 4.1.1.13 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.14 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.15 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.16 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
Compliance to clause 4.1.1.17 of Technical Specification 'TPT_TS_TwinLift_AC_STSCrane Rev. no. 13'	
The camera system must continually save to the recorder for the 7 day cycle.	
Width of Access Way (stairs and walkways) from floor level to operator's cabin required is a minimum of 700mm	

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

C1.1: CONTRACT NOTE

Bidders are to note Transnet is calling for proposals from experienced Original Equipment Manufacturers (OEM) to be nominated as the preferred supplier of Port Equipment for a period of ten (10) years. This will comprise of two (2) specific phases, being the Acquisition phase and the Asset Life Cycle Management. Task Orders will be issued to the preferred/successful bidder for that particular equipment and contracts for acquisition and maintenance will be negotiated between TPT and successful bidder during that second phase of the project



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PART 2: PRICING DATA

Document reference	Title	No of pages
	This cover page	1
C2.2	Pricing Schedule	3
	Total number of pages	4



C2.1 Pricing instructions

C2.1 Pricing Instructions: Option A

1. The *conditions of contract*

1.1. How the contract prices work and assesses it for progress payments

Clause 11 in NEC3 Engineering and Construction Contract, June 2005, (with amendments June 2006 and April 2013) (ECC) Option A states:

**Identified 11
and
defined 11.2
terms**

(20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(27) The Price for Work Done to Date is the total of the Prices for

- each group of completed activities and
- each completed activity which is not in a group

A completed activity is one which is without Defects which would either delay or be covered by immediately following work.

(30) The Prices are the lump sums for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

1.2. Measurement and Payment

1.2.1 The Activity Schedule provides the basis of all valuations of the Price for Work Done to Date, payments in multiple currencies, price adjustments for inflation and general progress monitoring.

1.2.2 The amount due at each assessment date is based on **completed activities and/or milestones** as indicated on the Activity Schedule.

1.2.3 The Activity Schedule work breakdown structure provided by the *Contractor* is based on the Activity Schedule provided by the *Employer*. The activities listed by the *Employer* are the minimum activities acceptable and identify the specific activities which are required to achieve Completion. The activity schedule work breakdown structure is compiled to the satisfaction of the *Project Manager* with any additions and/or amendments deemed necessary.



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- 1.2.4 The *Contractor's* detailed Activity Schedule summates back to the Activity Schedule provided by the *Employer* and is in sufficient detail to monitor completion of activities related to the Accepted Programme in order that payment of completed activities may be assessed.
- 1.2.5 The short descriptions in the Activity Schedule are for identification purposes only. All work described in the Works Information is deemed included in the activities.
- 1.2.6 The Activity Schedule is integrated with the Prices, Accepted Programme and where required the forecast rate of payment schedule.
- 1.2.7 Activities in multiple currencies are separately identified on both the Activity Schedule and the Accepted Programme for each currency.
- 1.2.8 The tendered total of the prices as stated in the Contract Data is obtained from the Activity Schedule summary. The tendered total of the prices includes for all direct and indirect costs, overheads, profits, risks, liabilities and obligations relative to the Contract.

C2.2 Activity Schedule

The Tenderer details his Activity Schedule below or makes reference to his Activity Schedule and attaches it to this schedule.

The details given below serve as guidelines only and the Tenderer may split or combine the activities to suit his particular methods.



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Mandatory Returnable

C2.2 Price Schedule

C.2.2.1 Option A

The *Employer's* Price Schedule is listed below and is a summation of the Tenderers price Schedule.

The *Employer* requires at least the following activities to be priced. The Contractor can price for any of the equipment categories applicable to them as listed below. All items under the relevant category must be priced individually.

The price needs to be fixed and firm for the first order for that type of equipment. Details of the escalation used (i.e. the details of the indices driving the escalation) thereafter must be provided together with the acquisition prices per year. The escalation will then be negotiated based on the principles agreed in the RFP.

Should these negotiations not prove favourable, TPT reserves the right to cancel the contract.

At this point there is no obligation by TPT for any value, the only commitment by TPT is that the chosen preferred contractor will be utilized when the need to purchase that piece of equipment arises. Certain maintenance interventions for that piece of equipment will also be awarded to that contractor for the assets life. The 5 years is chosen as this aligns to Transnet's corporate plan.

It is Transnet's preference to enter into a Rand based contract, where the contractor will hedge the foreign exchange (FX) risk exposure on their balance sheet at a cost acceptable to Transnet by verifying cost of hedging with Transnet Treasury before hedge execution by the contractor.

Should this not be possible, and should it be required that the Employer hedge the FX risk, the Contractor will be required to re-imburse the Employer for any hedging related costs (losses that arise due to the moving of hedges), in the event that a payment cannot take place on the hedged date due to the Contractor.

It is Transnet's preference to enter into a contract on a DDP (Incoterms 2010 at the applicable Port) basis.

It is the Contractor's responsibility to ensure that they are familiar and can comply with all the applicable legislation relating to this tender such as the DDP Incoterms, Value Added Tax Act 89 of 1991 (VAT) and other applicable laws.



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

MAIN OFFER**1. SHIP-TO-SHORE CRANES**

The manufacture, supply, delivery, and commissioning of Ship-to-Shore Cranes as Annexure 04 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Type	Quantity	Unit Price	Total Price (Ex Vat)
A. 2025				
Durban Container Terminal Pier 2 – North Quay	Twin lift	2		
Durban Container Terminal Pier 2 – South Quay	Twin lift	3		
Port Elizabeth Container Terminal	Twin lift	1		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works.		6 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	6		
STS Cranes Subtotal		6		
B. 2026				
Port Elizabeth Container Terminal	Twin lift	1		
Provision of 3 sets of special tools for Durban Container Pier 1 as per section 2.5.4.1 of the scope of works.		3 sets		
Provision of 3 industrial laptops for Durban Container Pier 1 as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	3		
STS Cranes Subtotal		1		
C. 2028				
Durban Container Terminal Pier 2 – North Quay	Twin lift	1		
Durban Container Terminal Pier 2 – South Quay	Twin lift	2		
Durban Container Terminal Pier 1	Twin lift	6		
Port Elizabeth Container Terminal	Twin lift	1		
Provision of 3 sets of special tools for Durban Container Pier 1 as per section 2.5.4.1 of the scope of works.		9 sets		
Provision of 3 industrial laptops for Durban Container Pier 1 as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	9		



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

STS Cranes Subtotal		10
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D. 2029				
Durban Container Terminal Pier 2 – North Quay	Twin lift	3		
Provision of 3 sets of special tools for Durban Container Pier 1 as per section 2.5.4.1 of the scope of works.		3 sets		
Provision of 3 industrial laptops for Durban Container Pier 1 as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	3		
STS Cranes Subtotal		3		

E. 2030	Type	Quantity	Unit Price	Total Price (Ex Vat)
Ngqura Container Terminal	Twin lift	6		
Cape Town Container Terminal	Twin lift	6		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	6		
STS Cranes Subtotal		12		

F. 2031				
Durban Container Terminal Pier 1	Twin lift	8		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	3		
STS Cranes Subtotal		8		

G. 2032				
Durban Container Terminal Pier 1	Twin lift	5		
Ngqura Container Terminal	Twin lift	2		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	6		
STS Cranes Subtotal		7		



TRANSNET PORT TERMINALS

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DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

H. 2033				
Durban Container Terminal Pier 2 – North Quay	Twin lift	7		
Cape Town Container Terminal	Twin lift	4		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	6		
STS Cranes Subtotal		11		

I. SIMULATORS				
Provision of simulators as per 2.5.3 on the Scope of Works document. To be provided with the first delivery batch.		4		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	units	3		
Simulators Subtotal		4		

TOTAL FOR SHIP TO SHORE CRANES [A to I]

Proposed payment terms per delivery batch are as follows:

Milestone	%
Design Approval	10
Bill of lading	20
Bill of Entry	30
Commissioning and handover	40
	100



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

1. MOBILE HARBOR CRANES**2.**

The manufacture, supply, delivery, and commissioning of Mobile harbor Cranes as per Annexure 05 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Quantity	Unit Price	Total Price (Ex Vat)
A. 2025			
Richards Bay	1		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
Mobile Harbor Cranes Subtotal	1		
B. 2027			
Cape Town Multi-Purpose Terminal	1		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
Mobile Harbor Cranes Subtotal	1		
C. 2028			
Richards Bay	3		
Durban Point Multi-Purpose Terminal	5		
Provision of 3 sets of special tools for Durban Point MPT as per section 2.5.4.1 of the scope of works	6 sets		
Provision of 3 industrial laptops Durban Point MPT as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	6		
Mobile Harbor Cranes Subtotal			
TOTAL MOBILE HARBOUR CRANES [A to C]			



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

Proposed payment terms per delivery batch are as follows:

Milestone	%
Design Approval	10
Bill of lading	20
Bill of Entry	30
Commissioning and handover	40
	100

3. RTG's

The manufacture, supply, delivery, and commissioning of RTG's as per Annexure 06 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Type	Quantity	Unit Price	Total Price (Ex Vat)
A. 2024				
Cape Town Container Terminal	1+6	14		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
RTG's Subtotal		14		
B. 2025				
Cape Town Container Terminal	1+6	13		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
Mobile Harbor Cranes Subtotal		13		
C. 2026				
Durban Container Terminal Pier 1	1+6	4		
Ngqura Container Terminal	1+7	11		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		6		
RTG's Subtotal				



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TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

D.	2027			
	Ngqura Container Terminal	1+7	11	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3	
	RTG's Subtotal		11	
E.	2029			
	Ngqura Container Terminal	1+7	18	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3	
	RTG's Subtotal		18	
F.	2031			
	Durban Container Terminal Pier 1	1+6	36	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3	
	RTG's Subtotal		36	
G.	2032			
	Durban Container Terminal Pier 1	1+6	36	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3	
	RTG's Subtotal		36	
H.	2033			
	Ngqura Container Terminal	1+7	20	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3	



TRANSNET PORT TERMINALS

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RTG's Subtotal		20	
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I.	Provision of simulators as per 2.5.3 on the Scope of Works document. To be provided with the first delivery batch.		4		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
	Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
	Simulators Subtotal		4		

TOTAL RTG's [A to I]

Proposed payment terms per delivery batch are as follows:

Milestone	%
Design Approval	10
Bill of lading	20
Bill of Entry	30
Commissioning and handover	40
	100

4. RMG's

The manufacture, supply, delivery, and commissioning of RMG's as per Annexure 07 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Quantity	Unit Price	Total Price (Ex Vat)
A.			
2024			
Durban Container Terminal Pier 2	2		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
RMG Subtotal	2		



TRANSNET PORT TERMINALS

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B.

2025			
Durban Container Terminal Pier 1	1		
Provision of 3 sets of special tools as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
RMG Subtotal	1		

C.

