

**TRANSNET PORT TERMINALS****TENDER NUMBER:**

DESCRIPTION OF THE WORKS: REFURBISHMENT OF THE SUBSTATION AT THE PORT OF CAPE TOWN, CONTAINER TERMINAL OF TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option B	
C2.2	The <i>bill of quantities</i>	



C2.1 Pricing instructions: Option B

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 (ECC3) Option B states:

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration. (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. (28) The Price for Work Done to Date is the total of - the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities multiplied by the rate and - a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

1.2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

Historically bill of quantities based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC3 caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for

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the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.

1.4 Contract Skills Development Goal (CSDG)

The contractor shall determine the contract skills participation goals, expressed in Rand, which shall not be less than the contract amount multiplied by a percentage (0.25%) factor given in the final tender summary of the Bill of Quantities below.

The Employer may determine the skills Methods to be implemented on the contract or the Employer may elect the contractor to determine the skills Methods to be implemented as per the Standard, provided the CSDG is achieved. The pricing for the skills Methods to be implemented is provided in Table 3 of the Standard for the applicable class of construction works.

Table 3: The notional cost of providing training opportunities per quarter.

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 3 year diploma	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 4 year qualification	R47 000	R20 000	R4 500	R71 500	R20 000

In the example below:

Table 4. Example of the Application of the Skills Methods

Item	Description	Unit	Qty	Rate	Amount
1	Provision for stipends (unemployed learners) (P1 & P2 - Method 3)	Per quarter	3	R24 000	R72 000
2	Provision for Mentorship (P1 & P2 - Method 3)	Per quarter	3	R20 000	R60 000
3	Provision for additional cost (PPE, Medical assessment, course fees) (P1 & P2 - Method 3)	Per quarter	3	R4 500	R13 500
4	Provision for additional cost, employed learner (PPE, Medical assessment, course fees, assessment and monitoring) (Method 1)	Per quarter	1	R9 000	R9 000
16	Minimum CSDG sum = CE (0.25%) x Subtotal (R60 000 000) =R150 000				R154 000

Note the CSDG achieved on the contract must be equal to or higher than the minimum CSDG

The Contractor shall be paid as follows:

Payment to the contractor to accommodate Part/Full Occupational qualification (Method 1), Trade qualifications learners (Method 2), Work Integrated Learners (Method 3) and Candidates for professional registration (Method 4) for Stipends and Provision for Additional Costs.

Based on the agreed skills methods, the employer shall make provision for payment to the contractor for learner and candidate stipends for unemployed persons and a provision for additional cost such as medical assessments, personal protective equipment, tools and course fee for example skills programmes, pre trade

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test training and registration support programmes as indicated in Table 3 in the Standard as provided in the Final Tender Summary section for the CSDG.

Provision of payment to Mentors

Payment to the contractor for Mentorship to accommodate Work Integrated Learners (Method 3) and Candidates for professional registration (Method 4) only.

The contractor shall be paid as follows:

Should Work Integrated Learners and/or Candidates for professional registration form part of the agreed skills Method, the Employer shall make provision for payment of the mentor as indicated in Table 3 in the Standard.

Mentoring associated with structured workplace learning for candidates shall be in accordance with the prescripts of the relevant professional body or statutory council.

The contractor shall carry out all the requirements under clause 4.3 Structured Workplace Learning for Candidates in the Standard. The contractor shall:

- a) Identify a suitable mentor for the candidate.
- b) Issue each candidate with a portfolio of evidence file.
- c) Ensure the mentor provides an updated workplace training plan for a candidate.

2. Measurement and payment

2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
Prov sum ¹	provisional sum

¹ Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and

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PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Workday

2.2. General assumptions

- 2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.
- 2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the *bill* specifically for such matters, then the *Contractor* is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.
- 2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.
- 2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.
- 2.2.7. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

2.3. Departures from the *method of measurement*

- 2.3.1. None

2.4. Amplification of or assumption about measurement items

- 2.4.1. In the event of any ambiguity or inconsistency between the statements in the method of measurement and this section, the interpretation given in section 2 above shall be used.

associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work.