2030	Quantity	Unit Price	Total Price (Ex Vat)
Durban Container Terminal Pier 1	2		
Ngqura Container Terminal	2		
Provision of 3 sets of special tools for Ngqura Container Terminal as per section 2.5.4.1 of the scope of works	6 sets		
Provision of 3 industrial laptops for Ngqura Container Terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	6		
RMG Subtotal	4		

D.

2032			
Durban Container Terminal Pier 1	3		
Provision of 3 sets of special tools as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
RMG Subtotal	3		



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F.

Provision of simulators as per 2.5.3 on the Scope of Works document. To be provided with the first delivery batch.	4		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
Provision of 3 industrial laptops per terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
Simulators Subtotal	4		

TOTAL RMG's [A to F]

Proposed payment terms per delivery batch are as follows:

Milestone	%
Design Approval	10
Bill of lading	20
Bill of Entry	30
Commissioning and handover	40
	100



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5. STRADDLE CARRIERS

The manufacture, supply, delivery, and commissioning of Straddle Carries as per Annexure 08 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Type	Quantity	Unit Price	Total Price (Ex Vat)
A. 2023				
East London	3 high	4		
Provision of 3 sets of special tools as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
Straddles Subtotal		4		
B. 2024				
Durban Container Terminal Pier 2	4 high	8		
Provision of 3 sets of special tools as per section 2.5.4.1 of the scope of works		3 sets		
Provision of 3 industrial laptops as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
Straddles Subtotal		8		
C. 2025				
Durban Container Terminal Pier 2	4 high	12		
Port Elizabeth Container Terminal	3 high	2		
Cape Town Multi-Purpose Terminal	4 high	4		
Provision of 3 sets of special tools for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.1 of the scope of works		9 sets		
Provision of 3 industrial laptops for Port Elizabeth Container Terminal and Cape Town MPT as per		9		



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section 2.5.4.2 and 2.5.4.3 of the scope of works.				
Straddles Subtotal		18		

D.	2026	Type	Quantity	Unit Price	Total Price (Ex Vat)
	Durban Container Terminal Pier 2	4 high	2		
	Provision of 3 sets of special tools for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.1 of the scope of works		3 sets		
	Provision of 3 industrial laptops for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		3		
	Straddles Subtotal		2		

E.	2027	Type	Quantity	Unit Price	Total Price (Ex Vat)
	Durban Container Terminal Pier 2	4 high	8		
	Port Elizabeth Container Terminal	3 high	5		
	Provision of 3 sets of special tools for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.1 of the scope of works		6 sets		
	Provision of 3 industrial laptops for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		6		
	Straddles Subtotal		13		

F.	2029	Type	Quantity	Unit Price	Total Price (Ex Vat)
	Durban Container Terminal Pier 2	4 high	17		
	Port Elizabeth Container Terminal	3 high	1		
	Provision of 3 sets of special tools for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.1 of the scope of works		6 sets		



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Provision of 3 industrial laptops for Port Elizabeth Container Terminal and Cape Town MPT as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		6		
Straddles Subtotal		18		

G. 2030				
Durban Container Terminal Pier 2	4 high	23		
East London	3 high	4		
Cape Town Container Terminal	4 high	4		
Provision of 3 sets of special tools for Cape Town Container Terminal as per section 2.5.4.1 of the scope of works		9 sets		
Provision of 3 industrial laptops for Cape Town Container Terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		9		
Straddles Subtotal		31		

H. 2031				
Durban Container Terminal Pier 2	4 high	22		
Cape Town Multi-Purpose Terminal	4 high	4		
Provision of 3 sets of special tools for Cape Town Container Terminal as per section 2.5.4.1 of the scope of works		6 sets		
Provision of 3 industrial laptops for Cape Town Container Terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.		6		
Straddles Subtotal		26		

I.	Provision of simulators as per 2.5.3 on the Scope of Works document. To be provided with the first delivery batch.	4		
	Provision of 3 sets of special tools for Cape Town Container Terminal as per section 2.5.4.1 of	3 sets		



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the scope of works			
Provision of 3 industrial laptops for Cape Town Container Terminal as per section 2.5.4.2 and 2.5.4.3 of the scope of works.	3		
Straddles Subtotal	4		
TOTAL STRADDLE CARRIES [A to I]			

Proposed payment terms per delivery batch are as follows:

Milestone	%
Design Approval	10
Bill of lading	20
Bill of Entry	30
Commissioning and handover	40
	100

6. HAULERS

The manufacture, supply, delivery, and commissioning of haulers as per Annexure 09 & 10 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Type	Quantity	Unit Price	Total Price (Ex Vat)
A. 2023				
Durban Container Terminal Pier 1	4X2	10		
Durban Point Multi-Purpose Terminal	4X4	19		
Cape Town Multi-Purpose Terminal	4X2	14		
Saldanha Multi-Purpose Terminal	4X2	4		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		12 sets		
Haulers Subtotal		47		
B. 2024				
Durban Container Terminal Pier 2	4X2	10		
Richards Bay Multi-Purpose Terminal	4X2	74		
Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
Haulers Subtotal		84		



TRANSNET PORT TERMINALS

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C.	2025				
	Ngqura Container Terminal	4X2	48		
	Port Elizabeth Container Terminal	4X2	6		
	Port Elizabeth Multi-Purpose Terminal	4X2	10		
	Cape Town Container Terminal	4X2	25		
	Saldanha Multi-Purpose Terminal	4X2	4		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		15 sets		
	Haulers Subtotal		93		
D.	2026				
	Durban Container Terminal Pier 2	4X2	6		
	Durban Container Terminal Pier 1	4X2	14		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
	Haulers Subtotal		20		
E.	2027				
	Durban Container Terminal Pier 2	4X2	29		
	Saldanha Multi-Purpose Terminal	4X2	4		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets		
	Haulers Subtotal		33		
F.	2028				
	Durban Container Terminal Pier 1	4X2	18		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets		
	Haulers Subtotal		18		
G.	2031				
	Durban Container Terminal Pier 1	4X2	70		
	Durban Point Multi-Purpose Terminal	4X4	7		
	Durban Maydon Wharf	4X2	14		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		9 sets		
	Haulers Subtotal		91		



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

H.	2032			
	Durban Container Terminal Pier 1	4X2	70	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		3 sets	
	Haulers Subtotal		70	

I.	2033			
	Cape Town Container Terminal	4X2	30	
	Saldanha Multi-Purpose Terminal	4X2	4	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works		6 sets	
	Haulers Subtotal		34	

TOTAL HAULERS [A to I]

Proposed payment terms: 100% payment on delivery

7. REACH STACKERS

The manufacture, supply, delivery, and commissioning of reach stackers as per Annexure 17 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Quantity	Unit Price	Total Price (Ex Vat)
A. 2023			
	Durban Container Terminal Pier 2	2	
	Cape Town Container Terminal	2	
	Cape Town Multi-Purpose Terminal	3	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	9 sets	
	Reach Stacker Subtotal	7	

B. 2024			
	Durban Container Terminal Pier 1	1	
	Ngqura Container Terminal	2	
	Durban Point Multi-Purpose Terminal	2	
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	9 sets	
	Reach Stacker Subtotal	5	

C. 2026			
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TRANSNET PORT TERMINALS

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DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (ACQUISITION) AND UP TO 20 (UP TO TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

Richards Bay Multi-Purpose Terminal	2		
Cape Town Multi-Purpose Terminal	1		
Provision of 3 sets of special tools for Richards Bay Multi-Purpose Terminal as per section 2.5.4.1 of the scope of works	6 sets		
Reach Stacker Subtotal	3		

D. 2027			
Durban Container Terminal Pier 2	1		
Durban Container Terminal Pier 1	2		
Richards Bay Multi-Purpose Terminal	1		
Provision of 3 sets of special tools for Richards Bay Multi-Purpose Terminal as per section 2.5.4.1 of the scope of works	9 sets		
Reach Stacker Subtotal	4		

E. 2030			
Durban Point Multi-Purpose Terminal	7		
Provision of 3 sets of special tools for Richards Bay Multi-Purpose Terminal as per section 2.5.4.1 of the scope of works	3 sets		
Reach Stacker Subtotal	7		

F. 2031			
Durban Container Terminal Pier 1	2		
Provision of 3 sets of special tools for Richards Bay Multi-Purpose Terminal as per section 2.5.4.1 of the scope of works	3 sets		
Reach Stacker Subtotal	2		

G. 2032			
Durban Container Terminal Pier 1	2		
Durban Point Multi-Purpose Terminal	5		
Provision of 3 sets of special tools for Richards Bay Multi-Purpose Terminal as per section 2.5.4.1 of the scope of works	6 sets		
Reach Stacker Subtotal	7		

TOTAL REACH STACKERS [A to G]

Proposed payment terms: 100% payment on delivery



TRANSNET PORT TERMINALS

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8. EMPTY CONTAINER HANDLER

The manufacture, supply, delivery, and commissioning of Empty Container Handlers as per Annexure 18 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

		Quantity	Unit Price	Total Price (Ex Vat)
A.	2023			
	Ngqura Container Terminal	2		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
	ECH Subtotal	2		
B.	2024			
	Ngqura Container Terminal	2		
	Provision of 3 sets of special tools per terminal as per section 2.5.4.1 of the scope of works	3 sets		
	ECH Subtotal	2		
C.	2025			
	Ngqura Container Terminal	3		
	Cape Town Container Terminal	4		
	Provision of 3 sets of special tools for Cape Town Container Terminal as per section 2.5.4.1 of the scope of works	3 sets		
	ECH Subtotal	3		
D.	2029			
	Durban Container Terminal Pier 2	6		
	Durban Container Terminal Pier 1	4		
	Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	6 sets		
	ECH Subtotal	6		
E.	2031			
	Durban Container Terminal Pier 1	4		
	Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	3 sets		
	ECH Subtotal	4		
F.	2032			
	Durban Container Terminal Pier 1	4		



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Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	3 sets		
ECH Subtotal	4		

TOTAL ECH [A to I]

Proposed payment terms: 100% payment on delivery

9. FORKLIFTS

The manufacture, supply, delivery, and commissioning of haulers as per Annexure 19 of the scope of works. The Contractor's price must take the requirements stated in section 2.3 of the scope of works into account.

	Quantity	Unit Price	Total Price (Ex Vat)
A. 2023			
Richards Bay Multi-Purpose Terminal			
42 ton	2		
32 ton	3		
18 ton	10		
8 ton	10		
Cape Town Multi-Purpose Terminal			
18 ton	1		
45 ton	1		
Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	6 sets		
Forklifts Subtotal	25		

B. 2024			
Richards Bay			
42 ton	3		
32 ton	3		
18 ton	10		
8 ton	10		
Durban Point Multi-Purpose Terminal			
5 ton	2		
DBN Maydon Wharf			
5 ton	2		
Port Elizabeth Container Terminal			
5 ton	3		
Cape Town Multi-Purpose Terminal			
5 ton	13		



TRANSNET PORT TERMINALS

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13 ton	1		
Saldanha Multi-Purpose Terminal			
42 ton	1		
32 ton	1		
Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	18 sets		
Forklifts Subtotal	49		

C. 2025			
Ngqura Container Terminal			
5 ton	4		
Port Elizabeth Multi-Purpose Terminal			
8 ton	6		
Cape Town Container Terminal			
5 ton	3		
8 ton	1		
Saldanha Multi-Purpose Terminal			
32 ton	2		
Provision of 3 sets of special tools per Terminal as per section 2.5.4.1 of the scope of works	12 sets		
Forklifts Subtotal	16		

D. 2026			
East London Multi-Purpose Terminal			
8 ton	2		
Cape Town Container Terminal			
5 ton	4		
Cape Town Multi-Purpose Terminal			
32 ton	1		
Saldanha Multi-Purpose Terminal			
32 ton	7		
Provision of 3 sets of special tools for East London Multi- Purpose Terminal as per section 2.5.4.1 of the scope of works	3 Sets		
Forklifts Subtotal	12		

E. 2029			
Saldanha Multi-Purpose Terminal			
18 ton	2		
Provision of 3 sets of special tools for			



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East London Multi- Purpose Terminal as per section 2.5.4.1 of the scope of works	3 Sets		
Forklifts Subtotal	12		

TOTAL FORKLIFTS [A to E]

Proposed payment terms: 100% payment on delivery

10.

EQUIPMENT MODELS

Provision of scaled models of the different equipment to be supplied as part of this acquisition as per section 2.2 of the scope of works

	Quantity	Unit Price	Total Price (Ex Vat)
STS Cranes	10		
Mobile Cranes	10		
RTG's	20		
RMG's	10		
Straddle Carriers	30		
Haulers	30		
Reach Stackers	10		
Empty Container Handlers	10		
Forklifts	10		

TOTAL EQUIPMENT MODELS

Proposed payment terms: 100% payment on delivery

TOTAL PRICE (Ex Vat) TO BE CARRIED TO THE FORM OF OFFER [1 to 10]**OPTIONS****1. REACH STACKERS**

Provision of 3 industrial laptops per Terminal listed below as per section 2.5.4.2 and 2.5.4.3 of the scope of works.

	Quantity	Unit Price	Total Price (Ex Vat)
A. 23/24			
Durban Container Terminal Pier 2	3 sets		
Cape Town Container Terminal	3 sets		
Cape Town Multi-Purpose Terminal	3 sets		



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Reach Stacker Subtotal	
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B. 24/25

Durban Container Terminal Pier 1	3 sets		
Ngqura Container Terminal	3 sets		
Durban Point Multi-Purpose Terminal	3 sets		
Reach Stacker Subtotal			

C. 26/27

Richards Bay Multi-Purpose Terminal	3 sets		
Reach Stacker Subtotal			

TOTAL OPTIONS PRICE

Rates table

1. SHIP TO SHORE CRANE

1. 1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			

1.2 Technical Support	
	Rate per Technician per hour
23/24	



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24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

2. MOBILE HABOUR CRANES

2. 1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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2.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

3. RTG's

3.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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3.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

4. RMG'S

4.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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4.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

5. STRADDLE CARRIERS

5.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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5.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

6. HAULERS

6.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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6.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

7. REACH STACKERS

7.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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7.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

8. EMPTY CONTAINER HANDLER

8.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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8.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	

9. FORKLIFTS

9.1 Training & accreditation			
	Rate per trainee		
	Train the Trainer: For Operators	Level 1: Normal Maintenance	Level 2: Super specialist
23/24			
24/25			
25/26			
26/27			
27/28			
28/29			
29/30			
30/31			
31/32			
32/33			
33/34			



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9.2 Technical Support	
	Rate per Technician per hour
23/24	
24/25	
25/26	
26/27	
27/28	
28/29	
29/30	
30/31	
31/32	
32/33	
33/34	



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3. Technician Rates											
Annual Rates											
	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
STS Cranes											
Mobile Cranes											
RTG's											
RMG's											
Straddle Carriers											
Haulers											
Reach Stackers											
Empty Container Handlers											
Forklifts											

TRANSNET PORT TERMINALS

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4. Lifecycle Management	Rate per annual audit										
	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
STS Cranes											
Mobile Cranes											
RTG's											
RMG's											
Straddle Carriers											
Haulers											
Reach Stackers											
Empty Container Handlers											
Forklifts											

5. Simulator Lease Rate	Rate per annum per simulator										
	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
STS Cranes											
RTG's											
RMG's											
Straddle Carriers											

PART 3: SCOPE OF WORK

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C3.1	<i>Employer's Works Information</i>	
C3.2	<i>Contractor's Works Information</i>	
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C3.1: EMPLOYER'S WORKS INFORMATION

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TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (AQUISITION) AND 10 – 20 (TEN-TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

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1. Description of the works

1.1 Background

Transnet Port Terminals a division of Transnet SOC Limited core business is providing cargo handling services to a wide spectrum of customers, including shipping lines, freight forwarders, and cargo owners. Operations are divided into four major business segments, namely containers, bulk, break bulk and automotive. Container terminals handle containers through the utilization of Ship-to-Shore Cranes, Rubber Tyred Gantry Cranes and Straddle Carriers. Bulk terminals handle the cargo through the utilization of ship loaders, stacker reclaimers, conveyors tipplers, etc.

Transnet Port Terminals continuously needs to have its operations freight handling equipment and infrastructure reliable in order to provide world class operational efficiency.

Transnet is embarking on a process in order to develop and establish a long term collaborative strategy with Original Equipment Manufacturers (OEM's). These collaborations are a multi-faceted approach that will ensure cost-effective acquisition, reduced cost of ownership and efficient support for the life of our operating assets.

OEM's will be appointed per each of the nine (9) categories of port equipment, this will be for the design (where applicable), manufacture, supply, delivery, testing and commissioning [Acquisition phase] and thereafter the Asset Life Cycle Management (ALCM) phase for the design life of these individual pieces of equipment.

This collaborative arrangement will comprise, TPT, OEM's, Transnet Engineering (TE) and local vendors.

The selected supplier(s) will share in the mission and objectives of Transnet. These mutual goals will be achieved by meeting contract requirements and new challenges in an environment of teamwork, joint participation, flexibility, innovation and open communications. In this spirit of collaboration, Transnet and its Supplier(s) will study the current ways they do business to enhance current practises and support processes and systems.

1.1.1 Business requirement

Bidders are to note Transnet is calling for proposals from experienced Original Equipment Manufacturers (OEM) to be nominated as the preferred supplier of Port Equipment for a period of ten (10) years. This will comprise of two (2) specific phases, being the Acquisition phase and the Asset Life Cycle Management. Task Orders will be issued to the preferred/successful bidder for that particular equipment and contracts for acquisition and maintenance will be negotiated between TPT and successful bidder during that second phase of the project.

Transnet seeks to benefit from this acquisition in the following ways:

- 1.1.1.1 Transnet intends to achieve reduced costs of acquisition and improved service benefits resulting from the Supplier's economies of scale and streamlined service processes. Transnet requires that proportionate savings in costs are gained by the OEM's increased levels of production.
- 1.1.1.2 Transnet must receive proactive improvements from the Supplier with respect to supply of Good's and there-after the processes to be followed in order to ensure and maintain the design life of the equipment.



1.1.1.3 Transnet's overall competitive advantage must be strengthened by the chosen Suppliers leading edge technology and service delivery mechanisms.

1.1.1.4 Transnet's end users must be able to rely on the chosen Supplier's personnel for Technical assistance, commercial requirements, service enquiries, recommendations, substitutions and on-site support - at all times.

Process for award: The demand is defined. Award will be considered as a task order being issued subsequent to financial approval, i.e. business case approval or financing model implemented.

1.1.2 Sectors:

1.1.2.1 Containers

These are handled primarily at the Ports of Durban, East London, Ngqura, Port Elizabeth and Cape Town. The two different types of operations are Straddle Carrier set-up (Durban Pier 2, PE, EL, and portion of CT) or a Gantry operation. TPT uses two types of Gantries, Rubber Tyred (Pier 1 Durban & Ngqura) and Rail Mounted Gantries.

The other common equipment in this environment are Haulers, Reach Stackers and Empty container handlers. Most of these machines form part of the lifting equipment category and should be fitted with tyres that can handle the loads that are being moved without posing any risk to the equipment or personnel.

1.1.2.2 Bulk & Multi-Purpose (MPT)

The commodities handled in this sector could include Coal and other Minerals, a variety of Agricultural Products as well as cargo that is not containerized i.e. steel coils. These commodities are handled at the following terminals

1.1.2.2.1 Richards Bay;

1.1.2.2.2 Durban Multi-Purpose and Agricultural Terminal;

1.1.2.2.3 East London;

1.1.2.2.4 Port Elizabeth;

1.1.2.2.5 Cape Town and;

1.1.2.2.6 Saldanha.

The above terminals would run a selection of the following but not limited to: Haulers, Trailers, Forklifts, Reach Stackers, Tractors and Light Commercial Vehicles.

1.1.2.3 Roll on Roll off cargo (RO-RO)

RO-RO terminals (i.e. Durban, East London and Port Elizabeth) handle the import and export of vehicles for South Africa.

1.2 Objectives

1.2.1 This long-term partnership seeks to:

1.2.1.1 Enhance reliability and availability of revenue earning equipment over the life of the assets;

1.2.1.2 Ensure optimized sourcing;

1.2.1.3 Cost savings through bulk purchasing (economies of scale);

1.2.1.4 Enhanced supplier development and localization opportunities;

1.2.1.5 Standardization of equipment and spares;

1.2.1.6 Implementation of the latest technology; and

1.2.1.7 Ensuring timeous availability of spares and OEM support.

1.3 Interpretation and terminology

1.3.1 Abbreviations

The following abbreviations are used in this Works Information:

Table 1: Abbreviations

Abbreviation	Meaning given to the abbreviation
SANS	South African National Standards
FEM	European Federation of Materials Handling and Storage Equipment
ISO	International Standard Organisation
ASTM	American Society for Testing and Material
IEC	International Electric Code
NEMA	National Electrical Manufacturing Association
BS	British Standards Institute Specifications
CEMP	Construction Environmental Management Plan
ISPS	International Ship & Port Facility Security Code
QA	Quality Assurance
TNPA	Transnet National Ports Authority of South Africa
TPT	Transnet Port Terminals
MSL	Mean Sea Level
WLL	Working Load Limit, previously known as Safe Working Load (SWL)

ALCM	Asset Life Cycle Management
RFP	Request for Proposal
STS	Ship to Shore Container cranes
RTG	Rubber Tyred Container cranes
RMG	Rail Mounted Gantry Container cranes
SC	Straddle Carriers
PH	Port Haulers
ECH	Empty Container Handlers
RS	Reach Stackers
MHC	Mobile Harbour Cranes
FL	Forklifts

1.3.2 Definitions

SPECIFICATION means the document/s forming part of the contract in which are described the methods of executing the various items of work to be done, and the nature and quality of the materials to be supplied and includes technical schedules and drawings attached thereto as well as all samples and patterns.