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C2.2 The *Bill of Quantities*

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1		<u>SECTION 1 : PRELIMINARY & GENERAL</u>				
		-				
		NOTE				
		Tenderers are to price this Schedule strictly in accordance with the Specifications and SANS 1200, where a conflict arises between these two documents the Specifications shall take precedence. Where a conflict arises between this Schedule and the Specifications, the Specifications shall take precedence. Tenderers shall study all relevant information before pricing this Schedule and the Schedule shall be priced to provide the complete Works				
		To be read in conjunction with but not limited to the following Project Technical Specification(s) :				
		PART C3: SCOPE OF WORK				
	SANS 1200 A	<u>GENERAL</u>				
1.1	PSA 8.3	<u>SCHEDULED FIXED-CHARGE ITEMS</u>				
1.1.1	8.3.1	<u>Contractual requirements</u>				
		a) Sureties	Sum	1		
		b) Insurance of the works and plant	Sum	1		
		c) Third party or public liability insurance	Sum	1		
		d) Unemployment insurance	Sum	1		
		e) Performance security as per <i>Employer's</i> requirements	Sum	1		
	PSA 8.3.2	<u>ESTABLISHMENT OF FACILITIES ON THE SITE</u>				
1.1.2	PSA 8.3.2.1	<u>FACILITIES FOR CONTRACTOR</u>				



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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		a) Offices and storage sheds (1 No. Offices 1 No. Sheds)	Sum	1		
		e) Ablution and latrine facilities	Sum	1		
		f) Tools and equipment	Sum	1		
		g) Water supplies, electric power and communications	Sum	1		
		h) Access	Sum	1		
1.1.4	PSA-8.3.3	<u>OTHER FIXED-CHARGE OBLIGATIONS</u>				
		a) Management meetings	Sum	1		
		b) Documentation control including provision and/ or submission for approval of all <i>Contractor's</i> documents as part of the execution of the works	Sum	1		
		c) Safety risk management including but not limited to the Safety Plan as required by the Occupational Health and Safety Act, Act 85 of 1993	Sum	1		
		d) Environmental management including but not limited to Environmental Method Statements in accordance with the Construction Environmental Management Plan	Sum	1		
		e) Quality assurance requirements	Sum	1		
		f) Site security requirements	Sum	1		
		g) Programming	Sum	1		
		h) Industrial relations management	Sum	1		
		i) Operation and maintenance manuals of the installation, operation and maintenance manuals and drawings for the equipment under this contract				
		i) Draft copies, three [3] in number	Sum	1		



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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		ii) Final copies, number to be confirmed by <i>Employer</i>	Sum	1		
1.1.5	8.3.4	<u>REMOVAL OF SITE ESTABLISHMENT</u>				
		a) Removal of site establishment	Sum	1		
1.2	PSA 8.4	<u>TIME-RELATED ITEMS</u>				
		-				
	PSA 8.4	<u>SCHEDULED TIME-RELATED ITEMS</u>				
1.2.1	8.4.1	<u>Contractual requirements</u>				
		a) Sureties	Sum	1		
		b) Insurance of the works and plant	Sum	1		
		c) Third party or public liability insurance	Sum	1		
		d) Unemployment insurance	Sum	1		
		e) Performance security as per <i>Employer's</i> requirements	Sum	1		
		f) Other	Sum	1		
	PSA 8.4.2	OPERATION AND MAINTENANCE OF FACILITIES ON SITE, FOR DURATION OF CONSTRUCTION, EXCEPT WHERE OTHERWISE STATED				
1.2.3	8.4.2.2	FACILITIES FOR CONTRACTOR				
		a) Offices and storage sheds (1 No. Offices 1 No. Sheds)	Sum	1		
		b) Ablution and latrine facilities	Sum	1		
		c) Tools and equipment	Sum	1		
		d) Access	Sum	1		



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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.2.4	8.4.3	SUPERVISION FOR DURATION OF CONSTRUCTION				
		a) Supervision for the duration of construction	Sum	1		
1.2.5	8.4.4	COMPANY AND HEAD OFFICE OVERHEAD COSTS FOR THE DURATION OF THE CONTRACT				
		a) Company and head office overhead costs for the duration of the contract	Sum	1		
1.2.6	PSA-8.4.5	OTHER TIME-RELATED OBLIGATIONS				
		a) Management meetings	Sum	1		
		b) Documentation control including provision and/ or submission for approval of all <i>Contractor's</i> documents as part of the execution of the works	Sum	1		
		c) Occupational Health and Safety Specification compliance	Sum	1		
		d) Construction Environmental Management Plan compliance	Sum	1		
		e) Quality assurance requirements	Sum	1		
		f) Site security requirements	Sum	1		
		g) Programming and progress reporting	Sum	1		
		j) Transportation	Sum	1		
		-				
		-				
		-				
		TOTAL CARRIED TO SUMMARY				