Reference in the Works Information and standard specifications to “equipment” means the particular category as defined in the scope of *works*.

Where "tonne", "ton" or the abbreviation "t" is used, it means "metric ton" which is equivalent to 1 000kg or approximately 2 204,62-pound mass.

SPECIAL TOOLS means the tools required for maintenance that are required and not available as an “of the shelf” item.

CONTRACTOR for the purposes of this RFP means the successful tenderer, also referred to in this context the “OEM”.

EMPLOYER for the purposes of this RFP means Transnet Port Terminals

1.3.3 Interpretation of incorporated documentation

Table 2: Interpretation

Word or phrase	Interpretation
'Transnet Port Terminals' in the context of: owner, occupier or user of the new asset; insurer of the <i>works</i> ; paymaster (i.e. Transnet Port Terminals shall pay); a party to the contract.	the <i>Employer</i>
'Transnet Port Terminals' in the context of: a duty or procedure to be performed in the administration of the contract	the <i>Project Manager</i> or the <i>Supervisor</i> as determined by the conditions of contract
accepted by (or to the satisfaction of) the <i>Project Manager</i> , Engineer or the Architect	accepted by the <i>Project Manager</i> or the <i>Supervisor</i>
a duty, procedure, decision or action of the Engineer or the Architect and of the Superintendent, client representative, Site Supervisor or Clerk of works	an action of the <i>Project Manager</i> or the <i>Supervisor</i> depending on the context. Clause 14 of the Core Clauses determines what the actions of each are. Either may delegate in terms of Clause 14.2

2 The scope of works

2.1 Equipment Categories

This RFP is issued for the purposes of establishing a long term collaboration with a selected OEM per equipment category of Port Equipment. These are to be considered work packages and the respondent must ensure that submissions are provided for each of the categories. Where it is possible to respond on multiple and possibly all packages it must be clearly demonstrated how this will enhance the chosen Supplier's bid and longer term product and service offering. It will require the design, manufacture, delivery, erection, testing and commissioning of:

- 2.1.1 Ship to Shore Container cranes (STS)
- 2.1.2 Rubber Tyred Container cranes (RTG)
- 2.1.3 Rail Mounted Gantry Container cranes (RMG)
- 2.1.4 Straddle Carriers (SC)
- 2.1.5 Port Haulers (PH)
- 2.1.6 Empty Container Handlers (ECH)
- 2.1.7 Reach Stackers (RS)
- 2.1.8 Mobile Harbour Cranes (MHC)
- 2.1.9 Forklifts (FL)

2.2 Equipment Models to be supplied as part of the acquisitions

Transnet requires scaled models of the different equipment to be supplied as part of this acquisition. These scaled models will be used to showcase the cargo handling equipment at TPT in an educational and engaging



TRANSNET PORT TERMINALS

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manner as a way of brand building. They will be used as displays in the terminals and HQ and also during site visits, exhibitions, career days, etc.

The scale required in 1:50 and the numbers are listed below

Table 3: Models required

Equipment	Required numbers
STS Cranes	10
Mobile Cranes	10
RTG's	20
RMG's	10
Straddle Carriers	30
Haulers	30
Reach Stackers	10
Empty Container Handlers	10
Forklifts	10

2.3 Transnet Port Terminals Fleet plan

2.3.1 Replacement fleet:

Table 1, below represents the planned replacement of the current Terminal operating fleet. This is estimation based on the design life and the current equipment condition. ***It must be used as indicative numbers only.***

Table 4 Transnet Port Terminals: Fleet Plan, Replacements

Fleet Plan - Replacement Only												
Year	1	2	3	4	5	6	7	8	9	10	11	
Financial Year (TPT)	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	Total Equipment - Replacement
STS Cranes	0	0	6	1	0	10	0	12	0	2	7	38
Mobile Cranes	0	0	1	0	1	8	0	0	0	0	0	10
RTG's	0	14	13	15	11	0	18	0	0	0	0	88
RMG's	0	1	0	0	0	0	0	4	0	0	0	5
Straddle Carriers	4	8	18	2	13	0	4	31	26	0	0	164
Haulers	47	74	93	20	33	18	0	0	21	0	4	460
Reach Stackers	7	5	0	3	4	0	0	7	0	5	0	35
Empty Container Handlers	2	2	7	0	0	0	10	0	0	0	0	28
Forklifts	27	49	16	14	0	0	2	0	0	0	0	108

2.3.2 Expansionary Equipment requirements

Table 2 below is a representation of the future requirement of equipment for the various planned Port Expansions. These expansion projects are all in the planning phase and any equipment numbers associated with this table are all proposed numbers only. The numbers have been



included to provide the respondents with the longer term equipment requirements. ***It must be used as indicative numbers only.***

Table 5 Transnet Port Terminals: Fleet Plan, Expansionary Equipment

Fleet Plan - Expansion Only												
Year	1	2	3	4	5	6	7	8	9	10	11	
Financial Year (TPT)	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	Total Equipment
STS Cranes	0	0	0	0	0	0	3	0	8	5	4	20
Mobile Cranes	0	0	0	0	0	0	0	0	0	0	0	0
RTG's	0	0	0	0	0	0	0	0	36	36	20	92
RMG's	0	1	1	0	0	0	0	0	0	3	0	5
Straddle Carriers	0	0	0	0	0	0	14	0	0	0	0	14
Haulers	0	10	0	0	0	0	0	0	70	70	30	180
Reach Stackers	0	0	0	0	0	0	0	0	2	2	0	4
Empty Container Handlers	0	0	0	0	0	0	0	0	4	4	0	8

2.3.3 Demand

- 2.3.3.1 Transnet requires flexibility in exercising options for the acquisitions of the equipment. These options may include suspending or postponing the delivery of the particular category of equipment until a later date or changing quantities. Transnet however does not expect to pay a price premium should it exercise any of these required options.
- 2.3.3.2 Where a Contractor(s) may not be able to meet the demand, Transnet requires that to be made known now at this RFP stage, the Contractor is required to make statement on the probability of meeting the demand of equipment as per the schedules above.
- 2.3.3.3 The required equipment is reflected in Table 1 and 2. The OEM is required to understand the requirement of equipment replacement from a TPT perspective and ensure that the proposal received is encompassing of the requirement from TPT.

2.3.4 Durban Container Terminal (DCT) and Ngqura Container Terminal (NCT) equipment requirements

Contractor is to note that the DCT and NCT equipment requirements are included in the Table 1 & 2 above but are not included in the current approved TPT Corporate Plan. They are included in the draft 23/24 FY Corporate plan.

2.4 Capital and Financing Options

2.4.1 Methodology

- 2.4.1.1 This tender is issued to market for the LTOEM collaboration and contains investment and maintenance requirements for TPT for the categories of port equipment. The review and selection process will follow based on the requirements and the preferred contractors will be nominated.



2.4.1.2 The OEM's to note the contents of Table 1 & above. The nominated OEM's will be provided with a rolling 5 year view of the requirements. Rolling, herein meaning, the need will be revised and confirmed annually and the view for the next 5 years provided.

2.4.1.3 A contract will be entered into with the indicative quantities and the prices.

2.4.1.4 At this point there is no obligation by TPT for any value, the only commitment by TPT is that the chosen preferred contractor will be utilized when the need to purchase that piece of equipment arises. Certain maintenance interventions for that piece of equipment will also be awarded to that contractor for the assets life. The 5 years is chosen as this aligns to Transnet's corporate plan.

2.4.2 Process: Order placement

2.4.2.1 Budget approval in the form of an approved business case, preceded by a condition assessment and needs analysis

2.4.2.2 A task order will then be prepared to draw down on the contract.

2.4.2.3 All terms as conditions as agreed upfront will be adhered to.

2.4.3 Pricing and escalation

2.4.3.1 The price needs to be fixed and firm for the first order for that type of equipment. Details of the escalation used (i.e. the details of the indices driving the escalation) thereafter must be provided together with the acquisition prices per year. The escalation will then be negotiated based on the principles agreed in the RFP.

2.4.3.2 Should these negotiations not prove favourable, TPT reserves the right to cancel the contract.

2.4.3.3 The Activity Schedule as per the NEC must be completed in the required detail and not altered

2.4.4 Currency of tender:

2.4.4.1 Should the price be provided in South African Rands but linked to a foreign currency the relevant exchange rate details must be provided.

2.4.4.2 Prices will be accepted in USD or Euro subject to terms and conditions. One of these being that should the Contractor be a South African company all hedging costs will be borne by that company.

2.4.4.3 Where TPT is required to hedge any additional costs associated with moving of hedges due to delays on the part of the contractor will be for the contractor's account.

2.4.4.4 Should the price include a foreign (USD or EURO) component as well as a South African Rand component these must be clearly split.

2.4.5 Lifecycle costs:

2.4.5.1 The contractor must provide detailed, priced schedules showing the components as well as labour required at each of the service intervals. The components and labour must be priced separately.

2.4.5.2 This must be detailed and reflect all service intervals over the design life of the equipment.

2.4.5.3 TPT will utilise this to understand the total cost of ownership, therefore sufficient detail must be provided.

2.4.6 Ad hoc Services:

2.4.6.1 The contractor must provide a schedule of rates per type of technician in the event of TPT requiring ad hoc support services.

2.4.7 Support Services:



2.4.7.1 The Contractor must provide costs for all service kits, consumables and spares required for the life of the equipment.

2.4.7.2 The Contractor must provide the costs for all engineers that will be required to perform machine assessments annually together with the cost of the assessments.

2.4.8 Financing Options:

2.4.8.1 Transnet would require or consider the use of asset-based financing options for a variety of business reasons including but not limited to the following:

- Match cash flows with revenue streams;
- Leverage balance sheet gearing;
- Match asset needs for specific period or specific services; etc.

2.4.8.2 The respondent is requested to provide in their proposals details of asset-based financing options available for Transnet, with regards to their asset offering. These financing options could be offered by the OEM directly or through via a Financing Institution and could be for new, demonstration or used equipment. The respondent should include details of such options available to Transnet, including:

- Financing periods available;
- Likely Export Credit Agencies they have access to or could utilise;
- Interest rates options (fixed or fluctuating) (Jibar-based etc);
- Contract and other Administration fees payable;
- Currency denominations and options available (Dollar, Euro, Rand, etc);
- Residual value options;
- Scrap value options;
- Demo-model options;
- Full Maintenance Operating Lease options; etc.

2.5 Change in operating model

In order to meet the goals and objectives of these partnerships TPT will require various supplemental benefits as part of the long term relationships.

2.5.1 Local Footprint

2.5.1.1 A strong local footprint to enable support in South Africa as well as the rest of the African continent. The OEM will be required to establish a national South African presence as well as regional support centres.

2.5.1.2 The OEM will be required to establish or utilise existing Supply and Distribution facilities in South Africa to ensure full local supply capabilities for the required spares, components, sub-assemblies and assemblies on their contracted equipment over the full life of that equipment.

2.5.2 Training Capabilities

2.5.2.1 The OEM must establish Operational and Technical training capabilities in South Africa.

2.5.2.2 The OEM must partner with the Transnet Academy for the provision of on-going training capabilities in South Africa. Transnet requires that the Transnet Academy is established, as part of this partnership, as the South African and Southern African Accredited training institution for the equipment being supplied. This will follow the train the trainer principal.



2.5.2.3 The OEM is to ensure that, based on the number of equipment purchased (sliding scale to be implemented), TPT personnel are trained and accredited by the OEM as technical super specialists (where applicable) on all aspects of the equipment, control systems, electrical and electronic systems, mechanical and hydraulic systems. This must be completed within the defects liability period.

2.5.3 Simulators

2.5.3.1 The OEM is required to supply Transnet with simulator(s) for training purposes. This is on a lease basis and remains the property of the OEM. The OEM is required to maintain these simulators and ensure effective operations at all time. The availability of these simulators must be maintained at 95 %.

2.5.3.2 The categories of equipment that is applicable to are: STS, RMG and RTG cranes and Straddle Carriers.

2.5.3.3 Four simulators are per category of equipment are required. These simulators are required to be stationed at the Durban Terminals. TPT will ensure that the location is suitable and secure.

2.5.3.4 These simulator(s) will need to be optimized and updated with any and all technology and generation changes in the course of the Equipment Acquisition programme as well as the life of the equipment.

2.5.3.5 The simulators are require to be supplied prior to the delivery of the first set of equipment. This is required 3 months prior to the planned handover date of the equipment. The requirement is in order to facilitate the training of the Trainers and Operators prior to the introduction of the new fleet to the operation. Where a reduced number of simulators is required this will be communicated at the time of the task order being issued.

2.5.4 Specific Maintenance requirements

2.5.4.1 3 Sets of special tools are required to be supplied for each category of equipment supplied to each Terminal. This is required for each acquisition task order.

2.5.4.2 3 Industrial Laptops are required to be supplied for each category of equipment supplied to each Terminal. The software on these laptops are required to be updated at a minimum on an annual basis.

2.5.4.3 These Industrial Laptops with the required software and thereafter minimal annual updates are to be renewed by the OEM on a three year cycle for the design life of the equipment per category of equipment.

2.5.4.4 Any training required for new software is to be conducted by the OEM with every delivery of these machines.

2.5.5 Spares support

2.5.5.1 All consumables (lubricants, filters, belts etc.) are to be sourced from local manufacturers, TPT to stock all consumables.

2.5.5.2 All service kits are to be supplied on a Just in Time (JIT) basis, with buffer stock held regionally. The service kits must be aligned to the required service and will form part of TPT's Materials Resource Planning at TPT's warehouses.

2.5.5.3 The OEM will be required to manage this demand and ensure that all required levels are set appropriately to ensure JIT.

2.5.5.4 All critical spares for maintenance must be available within 24 hours to the Terminal. This critical spares list will be defined by TPT (reference Mandatory spares lists for each category, Maintenance



& Critical) and reviewed and added to by the OEM (reference Recommended Maintenance Spares for each category of equipment).

- 2.5.5.5 All component, sub-assemblies and assemblies must be made available locally within 48 hours. This must be planned in accordance with condition monitoring results, Reliability Centred Maintenance (RCM) principals and the results of both TPT and the OEM's continuous assessment cycles. This critical spares list will be defined by TPT (reference Mandatory Critical spares lists for each category) and reviewed and added to by the OEM (reference Recommended Critical Spares for each category of equipment).

2.5.6 Local vendor development

- 2.5.6.1 Consumables: TPT will seek to develop local vendors in the course of the partnerships, refer 3.3.1 above. Where consumables are not able to be sourced locally the OEM's are to partner with local manufactures to ensure that the items are manufactured locally within a period of two (2) years from the placement of the first order. The OEM's are required to ensure that all necessary quality systems and technology requirements are setup within these local partners to be able to provide TPT, South Africa and Africa with the required consumables.
- 2.5.6.2 Distribution centres and stockholding: TPT will seek to develop local vendors in the course of the partnerships. Where these facilities are not at the required levels of Total Quality Management (TQM), response and lead times the OEM will be required to ensure that within a period of 6 months these locally partnered with distribution centres and warehousing vendors are able to respond to TPT's requirements within the stipulated times, refer 2.3.3.2 to 2.3.3.5.

2.5.7 Technical Support

- 2.5.7.1 The OEM is to provide local technical support for the duration of the contracted period.
- 2.5.7.2 The OEM is to provide specialist online support within two (2) hours of the escalation by TPT.
- 2.5.7.3 The OEM is to provide specialist support within twenty four (24) at the Terminal after escalation by TPT.
- 2.5.7.4 The OEM is to provide detailed equipment assessments on an annual basis. The purpose of these equipment audits will be to ensure that the equipment reaches design life safely, reliably and with the Total Cost of Ownership (TCO) as predicted at the onset of the equipment acquisition.

2.5.8 Quality Management systems

- 2.5.8.1 The OEM is to ensure that TPT's Computerised Maintenance Management (CMMS) system is setup in accordance with the OEM's maintenance management requirements. This is for both the Materials Master (MM) and the Planned Maintenance (PM) modules on SAP.
- 2.5.8.2 The OEM is to ensure that the necessary schedules, Bill's of Materials (BOM's) and material master data is provided and thereafter correctly uploaded onto the SAP system.

2.5.9 Obsolescence Management

- 2.5.9.1 The OEM to ensure that obsolescence management principles (components, sub-assemblies and assemblies) are incorporated into the design of the equipment. A detailed proposal with regards to this requirement is required as a proposal.
- 2.5.9.2 Proposal to include:



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (AQUISITION) AND 10 – 20 (TEN-TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

2.5.9.2.1 *Generation management***2.5.9.2.2** *Change-out management***2.5.9.2.3** *Schedule management***2.5.9.2.4** *Supply of all necessary consumables, spares, components, sub-assemblies, assemblies and other components of the equipment.***2.5.9.3** Engineering support for all necessary modifications due to obsolescent spares, components etc.**2.5.9.4** Updates required to maintenance and operator manuals, data books, CMMS updates (schedules, BOM's etc.)**2.5.10 Life cycle management (Annual Audits):**

This process must provide a detailed evaluation of the structure being inspected. It will enable TPT, the OEM and TE to identify critical areas on the structure which will require possible upgrades and/or constant monitoring. This is the proposed process that TPT wishes to follow, where there are alternative proposals this needs to be included in the proposal.

2.5.10.1 The critical areas that are identified should be checked to ensure these areas were constructed (as built) as per OEM design.**2.5.10.2** All welds in these areas are to an acceptable standard, and defect free.**2.5.10.3** Should areas be identified that do not conform, the Finite Element Analysis (FEA) models, as constructed must be modified to simulate the effect of the deviations, and used during the re-design/upgrade process, if required.**2.5.10.4** Deliverables from this process include detailed reports as listed below, for each structure:**2.5.10.4.1** *Visual inspection report***2.5.10.4.2** *Strain gauge results summary reports***2.5.10.4.3** *Detailed FEA report summarizing the FEA process and findings***2.5.10.4.4** *Search and find reports, inclusive of modelling of any defects found***2.5.11 Intellectual Property****2.5.11.1.1** *TPT must have the ability to be able to manufacture worn or damaged components when required in the life cycle of the equipment. Adhoc items: Beams, columns, girders, platforms, legs, staircases etc.***2.5.11.1.2** *Periodic: Trolleys, spreaders, bogey sets, sheaves, rack and pinions, forks etc.***2.5.11.2** Required from OEM



TRANSNET PORT TERMINALS

TENDER NUMBER: TPT/2022/08/0688/9421/RFP

DESCRIPTION OF THE WORKS: THE DESIGN, MANUFACTURE, DELIVERY, ERECT, TESTING, COMMISSIONING AND ASSET LIFECYCLE MANAGEMENT (ALCM) SUPPORT FOR CONTAINER AND BREAKBULK HANDLING EQUIPMENT FOR A PERIOD OF 10 (TEN) YEARS (AQUISITION) AND 10 – 20 (TEN-TWENTY) YEARS (ALCM) FOR TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

- 2.5.11.2.1 *The latest revision of engineering drawings of the selected equipment sub-assemblies be provided by the OEM*
- 2.5.11.2.2 *Material specifications for all components be provided by the OEM*
- 2.5.11.2.3 *Step files of all sub-assemblies be provided by the OEM in order to design the appropriate manufacturing jigs*
- 2.5.11.2.4 *E-BOM for the all-sub-assemblies be provided by the OEM*
- 2.5.11.2.5 *Welding & NDT requirements*
- 2.5.11.2.6 *Quality management oversight*
- 2.5.11.2.7 *FEA models depicting high stress concentration areas*

2.5.12 Technology Management

- 2.5.12.1 The OEM will be at all times responsible for informing TPT with regards to the latest designs and technology in the future generations of the equipment that they are framed for. This is in order that the TPT equipment specifications are continuously updated to reflect the latest technology available.
- 2.5.12.2 TPT's Equipment Specifications will be updated annually in conjunction with the preferred OEM.
- 2.5.12.3 The OEM will be responsible to ensure that TPT will receive the latest model with the latest technology and components at the time of issuing the task order. Where this technology is still in a Research and Development phase, TPT to be informed as to the planned introduction. Decision will be made at that time as to whether or not to delay a particular task order in the interest of possibly moving to the next latest technology / model.
- 2.5.12.4 The OEM will ensure that all equipment supplied will be in a state a readiness for automation and semi-automation (where applicable). These systems may form part of the Equipment Specification issued per task order or the equipment must be able to be retro-fitted for this purpose.
- 2.5.12.5 TPT's equipment specifications and Terminal specific requirements will be included in the initial RFP. These must be considered generic and used only for the initial tendering purposes. The contractual specifications will be issued with the task order at the time of purchase / acquisition. This will include any and all technological evolution and change in Terminal / Transnet specific requirements.

2.5.13 Transnet Engineering (TE) collaboration

- 2.5.13.1 Historically in South Africa there has been a lack of investment in infrastructure, skills, and capability development. There have been several Government initiatives developed to address these challenges. In particular, the New Growth Path [NGP] developed in 2010 aligns and builds on previous policies to ensure the achievement of Government's development objectives for South Africa.
- 2.5.13.2 Transnet fully endorses and supports Government's New Growth Path policy. Transnet, as a State Owned Company [SOC], plays an important role to ensure these objectives are achieved. As per the Transnet Procurement Manual for Goods and Services dated 01 October 2021, Transnet OD's may be used for interdivisional support where OD's require goods and services that fall within another internal OD's core competence. Transnet Engineering holds core competence on the scope of works as listed below and as such it is TPT's preference that TE be appointed as the subcontractor/local partner for the tender. Each of the OEM's to note that this is not a mandatory requirement.