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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
	SECTION 2					
	NOTE					
	This Bill of Quantities shall be read in conjunction with the drawings, works information and the specifications and shall be priced to provide a complete installation, i.e. the supply where required, installation, testing and commissioning plus handing over of the fully functional equipment / installation. The Contractor to furnish all design and shop drawings if applicable and any associated equipment specifications for approval prior to manufacturing and delivery to site					
	To be read in conjunction with but not limited to the following Project Technical Specification(s): Part C3: Works Information					
A	CONTAINER ADMIN					
A1	Preparation works for the proposed substation upgrades					
1	Disconnect and removal of the existing MV switchgear, LV switchgear and battery bank to be replaced.	1	sum			
	Sub total					
A2	Medium voltage switchgear					
1	Design, supply and install a new 1250A 11kV incomer VCB panel.	2	ea			
2	Design and supply a new spare 1250A 11kV incomer VCB panel.	1	ea			
3	Design, supply and install a new 1250A 11kV bus section VCB panel.	1	ea			
4	Design, supply and install a new 630 11kV feeder VCB panel.	2	ea			
5	Design and supply a new spare 630 11kV feeder VCB panel.	1	ea			
6	Design supply and install a 11kV bus-riser panels/bus-bar Earth /VT panels.	1	ea			
7	Design, supply, install and commission a complete arc ducting and protection system for the 11kV switchgear	1	Sum			
8	Design, supply, install a battery bank (enclosed in a cabinet) and battery terminal unit for the 11kV switchgear complete with protection and wiring.	1	sum			
9	Provision of racking tools	1	sum			
10	UFES or similar approved KIT	1	sum			
	Sub total					

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
A3	Low voltage switchgear					
1	Design, supply and install a new LV switchgear including new standard terminations for the existing incomer and feeder.	1	sum			
2	Design, supply, and install a control panel for the proposed MV switchgear complete with cabling.	1	sum			
	Sub total					
A4	Low Voltage Cables					
1	Supply and installation of a new 3ph 1 core 400mm ² 400V XLPE SWA Cu ECC Cable.	300	m			
2	Supply and installation of a new 1 core 400mm ² SWA ECC LV Cu Cable standard terminations. That is 2x per phase both from the TRF side and LV switchgear.	36	ea			
3	Supply and install new cable terminations for the existing LV cables.	1	sum			
	Sub total					
A5	Medium Voltage Cables					
1	Supply and installation of a new 1 core 70mm ² 11KV XLPE SWA Cu Cable	300	m			
2	Supply and installation of a new 1 core 70 mm ² 11KV XLPE Cable standard termination kit for TRF termination bushings. (3x 1 core termination kits are spares)	9	ea			
	Sub total					
A6	Electrical, Lighting and Power					
1	Design, supply and install a new lighting and small power.	1	sum			
	Sub total					
A7	Transformers					
1	Supply and installation of a new 1250kVA, 11kV/400V Transformer.	2	ea			
2	Refurbishment of the existing TRFs	2	ea			
	Sub total					
A8	Medium Voltage Cable Termination					
1	Supply and install new 630A Feeder MV plug type termination designed to EN 50181 and DIN 47637. (3x terminations are spares)	ea	9			
2	Supply and install new 1250A Incomer MV plug type termination designed to EN 50181 and DIN 47637. Per phase with each phase with 2x	ea	12			