Below are some of the basic capabilities of Transnet Engineering:

- Fabrication and Manufacturing of steel structures
- Assembly of the total equipment
- Components Manufacture and Supply
- Testing and Commissioning
- Maintenance, component repair and refurbishment

2.5.13.3 Each of the crane (STS, RMG, and RTG) and Straddle OEM's will be required to conduct site visits to TE's manufacturing plants. The OEM must then through a process of assessment and engagement complete an exercise in order to determine TE's readiness to be able produce the items stipulated below, table 5.

2.5.13.4 The OEM must note that this is not a tripartite agreement. In the event that the OEM's are able to subcontract TE as their local partner, all necessary contractual arrangements as per the OEM's normal contracting framework are to be applied.

2.5.13.5 The planned delivery of equipment must not be affected by this contracting arrangement and all necessary mechanisms as per the New Engineering Contract (NEC3) will be utilised by the TPT Project Manager to ensure that the equipment is delivered within the required Time, Quality and Cost as contractually entered into between the OEM and TPT.

2.5.13.6 The tenderers are required to provide TE with the Bill of Material (BOM) of their products to facilitate and finalise the subcontracting agreements, the OEM's will sign off on the sub-assemblies and final assembly as per agreed QC plan on all TE Scope of works. Respondents are required to furnish the evidence on collaboration with TE in the corresponding mandatory returnable schedule as an Annexure with the subcontracting agreement between TE and the tenderer reflecting extent to which the Respondent will be collaborating with TE.

2.5.13.7 The numbers, in table 6 below, have been established via engagement with TE

- The required corresponding increase in the percentage fabrication by TE that is required is progressively from year two (2) to year five (5) is from zero (0) to forty (40) / sixty (60) percent.
- From year six (6) to year ten (10) Transnet's proposal is a one hundred (100) percent collaboration with TE for the items listed below.

Table 6: Transnet's proposed level of production / participation for each of the identified categories of Equipment

Section / Asset	TE Scope	TPT's proposed % level of partnership between TE & OEM Year 2-5	TPT's proposed % level of partnership between TE & OEM Year 6-10
Straddle Carriers	1. Manufacture of all structural steel items.	40 - 60 % (x)	x - 100 %
	2. Spreader including, Assembly & Testing	60 %	100 %
	3. Corrosion Protection (all structural steel items)	40 - 60 % (x)	x - 100 %
	4. Complete Assembly, Testing & Commissioning	40 - 60 % (x)	x - 100 %
Rubber Tyred Gantry Cranes	1. Manufacture of all structural steel items.	40 - 60 % (x)	x - 100 %
	2. Spreader including, Assembly & Testing	60 %	100 %
	3. Corrosion Protection (all structural steel items)	40 - 60 % (x)	x - 100 %
	4. Complete Assembly, Testing & Commissioning	40 - 60 % (x)	x - 100 %



Rail Mounted Gantry Cranes	1. Manufacture of all structural steel items.	40 - 60 % (x)	x - 100 %
	2. Spreader including, Assembly & Testing	60 %	100 %
	3. Corrosion Protection (all structural steel items)	40 - 60 % (x)	x - 100 %
	4. Complete Assembly, Testing & Commissioning	40 - 60 % (x)	x - 100 %
Ship-to-Shore Cranes	1. Manufacture of all structural steel items.	40 %	60 %
	2. Spreader including, Assembly & Testing	60 %	100 %
	3. Corrosion Protection (all structural steel items)	40 %	60%
	4. Complete Assembly, Testing & Commissioning	60 %	100 %

3 Management and start up per Task Order (Subsequent Phases).

3.1 Management meetings

The *Project Manager* shall arrange for a design review to be performed by a suitable third party inspectorate company during the planning phases of the contract. For the remainder of the contract, the *Contractor* shall attend all management meetings as called by the *Project Manager*. It is envisaged that at least monthly contract management meetings, plus weekly site meetings during the site erection phase and daily meetings during the commissioning phase, will be held. The *Contractor* must present all relevant information including quality plans, schedules, (including progress) subcontractor management, and health, environmental and safety issues at such meetings.

The *Project Manager* shall arrange for regular inspections during the manufacturing phase in accordance with agreed hold and witness points and shall also be used as a manufacturing progress report evaluation.

The *Contractor* shall attend risk reduction meetings as and when called by the *Project Manager*.

Other meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

3.2 Documentation control

The *Contractor* shall submit all documentation (including correspondence and drawings) to Transnet (*Employer*) standards and to the *Project Manager's* requirements in accordance with the *Project Manager's* document control procedure. The *Contractor* shall use his own suitable document control system for the control, maintenance and handling of all relevant documentation and drawings issued to him.

3.3 Safety risk management

All aspects of on-site works must comply with the Health and Safety requirement OHS act No 85 of 1993, as amended.

3.4 Environmental constraints and management

All aspects of the *works* must comply with the *Employer's* environmental management plan, statutory requirements and regulations made by relevant authorities and the *Contractor* must ensure compliance of Site activities as well as the design of the equipment supplied. Refer to Employer's 'Standard Environmental Specification Transnet Port Terminals. (Annexure 8.)

3.5 Plant and Materials standards and workmanship

3.5.1 Referenced Standard Specifications

The tests prescribed in the relevant standard specifications shall be carried out at the manufacturer's works before delivery of the Plant and Materials ordered by the Contractor. The test results shall be submitted to the Project Manager.

Plant and Materials made and tested to alternative standard specifications will be considered at the discretion of the Project Manager, provided that such specifications are not less stringent than those laid down.

Table 7 TPT Engineering Standard Specifications

Item No.	Specification Number	Title of Specification
1	EEAM-Q-002	Specifications - hydraulic equipment
2	EEAM-Q-003	General - Specification for steel wire
3	EEAM-Q-004	Gear, shaft, bearing, brakes, lubrication, vee-belts, keys and key ways
4	EEAM-Q-006	Structural steel work
5	EEAM-Q-007	Compressed air system
6	EEAM-Q-008	Corrosion protection
7	EEAM-Q-009	Quality Management
8	EEAM-Q-011	Maintenance of cranes and hoist for use on ports equipment
9	EEAM-Q-012	General electrical equipment
10	EEAM-Q-013	Commissioning and handover
11	EEAM-Q-013	Technical data sheet
12	EEAM-Q-015	Electrical motors and generators - Technical data sheet
13	EEAM-Q-016	General requirements and conditions
14	EEAM-Q-017	Medium voltage switchgear and control gear for substations
15	EEAM-Q-018	Specification for lighting on equipment
16	EEAM-Q-019	Specification - cable reel systems
17	EEAM-Q-020	Tests on electrical equipment
18	EEAM-Q-021	Specification for Electrical Equipment
19	EEAM-Q-021	Electronic equipment
20	EEAM-Q-028	Specific requirements-mech equip - Richards Bay
21	EEAM-Q-029	Specification for purchase of air conditions
22	EEAM-Q-030	Electrical equipment to be supplied with machinery and plant for ports

3.5.2 Referenced TPT Documents

The following TPT documents listed below shall form part of this Works Information:

- Equipment Specifications (Please Refer Section 4, Table 5: TPT Equipment Specifications)
- TPT Standard Environmental Specifications version 3
- TPT Contractor S.H.E. Specifications
- TPT Equipment Branding and Logo Details

3.6 Quality assurance requirements

Refer to EEAM-Q-009 for the *Employer's* Quality Management specification.

Special attention must be paid to the following:

- Quality management objectives.
- Design control system with emphasis on design review procedures and *Employer* requirements evaluation.
- Documentation and change control procedures.
- Quality control procedures that will apply to purchased materials.
- Quality control plan for all components manufactured or supplied to ensure conformance.
- The identification of suitable hold points to ensure proper quality assurance throughout manufacturing.
- Quality control of all welding and corrosion protection activities.
- The quality control procedure that will apply to erection and painting on site.
- Hold point on manufacture until design review approved.

The services of an independent third party will be engaged by the *Employer* to assist him with meeting his quality assurance objectives and the *Contractor* must give the necessary co-operation and supply all the necessary quality management documentation as required. The cost of the QA work by the third party will be borne by the *Employer*.

The *Contractor* shall ensure that the quality assurance requirements placed on him under this Contract are transferred into any subcontracts.

Quality system requirements shall be applied on all subcontracts to the point where the acceptability of supplies can be demonstrated solely by the conduct of inspection and/or examination of goods upon receipt at the designated point of delivery.

The *Contractor's* quality plan shall include or reference the quality plans of subcontractors.

3.7 Programming constraints required per task order

3.7.1 General

The Contract programme, progress reports, subsequent updates, revisions and supplementary programmes as detailed in this section are an essential part of the project control system used by the *Employer* for managing the *works* and in monitoring the progress of the work under the Contract. The information and data provided by the *Contractor* pursuant to this procedure must therefore be reliable, accurate and timely in presentation.

3.7.2 Programme submission

A copy of the *Contractor's* First Programme shall be submitted with the Tender Document returnables that shall comply with the requirements as indicated in the Works Information. The *Contractor's* Detailed Programme shall be submitted in both hard and soft copy forms within two weeks of award using a computer software package approved by the *Project Manager*.

The preferred software package is Microsoft Projects or similar approved.

3.7.3 Contract programme (baseline)



The *Contractor's* First Programme, agreeing with the tender submission, shall become the "Contract Programme" or "baseline" against which actual time performance will be compared. Once the baseline has been established, all subsequent programmes will have baseline (target) bars shown against each activity. This programme will be used as the basis on which all variations, extensions of time and changes to methods of delivery shall be assessed.

Identified deviations from the baseline shall be addressed by the *Contractor* by either demonstrating that the deviation does not constitute a problem to the overall *Contractor's* Programme or providing a course of action to remedy the deviation.

3.7.4 Revisions to contract schedule

The *Project Manager's* written approval of any revised contract programme shall be given prior to the revised contract programme becoming the new contract programme.

Additional detail may be inserted into the Contract Programme at the request of either the *Contractor* or the *Project Manager*. In such cases, the overall start and finish dates of the detail activities shall not vary from the original summary activity(s) that were replaced.

All revisions to the contract programme shall be prepared by, and at the cost of the *Contractor*.

3.7.5 Supplementary programmes

The *Project Manager* may at any time, and at the cost and expense of the *Contractor*, direct the *Contractor* to produce supplementary programmes to highlight a particular aspect of the work under the Contract. The *Project Manager* shall not unreasonably request supplementary programmes.

3.7.6 Cash flow

The *Contractor* shall submit to the *Project Manager* a detailed cash flow chart based on the contract programme showing the anticipated cash flow as represented by expected payment claim submissions, not only payments received.

3.7.7 Progress reporting

To demonstrate the actual progress of the work under the Contract the *Contractor* shall, on a monthly basis, update and submit the contract programme and the progress to the *Project Manager*. The contract programme shall be in the form of a three week look ahead schedule, and shall show the following two separate bars for each activity so as to enable comparison of the actual progress to the contract programme:

- The contract programme "baseline" activity bar
- The current schedule activity bar identifying the currently forecast start and finish dates of the activity, and the status (% completion of each activity).

3.7.8 Progress monitoring and review

Monitoring and review of the progress of work under the Contract shall consist of an assessment of all activities currently in progress. The following shall be determined:

- percentage complete;
- forecast completion date;
- deviations from the baseline programme; and
- actions required to remedy any deviations.

3.7.9 Monthly status report

The *Contractor* shall provide a written status report by the 20th of each month or such other reporting period as may be required by the *Project Manager* from time-to-time. The report shall summarise

progress and problems encountered during that month in respect of all parts of the work under the Contract.

As a minimum the report shall include:

- progress against the current approved contract programme;
- summary of progress achieved during the period;
- list of milestones achieved during the period;
- status of design, procurement, and off-site works;
- status of on-site works;
- deviations from the contract programme “baseline”, and in particular, the forecast completion dates of activities which have or should have commenced;
- status of approvals;
- actual or anticipated problems with corresponding action plans to minimise the impact;
- summary of works planned for the following period, and
- cash flow status versus the original forecast.

The progress report shall form the basis of a monthly progress meeting between the *Project Manager* and the *Contractor*.

3.7.10 Monthly expediting report

The *Contractor* shall submit to the *Project Manager* by email within four (4) days after month end a report on progress of any off-site manufacturing activities of the *Contractor* during the previous month.

The report shall state the current percentage progress of each major piece of equipment as applies at that date.

Each report shall state the actual completion date for those manufacturing activities completed in the last reported period, shall advise the anticipated completion date for each major piece of equipment and shall comment on any delay or variance with respect to scheduled progress.

The *Contractor* shall also report his calculated overall completion percentage for each Subcontract at each report date.

3.8 Contractor's management, supervision and key people

The *Contractor* shall make an adequate, experienced and stable project team available for the duration of the contract. Every effort must be exercised by the *Contractor* to minimise replacement of individual project team members in order to ensure optimum contract management continuity.

It is a requirement of this contract that the *Contractor* employs a full time, fully qualified and experienced (in the erection of the category of equipment) site manager who has been delegated sufficient authority to manage the contract efficiently on Site during erection and commissioning. The site manager is required to be fluent in English, both in writing and orally.

An organogram of all the *Contractor's* people who will be directly involved with the management and execution of this contract down to supervisory level, showing each key person named to do the job as stated in the Contract Data, shall be submitted with the Tender Document Returnables.

4 Engineering and the Contractor's design

4.1 Employer's design requirements

Table 8: TPT Equipment Specifications

	Fleet Plan	Reference	
1	STS Cranes	Annexure 05	TPT_TS_TwinLift_AC_STSCrane_Revision 13
2	Mobile Cranes	Annexure 06	TPT_TS_MHC_Mobile Harbour Crane_Revision 00
3	RTG's	Annexure 07	TPT-TS-RTG Rubber Tyred Gantry Crane_Revision 10
4	RMG's	Annexure 08	TPT_TS_RMG_Twinlift_Revision 05
5	Straddle Carriers	Annexure 09	TPT_TS_SC_Straddle Carrier 4-High_Revision 06
			3 high is the same specification as above
6	Haulers	Annexure 10	TPT_TS_2x4_Terminal Hauler_Revision 06
		Annexure 11	TPT_TS_4x4_Terminal Hauler_Revision 01
8	Reach Stackers	Annexure 12	TPT_TS_RS - Reach Stacker_Revision 06
9	Empty Container Handlers	Annexure 13	TPT_TS_ECH - Empty Container Handler_Revision 03
10	Forklifts	Annexure 14	TPT_TS_FL – Forklift_Revision 04

4.1.1 Design parameters

Equipment design parameters differ per Terminal. Please refer to Annexure 15 Terminal Specific Requirements for the Terminal requirements.

The contractor is required to submit for acceptance the operating philosophy, operators cabin layout, control equipment and displays prior to any associated manufacture/procurement.

4.1.2 General requirements:

The equipment as made and supplied shall be complete in every respect, of modern design using most advanced technology extensively supported by reputable local companies, and be designed and built to applicable recognised standards and good engineering practices.

All electrical and mechanical plant to be fitted shall have been type tested for reliability and extended lifetime in the conditions to be expected.

The equipment shall be designed and constructed such that as many common components as possible are used on the equipment to enable the minimization of spares types and numbers. This must specifically be applied to drives, brakes, ropes, sheaves, electrical Plant and components, bearings and wheels.

All drives must be such that the same drive can be used in both left hand and right hand applications.

4.1.3 Environmental conditions

The equipment offered must be able to operate in a marine environment subject to the following conditions:

- | | |
|-----------------------|---|
| ○ Altitude | Sea Level |
| ○ Ambient temperature | 5 – 45°C |
| ○ Relative humidity | Frequently 100% |
| ○ Air Pollution | Heavily saline, dust laden and industrial fumes |
| ○ Wind speed range | 0 – 100 km/hr |

All electrical, hydraulic and pneumatic components shall be suitable and treated for use in tropical climate where rapid changes in weather conditions produce severe moisture condensation

problems. The equipment shall be capable of withstanding the highly corrosive effects of the moist, saline atmosphere. All electrical components not installed in controlled environments (machine and electrical house or operator's cabin) must have a minimum enclosure protection of IP55, unless otherwise specified in the Technical Specification TPT_TS_DESC_4 rev 5.

Notwithstanding the minimum wind speed specified in the Technical Specification at which the equipment can operate unrestricted, suppliers are required to offer equipment that can operate at speeds in excess of the minimum wind speed specified of 72 km / hr. The wind speed at which the equipment can operate unrestricted will be taken into account during the evaluation of the bids.

4.1.4 Maintenance Requirements

The *Contractor* shall identify all maintenance activities with restricted access and cover the method statements for such activities in the maintenance manuals. 3 Sets of special tools are required to be supplied for each category of equipment supplied to each Terminal. This is required for each acquisition task order.

4.2 Parts of the works which the *Contractor* is to design

The *Contractor* shall do all the designs for the *works* to comply with the *Employer's* design requirements.

4.3 Procedure for submission and acceptance of *Contractor's* design

Immediately after the *starting date*, the *Contractor* shall start with the design of the equipment. During this design phase of the contract the *Contractor* is required to hold regular design review meetings to confirm all *Employer* requirements and to obtain the *Project Manager's* acceptance for all design concepts, design interfaces and specifications to ensure that quality is designed into the final product. Structural and component design shall be verified by the *Contractor* by using finite element analysis models and tested material properties.

The services of an independent third party will be engaged by the *Employer* to review the *Contractor's* design and the *Contractor* must give the necessary co-operation and supply all the necessary design data as required. The cost of the design review by the third party will be borne by the *Employer*.

The Third-Party design reviewer shall review all approved engineering designs for each equipment covered under this document. This is applicable to the following equipment STS's, RMG's, RTG's and Straddle Carriers.

The design reviews shall include but not limited to the following.

- Review of equipment designs and calculations
- Review of the engineering drawings
- Review of structural design load calculations.
- Review of mechanical design load calculations
- Review of electrical design and calculations

Review the FEA and models

Note: A period of **six weeks** must be allowed for in the schedule for the third party design review.

The *Contractor* must prepare and submit by the dates as indicated on the Accepted Programme two copies of black line paper prints of the general arrangements, working drawings and schematics for

acceptance by the *Project Manager*. These drawings and schematics are to be submitted in a systematic manner, accompanied by an index sheet of all the completed and planned drawings and schematics.

Drawings which are submitted for the acceptance of the *Project Manager* must bear the signature and designation of the *Contractor's* responsible professional Engineer.

General arrangement drawings must show the complete structural layout arrangements with plan views, elevations, cross sections, location and sizes of members, erection details, cladding details, services where applicable, etc.

The *Contractor's* fabrication shop drawings and detailed drawings are not required for purpose of acceptance by the *Project Manager* except when the *Project Manager* specifically requests such drawings for approval or to assist the *Supervisor* in the inspection of the structure at any stage.

Notwithstanding any formal acceptance of drawings and schematics submitted by the *Contractor*, the sole responsibility for the adequacy of the design remains entirely with the *Contractor*.

Time required for all the activities associated with the design of the equipment must be allowed for and indicated by the *Contractor* in his programme.

4.4 Use of *Contractor's* design

The Contractor will grant to the Employer a non-exclusive licence, in accordance with the provisions of section 22 of the Copyright Act 1978 (Act 98 of 1978), (a) to copy any plan, diagram, drawing, specification, bill of quantities, design calculation or other similar document made other than under the direction or control of the Employer, by the Contractor in connection with the installation, (b) to make free and unrestricted use thereof for its own purposes, (c) to provide copies thereof to consultants to be used by them for the purpose of the consultancy and (d) to provide other parties with copies for tenders invited by it. The Contractor, furthermore, if any plan, diagram, drawing, specification, bill of quantities, design calculations or other similar document made, other than under the direction or control of the Employer, by any principal or sub-contractor of the Contractor, is used in connection with the installation, shall cause such principal or sub-contractor to grant to the Employer a similar non-exclusive licence in respect of such plan, diagram, drawing, specification, bill of quantities, design calculation or other similar document. The provisions of this clause shall not apply to documents made, in the case of equipment to be supplied in connection with the manufacturing process of the equipment supplied but only to the equipment supplied itself. No separate or extra payment shall be due by the Employer in respect of any non-exclusive licence granted in terms of this clause.

4.5 As-built drawings, operating and maintenance manuals

The *Contractor* shall provide all the as-built drawings, operating and maintenance manuals, 3 hardcopies and 2 electronic copies, all in English. An advanced electronic copy of these manuals and drawings are required 3 months before equipment delivery for approval purposes per batch delivered. If finite element analysis models cannot be made available, snap shots of the FEA models, clearly indicating the high stress concentration areas, shall be made available.

5 Procurement

5.1 Subcontracting

5.1.1 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* is required to appoint his sub-contractors under the NEC3 Engineering Contract Sub Contract unless accepted otherwise by the *Project Manager*.

5.1.2 Attendance on subcontractors

The *Contractor* must notify the *Project Manager* of all inspections at his Subcontractors at least 3 working days in advance of such inspections. The *Contractor* must ensure that his Subcontractor has the relevant quality management plans available at such inspections. The *Supervisor* will give the *Contractor* 24 hour notice in writing of his intention to be present at the inspections.

5.2 Plant and Materials

5.2.1 Quality

If requested by the *Supervisor*, the *Contractor* must produce evidence to show that both his welding procedures and welders have passed all the relevant requirements and tests in terms of BS 5135 and SANS 10044 Parts III and IV.