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
3	Select, Supply, and install MV trifurcation (150mm ² , 3 core XLPE to single core SWA XLPE) cable joint.	ea	4			
4	Supply and installation of a new 1 core 150 mm ² 11KV XLPE SWA Cu Cable to complete the MV termination.	200	m			
	Sub total					
A9	Earthing and Lightning Protection					
1	Design, supply and install earthing and lightning surge protection for the proposed substation upgrades.	1	sum			
	Sub total					
A10	Cables, Routes and Building Modifications					
1	Replacement of old chequered plates and sealing of cable entry/exit opening	1	Sum			
2	Building refurbishments.	1	Sum			
3	316 SS doors	2	ea			
3	Testing and commissioning of cables.	1	Sum			
	Sub total					
A11	Transformer Room Building					
1	Design and build a new transformer room	1	Sum			
	Sub total					
A12	Power System Protection					
1	Load flow, short circuit and protection grading study and configuration.	1	Sum			
2	Provision of a standalone ETAP licenced software.	1	ea			
	Sub total					
A13	HVAC and Fire					
1	Design, supply, installation, testing, commissioning and handover of the fire detection and suppression systems, including dismantling and removal of existing fire detection and suppression systems	1	Sum			
2	Design, supply, installation, testing, commissioning and handover of the HVAC/climate control plant including dismantling and removal of existing HVAC systems.	1	Sum			
	Sub total					
A14	Testing and Commissioning					



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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
1	Test and commission the entire installation. The contractor shall issue test, certificates, user manuals and as-built drawings.	1	Sum			
	Sub total					
	TOTAL (A)					
B	ROAD RAIL					
B1	Preparation works for the proposed substation upgrades					
1	Disconnect and removal of the existing MV switchgear, LV switchgear and battery bank to be replaced.	1	sum			
	Sub total					
B2	Medium voltage switchgear					
1	Design, supply and install a new 1250A 11kV incomer VCB panel.	2	ea			
2	Design and supply a new spare 1250A 11kV incomer VCB panel.	1	ea			
3	Design, supply and install a new 1250A 11kV bus section VCB panel.	1	ea			
4	Design, supply and install a new 630 11kV feeder VCB panel.	5	ea			
5	Design and supply a new spare 630 11kV feeder VCB panel.	1	ea			
6	Design supply and install a 11V bus-riser panels/bus-bar Earth /VT panels.	1	ea			
7	Design, supply, install and commission a complete arc ducting and protection system for the 11kV switchgear	1	Sum			
8	Design, supply, install a battery bank (enclosed in a cabinet) and battery terminal unit for the 11kV switchgear complete with protection and wiring.	1	sum			
9	Provision of racking tools	1	sum			
10	UFES or similar approved technology	1	sum			
	Sub total					
B3	Low voltage switchgear					
1	Design, supply and install a new LV switchgear including new standard terminations for the existing incomer and feeder.	1	sum			
2	Design, supply, and install a control panel for the proposed MV switchgear complete with cabling.	1	sum			
	Sub total					

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
B4	Electrical, Lighting and Power					
1	Design, supply and install new lighting and small power	1	sum			
	Sub total					
B5	Transformers					
1	Design, supply and install a stainless-steel containment tray around the existing transformers.	3	ea			
2	Refurbish transformer and change transformer oil.	2	ea			
	Sub total					
B6	Medium Voltage Cable Termination					
1	Supply and install new 630A Feeder MV plug type terminations designed to EN 50181 and DIN 47637.	9	ea			
2	Supply and install new 1250A Incomer MV plug type termination designed to EN 50181 and DIN 47637.	12	ea			
3	Select, Supply, and install MV transition joint for incomers and feeders.	7	ea			
	Sub total					
B7	Earthing and Lightning Protection					
1	Design, supply and install earthing and lightning surge protection for the proposed substation upgrades.	1	sum			
	Sub total					
B8	Cables, Routes and Building Modifications					
1	Replacement of old chequered plates and sealing of cable entry/exit opening	1	sum			
2	Provisional sum for the building refurbishments.	1	sum			
3	Supply and install 70mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	100	m			
4	Supply and install 150mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	200	m			
5	Supply and install new 316 SS fire rated doors. Allow for the entrance door for personnel and 1 roller door for switchgear	ea	2			
	Sub total					
B9	HVAC and Fire					
1	Design, supply, installation, testing, commissioning and handover of the fire detection and suppression systems, including dismantling and removal of existing fire detection and	1	sum			

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
	suppression systems					
2	Design, supply, installation, testing, commissioning and handover of the HVAC/climate control plant including dismantling and removal of existing HVAC systems.	1	sum			
	Sub total					
B10	Testing and Commissioning					
1	Test and commission the entire installation. The contractor shall issue tests, certificates, user manuals and as-built drawings.	1	sum			
	Sub total					
	TOTAL (B)					
C	CAE SUBSTATION					
C1	Preparation works for the proposed substation upgrades					
1	Disconnect and removal of the existing MV switchgear, LV switchgear and battery bank to be replaced.	1	sum			
	Sub total					
C2	Medium voltage switchgear					
1	Design, supply and install a new 1250A 11kV incomer VCB panel.	2	ea			
2	Design and supply and a new spare 1250A 11kV incomer VCB panel.	1	ea			
3	Design, supply and install a new 1250A 11kV bus section VCB panel.	1	ea			
4	Design, supply and install a new 630 11kV feeder VCB panel.	3	ea			
5	Design, supply a new spare 630 11kV feeder VCB panel.	1	ea			
6	Design supply and install a 11kV bus-riser panels/bus-bar Earth /VT panel.	1	ea			
7	Design, supply, install and commission a complete arc ducting and protection system for the 11kV switchgear	1	Sum			
8	Design, supply, install a battery bank (enclosed in a cabinet) and battery terminal unit for the 11kV switchgear complete with protection and wiring.	1	sum			
9	Provision of racking tools	1	sum			
10	UFES or similar approved technology	1	sum			
	Sub total					

**TRANSNET PORT TERMINALS****TENDER NUMBER:**

DESCRIPTION OF THE WORKS: REFURBISHMENT OF THE SUBSTATION AT THE PORT OF CAPE TOWN, CONTAINER TERMINAL OF TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
C3	Low voltage switchgear					
1	Design, supply and install a new LV switchgear including new standard terminations for the existing incomer and feeder.	1	sum			
2	Design, supply, and install a control panel for the proposed MV switchgear complete with cabling.	1	sum			
	Sub total					
C4	Electrical, Lighting and Power					
1	Design, supply and install new lighting and small power	1	sum			
	Sub total					
C5	Transformers					
1	Design, supply and install a stainless-steel containment tray around the existing transformers	2	ea			
2	Refurbish the existing transformer and change transformer oil.	2	ea			
	Sub total					
C6	Medium Voltage Cable Termination					
1	Supply and install new 630A Feeder MV plug type terminations designed to EN 50181 and DIN 47637.	9	ea			
2	Supply and install new 1250A Incomer MV plug type terminations designed to EN 50181 and DIN 47637.	12	ea			
3	Select, Supply, and install MV transition (3 core XLPE to single core XLPE cable joints.	7	ea			
	Sub total					
C7	Earthing and Lightning Protection					
1	Design, supply and install earthing and lightning surge protection for the proposed substation upgrades.	1	sum			
	Sub total					
C8	Cables, Routes and Building Modifications					
1	Replacement of old chequered plates and sealing of cable entry/exit opening	1	sum			
2	Provision for the building refurbishments.	1	sum			
3	Provision for the testing and provision of XLPE cables.	1	sum			

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DESCRIPTION OF THE WORKS: REFURBISHMENT OF THE SUBSTATION AT THE PORT OF CAPE TOWN, CONTAINER TERMINAL OF TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS, (HEREINAFTER REFERRED TO AS "TPT")

ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
4	Supply and installation of a 150mm ² 11kV, CU 3 core XLPE SWA cable.	1500	m			
5	Supply and install concrete culverts to protect the MV cable.	1500	m			
6	Supply and install 70mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	100	m			
7	Supply and install 150mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	200	m			
	Supply and install new 316 SS fire rated doors. Exclude roller doors for TRFs.	3	ea			
	Sub total					
C9	HVAC and Fire					
1	Design, supply, installation, testing, commissioning and handover of the fire detection and suppression systems, including dismantling and removal of existing fire detection and suppression systems.	1	sum			
2	Design, supply, installation, testing, commissioning and handover of the HVAC/climate control plant including dismantling and removal of existing HVAC systems.	1	sum			
	Sub total					
C10	Testing and Commissioning					
1	Test and commission the entire installation. The contractor shall issue tests, certificates, user manuals and as-built drawings.	1	sum			
	Sub total					
	TOTAL (C)					
D	REFRIGERATION SUBSTATION					
D1	Preparation works for the proposed substation upgrades					
1	Disconnect and removal of the existing MV switchgear, LV switchgear and battery bank to be replaced.	1	sum			
	Sub total					
D2	Medium voltage switchgear					