5.2.2 Contractor's procurement of Plant and Materials

The *Contractor* must take all necessary steps to ensure that all Plants and Materials are adequately protected against damage during shipping, transport and storage.

If the completed equipment are transported fully erected by sea, the *Contractor* shall take all necessary steps to ensure that all temporary sea bracing and strengthening required, as well as the lashing of the equipment can be fitted and removed without welding or cutting. No welding or cutting on the fully erected equipment structure will be allowed.

If the completed equipment are transported fully erected by sea, the *Contractor* shall take extra precaution to protect all mechanical and electrical Plant from the corrosive effect of wave splashes, rain and salt spray.

Waxoyl, or similar, shall be applied to the inside of handrails and other small sealed sections before being sealed.

5.3 Tests and inspections before delivery

Where the Works Information requires inspections or tests to be performed, the *Contractor* shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be a requisite and as may be reasonable demanded to carry out such tests efficiently. The *Contractor* shall ensure that all gauges, templates, tools and other equipment required to check the accuracy of the work are calibrated at regular intervals by a laboratory approved by the National Calibration Services of the Council for Scientific and Industrial Research of South Africa, or by the respective authority in the country of origin of the equipment.

Unless the *Project Manager* otherwise accepts, no Plant or Materials shall be delivered to the *working areas* until the *Supervisor* issues an inspection certificate in respect of such Plant or Materials. The *Contractor* is responsible for taking delivery of all Plant and Materials delivered to the *working areas*. Completed equipment that are to be shipped fully erected or in modules to site are to be inspected and commissioned or tested by the *Contractor* prior to leaving the *Contractor's* or his Subcontractor's works. The associated test and inspection protocol submitted by the *Contractor* must show the estimated duration for each item on the protocol.

6 Site work and completion of the works

6.1 Working Areas, Site services & construction constraints



6.1.1 Berthing services

The *Contractor* will be responsible for all planning and arrangements with the necessary authorities in this regard.

6.1.2 Working Areas

The Site work will take place while the adjacent port terminal areas will be in operation. The *Contractor* shall take all necessary steps for his works not to interfere with port operations and to ensure that normal traffic flow of the operational terminal is not obstructed.

Establishment, fencing and other work required to make the *working area* and *laydown area* fit for use is entirely the *Contractor's* responsibility.

The *Contractor* is responsible for the security of the *works* until completion and hand-over, and must make his own arrangements for security and the safekeeping of his property. The *Contractor's* watchmen are allowed on Site for this purpose.

The *Contractor* must ensure that the *working area* is well lit at night and that all the fences, obstacles and hazards are marked.

The *Contractor* must maintain the *working area* in a neat and tidy condition to the satisfaction of the *Project Manager*.

6.1.3 Housing

Housing of the *Contractor's* people on site is not permitted.

6.1.4 Clearing of site

The *Contractor*, within fourteen days after completion, must completely remove from site all his plant, materials, Equipment, stores and temporary accommodation or any other asset belonging to him and leaves the site in a tidy condition to the satisfaction of the *Project Manager*.

6.1.5 Site books

The *Contractor* must supply and have available at the site office at all times, the following site books which remains the property of the *Employer*:

- Risk register book:
This is a suitable carbon copy book, size A4, with two detachable sheets for registering risks and early warnings in triplicate as identified by the *Project Manager*, *Supervisor* or *Contractor*.
- Site diary book:
This is a suitable carbon copy book, size A4, with two detachable sheets for a page to a day where all events affecting execution of the *works*, such as arrivals of plans, breakdown of Equipment, weather conditions etc., are entered. Equipment, labour, Plant and Materials on site are recorded as well as work performed. Entries are made by the *Contractor* (or his appointed agent) and signed daily by both the *Contractor* and the *Supervisor*. The site diary may be used to establish the validity of claims for Compensation Events.

6.1.6 Co-operation with Others

During the course of the contract, departments of Transnet and other contractors may be working in the general area surrounding the *working area*. The *Contractor* must make allowance for the necessity to interface with the activities of Others, and to allow for safe access and working conditions.



The success of the project depends on the effective co-operation of all contractors on site, and the *Contractor*, if necessary, must discuss his programme on a day to day basis with the *Project Manager* to ensure effective co-ordination.

6.1.7 Customs and port regulations

The *working area* is situated within a Customs controlled area and the *Contractor* and his people shall observe all Customs regulations within the port area.

The *working area* is also within a promulgated port area and the *Contractor* and his people shall observe all ISPS and Port Regulations within the port area. Copies of the Harbour Regulations are obtainable from the Port admin offices.

The fullest collaboration between the *Contractor*, the Port and the *Project Manager* is essential in regard to the working of the port.

6.1.8 Health and safety facilities on Site

At all times during the fabrication, erection and testing of the equipment the *Contractor* is responsible for the safety of all persons on the Site and on the equipment and shall have the necessary systems and procedures in place to effectively manage this.

6.1.9 Site services and facilities

The contractor shall indicate what services and facilities are required if any. The *Contractor* is responsible for connecting up and for electrical cabling in the *working area* together with any associated costs.

A water supply point is available to the *Contractor* if required in the *working area*.

The *Contractor* will be liable for the costs associated with the electricity and water consumption at the erection site.

The *Contractor* must make his own arrangements for the disposal of sewerage and wastewater. Sewerage may not be wasted on site. Transnet facilities may not be used.

The *Contractor* must make his own arrangements for telecommunication facilities, if required, for his use during the execution of the *works*.

The *Contractor* shall provide everything else necessary for providing the Works.

6.2 Completion, testing, commissioning and correction of Defects

6.2.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works. The *Project Manager* cannot certify Completion until all the work is done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

6.2.2 Testing and commissioning

6.2.2.1 Prerequisites for commissioning

A complete and detailed test and inspection protocol for testing of pre-assembled modules (if applicable), as well as the commissioning of the equipment, shall be submitted by the *Contractor* for approval by the *Project Manager*, two months before the start of testing and/or commissioning. This test and inspection protocol shall include all tests and inspections required in terms of the respective specifications and other tests and inspections deemed necessary by the *Contractor* to prove to the *Employer's* satisfaction that the equipment complies with the Works Information and must include the following where applicable:

- Pre-commissioning tests to be performed by the *Contractor*
- Performance test recording the speeds of all motions under various load conditions



- Overload tests to the category of equipment
- Stability tests
- Tests to prove the integrity of the safety devices, limit systems and emergency systems
- Tests to prove the integrity of all service brakes and emergency brakes
- Functional tests
- Operational tests under simulated conditions
- General inspection for final quality, including paint quality

The *Contractor* will be required to show practically and analytically that the equipment can repeat the duty cycle continuously at rated capacity and rated speeds and accelerations, without over heating or unduly breaking down.

6.2.2.2 Testing and commissioning

Modules pre-assembled off site shall be trial assembled and fully tested as far as practical and be accepted by the *Supervisor* prior to delivery to site. All tests performed off site shall be repeated once the equipment has been completely erected as part of commissioning.

Before commissioning starts, the *Contractor* shall satisfy himself that the equipment is complete in all respects and shall carry out the necessary pre-commissioning tests of the equipment. During this period the *Supervisor* will carry out visual inspections on the equipment.

After approval of the test and inspection protocol by the *Project Manager*, the *Contractor* shall fully test the equipment in the presence of the *Supervisor* and according to the approved protocol. As far as practical the equipment shall be fully tested prior to it being moved into the operational area. Load testing on the equipment shall be performed at the erection area in accordance with Code of Practice 29 (125% overload tests). The *Contractor* shall be responsible for the supply of all load testing masses and measuring instruments.

All motions of the equipment shall be tested under load to simulate actual conditions, where applicable, to prove correct operation and to enable position indicators and limit switches to be set, and other operational adjustments made. Load shall be defined as the safe working load when the equipment is working at maximum capacity, and including dynamic factors such as wind loads, shock loads due to acceleration and deceleration, etc.

Before the commencement of any tests the *Contractor* shall provide the initial fill of oil for all gearboxes and grease for components which require grease lubrication.

All simulation devices and test weights required shall be provided by the *Contractor*.

6.2.2.3 Acceptance testing

After successful completion of commissioning, the equipment shall be subjected to acceptance testing, i.e. actual operation of the equipment in the handling of containers in the operational area of the port.

Acceptance testing will constitute a minimum of 100 hours (either continuous or consecutive sessions) of actual hours operation of the equipment doing container handling, of which the last 80 hours must be completely trouble free operation to the satisfaction of the *Project Manager*. If the operation is not trouble free, acceptance testing will continue until the equipment functions trouble free for 80 hours before the acceptance testing is deemed complete.

During acceptance testing the equipment will be operated by the *Employer's* operators, but the *Contractor* shall provide at his own cost the personnel and all equipment necessary for acceptance testing, including a sufficient number of suitably qualified people to assist the *Employer's* equipment operators for the duration of acceptance testing as and if required.

On completion of acceptance testing and before take-over, the *Contractor* shall supply in triplicate complete test certificates, as necessary, and such prescribed statutory documents as are required certifying the class and safe working loads of the equipment (and specific components e.g.,

twistlocks, ropes hoists etc.) and that the equipment is in complete working order and that all working parts are effectively lubricated. Where required by law these certificates shall be issued by local authorities.

Completion cannot be certified prior to completion of the acceptance testing.

6.2.3 Technical support after Completion

The *Contractor* shall undertake that spares for all mechanical and electrical components of the equipment carrier shall be readily available for the life of the equipment Completion. Should spares be required during this period but not be readily available, the *Contractor* shall make modifications to the equipment to use readily available spares at that time, and at no cost to the *Employer*

Should the equipment become substantially inoperable, inefficient or unsafe during the period between take over and the *defects date* due to defects, the *defects date* will be extended by the same amount of time that it takes to return the equipment to satisfactory operating state.

6.2.4 Guarantees and Warranties

The extent of guarantees and warranties in excess of the standard 12 months that can be offered by the Tenderer on electrical, mechanical and electronic components, and in excess of 5 years on the structure will play an important role in the evaluation of the tenders. Compliance of the corrosion protection to Employer's specification EEAM-Q-008 is also critical.

7 Plant and Materials standards and workmanship

7.1 Referenced standard specifications

The tests prescribed in the relevant standard specifications shall be carried out at the manufacturer's works before delivery of the Plant and Materials ordered by the *Contractor*. The test results shall be submitted to the *Project Manager*.

Plant and Materials made and tested to alternative standard specifications will be considered at the discretion of the *Project Manager*, provided that such specifications are not less stringent than those laid down.

7.2 General

All Plant and Materials shall be new.

All Plant shall be installed according to the manufacturer's recommendations.

All Plant must be securely mounted on the equipment such that vibration and movement will not dislodge any components.

All rotating components shall be statically balanced before fitting. High speed rotating components shall also be dynamically balanced.

All fatigue sensitive welds on manufactured components shall be post weld treated by local burr grinding and shot peening afterwards.

Compiled by

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