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
1	Design, supply and install a new 1250A 11kV incomer VCB panel.	2	ea			
2	Design and supply a new spare 1250A 11kV incomer VCB panel.	1	ea			
3	Design, supply and install a new 1250A 11kV bus section VCB panel.	1	ea			
4	Design, supply and install a new 630 11kV feeder VCB panel.	6	ea			
5	Design, supply a new spare 630 11kV feeder VCB panel.	1	ea			
6	Design, supply and install a 11kV bus-riser panels/bus-bar Earth /VT panels.	1	ea			
7	Design, supply, install and commission a complete arc ducting and protection system for the 11kV switchgear	1	Sum			
8	Design, supply, install a battery bank (enclosed in a cabinet) and battery terminal unit for the 11kV switchgear complete with protection and wiring.	1	sum			
9	Provision of racking tools	1	sum			
10	UFES or similar approved technology	1	sum			
	Sub total					
D3	Low voltage switchgear					
1	Design, supply and install a new LV switchgear including new standard terminations for the existing incomer and feeder.	1	sum			
2	design, supply, and install a control panel for the proposed MV switchgear complete with cabling.	1	sum			
	Sub total					
D4	Electrical, Lighting and Power					
1	Design, supply and install new lighting and small power	1	sum			
	Sub total					
D5	Transformers					
1	Design, supply and install a stainless-steel containment tray around the existing transformers	2	ea			
2	Refurbish transformer and change transformer oil.	2	ea			
	Sub total					
D6	Medium Voltage Cable Termination					
1	Supply new 630A Feeder MV plug type terminations designed to EN 50181 and DIN 47637.	18	ea			

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
2	Supply new 1250A Incomer MV plug type terminations designed to EN 50181 and DIN 47637.	12	ea			
3	Select, Supply, and install MV transition (3 core Paper oil impregnated to single core XLPE cable joints.	10	ea			
	Sub total					
D7	Earthing and Lightning Protection					
1	Design, supply and install earthing and lightning surge protection for the proposed substation upgrades.	1	sum			
	Sub total					
D8	Cables, Routes and Building Modifications					
1	Replacement of old chequered plates and sealing of cable entry/exit opening	1	sum			
2	Provisional sum for the building refurbishments.	1	sum			
3	Testing and commissioning cables.	1	sum			
4	Supply and install 70mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	100	m			
5	Supply and install 150mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	200	m			
6	Supply and install new 316 SS fire rated doors. Exclude roller doors for TRFs.	3	ea			
	Sub total					
D9	HVAC and Fire					
1	Design, supply, installation, testing, commissioning and handover of the fire detection and suppression systems, including dismantling and removal of existing fire detection and suppression systems.	1	sum			
2	Design, supply, installation, testing, commissioning and handover of the HVAC/climate control plant including dismantling and removal of existing HVAC systems.	1	sum			
	Sub total					
D10	Testing and Commissioning					
1	Test and commission the entire installation. The contractor shall issue tests, certificates, user manuals and as-built drawings.	1	sum			
	Sub total					
	TOTAL (D)					



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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
E	COASTER BERTH SUBSTATION					
E1	Preparation works for the proposed substation upgrades					
1	Disconnect and removal of the existing MV switchgear, LV switchgear and battery bank to be replaced.	1	sum			
	Sub total					
E2	Medium voltage switchgear					
1	Design, supply and install a new 1250A 11kV incomer VCB panel.	2	ea			
2	Design and supply a new spare 1250A 11kV incomer VCB panel.	1	ea			
3	Design, supply and install a new 1250A 11kV bus section VCB panel.	1	ea			
4	Design, supply and install a new 630 11kV feeder VCB panel.	4	ea			
5	Design, and supply a new spare 630 11kV feeder VCB panel.	1	ea			
6	Design, supply and install a 11kV bus-riser panels/bus-bar Earth /VT panels.	1	ea			
7	Design, supply, install and commission a complete arc ducting and protection system for the 11kV switchgear	1	Sum			
8	Design, supply, install a battery bank (enclosed in a cabinet) and battery terminal unit for the 11kV switchgear complete with protection and wiring.	1	sum			
9	Provision of racking tools	1	sum			
10	UFES of similar approved technology	1	sum			
	Sub total					
E3	Low voltage switchgear					
1	Design, supply and install a new LV switchgear including new standard terminations for the existing incomer and feeder.	1	sum			
2	Design, supply, and install a control panel for the proposed MV switchgear complete with cabling.	1	sum			
	Sub total					
E4	Electrical, Lighting and Power					
1	Design, supply and install new lighting and small power	1	sum			
	Sub total					
E5	Transformers					

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
1	Design supply and install a stainless-steel containment tray around the existing transformers.	4	ea			
2	Refurbish transformer and change transformer oil.	4	ea			
	Sub total					
E6	Medium Voltage Cable Termination					
1	Supply and install new 630A Feeder MV plug type terminations designed to EN 50181 and DIN 47637.	12	ea			
2	Supply and install new 1250A Incomer MV plug type terminations designed to EN 50181 and DIN 47637.	12	ea			
3	Select, Supply, and install MV transition (3 core Paper oil impregnated to single core XLPE cable joints.	8	ea			
	Sub total					
E7	Earthing and Lightning Protection					
1	Design, supply and install earthing and lightning surge protection for the proposed substation upgrades.	1	sum			
	Sub total					
E8	Cables, Routes and Building Modifications					
1	Replacement of old chequered plates and sealing of cable entry/exit opening	1	sum			
2	Provisional for the building refurbishments.	1	sum			
3	Provisional for the testing and provision of XLPE cables.	1	sum			
4	Supply and install 70mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	100	m			
5	Supply and install 150mm ² XLPE single core SWA Cu Cables to complete the MV plug terminations.	200	m			
6	Supply and install new 316 SS fire rated doors.	3	ea			
	Sub total					
E9	HVAC and Fire					
1	Design, supply, installation, testing, commissioning and handover of the fire detection and suppression systems, including dismantling and removal of existing fire detection and suppression systems.	1	sum			
2	Design, supply, installation, testing, commissioning, handover of the HVAC/climate control plant including dismantling and removal of existing HVAC systems.	1	sum			
	Sub total					

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ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	SUPPLY RATE	INSTALLATION RATE	TOTAL
E10	Testing and Commissioning					
1	Test and commission the entire installation. The contractor shall issue tests, certificates, user manuals and as-built drawings.	1	sum			
	Sub total					
	TOTAL (E)					
F	Generator					
F1	Preparation works for the proposed substation upgrades					
1	Provision of the generator as per the Transnet Specification	1	ea			
	Sub total					
	TOTAL (F)					
	TOTAL TENDER AMOUNT					
	TOTAL CONTRACT VALUE					



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ITEM	DESCRIPTION	UNIT	QTY	AMOUNT
	SUMMARY			
	SECTION 1			
1	Preliminary and General	sum	1	
	SECTION 2			
A	Container Admin Building	sum	1	
B	Road Rail Building	sum	1	
C	CAE Building	sum	1	
D	Refrigeration Building	sum	1	
E	Coaster Berth	sum	1	
F	Generator	sum	1	
	<u>TOTAL DIRECT COST</u>			
	The Contractor shall achieve in the performance of the contract the Contract Skills Development Goal (CDSG) established in the CIDB Standard for Developing skills through Infrastructure Contract, publish in Gazette Notice No.43495 of July 2020			
		Percentage (%) factor	Sub-total of Tender Amount	Total
	<u>Contract Skills Development Goal</u> Minimum Contract Skills Development Goal (CSDG) sum = (0.25%) x Subtotal of the tendered amount	0.25%		
	<u>Provisional Sum – B.U.I.L.D Programme Participation Fee</u> B.U.I.L.D Participation Fee = (0.2%) x Subtotal of the tendered amount	0.2%		
	Total direct cost Incl (B.U.I.L.D participation fee and CSDG amount)			
	VAT 15% (if applicable)			
	Total Price, Inclusive of VAT (where applicable)			

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Note: Total of the Prices must be transferred to the Form of Offer

NOTE:

- Prices must be quoted in South African Rand, exclusive VAT.
- The operations personnel that will be made available for familiarisation training are existing Equipment Coordinators of the machines.
- Bidders are required to price each and every line item, failure to do so will result in disqualification.
- To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this pricing schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being declared nonresponsive.
- A provisional sum has been allowed for items that are miscellaneous and difficult to quantify because of the status that might change and the final nature of work that can only be properly defined during the execution. The allocated provisional sum is an estimate that is provided by the employer and will be claimed as per the defined cost process upon clearly defining the scope.
- Pricing above should include all costs associated with delivering this service, no other costs will be considered outside of the price submitted.