

C1.1: Form of Offer & Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

Description of the Works: Decommission, Supply, Deliver, Install and Commission of Uninterruptible Power Supply (UPS) Units at the Port of Durban

The tenderer, identified in the Offer signature block, has

examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

The offered total of the Prices exclusive of VAT is	R
Value Added Tax @ 15% is	R
The offered total of the Prices inclusive of VAT is	R
(in words)	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s) _____

Capacity _____

For the tenderer:

(Insert name and address of organisation)

Name & signature of witness

Date

Tenderer's CIDB registration number:

Acceptance

By signing this part of this Form of Offer and Acceptance, the *Employer* identified below accepts the tenderer's Offer. In consideration thereof, the *Employer* shall pay the *Contractor* the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the *Employer* and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any).

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Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s)

Name(s)

Capacity

**for the
Employer**

Transnet SOC Ltd

(Insert name and address of organisation)

Name &
signature of
witness

Date

Schedule of Deviations

Note:

1. To be completed by the Employer prior to award of contract. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer’s covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		
4		
5		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

For the tenderer:

For the Employer

Signature _____
Name _____
Capacity _____
On behalf of *(Insert name and address of organisation)* _____
Name & signature of witness _____
Date _____

Transnet SOC Ltd

C1.2 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	B: Priced contract with bill of quantities
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	X2 Changes in the law
		X7 Delay Damages
		X16: Retention
		X18: Limitation of liability
		Z: <i>Additional conditions of contract</i>
	of the NEC3 Engineering and Construction Contract June 2005 (amended June 2006 and April 2013)	
10.1	The <i>Employer</i> is:	Transnet SOC Ltd (Registration No. 1990/000900/30)

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	Address	Registered address: Transnet Corporate Centre 138 Eloff Street Braamfontein Johannesburg 2000
	Having elected its Contractual Address for the purposes of this contract as:	Transnet SOC Ltd (Registration No. 1990/000900/30) trading through its operating division Transnet National Ports Authority 237 Mahatma Gandhi, Queens Warehouse Building PO Box 1027, Durban, 4001
10.1	The <i>Project Manager</i> is: (Name)	Ntombenhle Mkhwanazi
	Address	237 Mahatma Gandhi, Queens Warehouse Building PO Box 1027, Durban, 4001
	Tel	031 361 3865
	e-mail	Ntombenhle.Mkhwanazi@transnet.net
10.1	The <i>Supervisor</i> is: (Name)	Bongekile Shandu
	Address	237 Mahatma Gandhi, Queens Warehouse Building PO Box 1027, Durban, 4001
	Tel No.	031 361 8176
	e-mail	Bongekile.Shandu@transnet.net
11.2(13)	The <i>works</i> are	Supply, Delivery, Decommission, Installation and Commissioning of Uninterruptible Power Supply units
11.2(14)	The following matters will be included in the Risk Register	1. Working in a fully operational area.
11.2(15)	The <i>boundaries of the site</i> are	Port of Durban extending from Point to Bluff Precinct
11.2(16)	The Site Information is in	Part C4

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11.2(19)	The Works Information is in	Part C3						
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa subject to the jurisdiction of the Courts of South Africa.						
13.1	The <i>language of this contract</i> is	English						
13.3	The <i>period for reply</i> is	2 weeks						
2	The Contractor's main responsibilities	No additional data is required for this section of the <i>conditions of contract</i>.						
3	Time							
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	29 March 2024						
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	<table border="1"> <thead> <tr> <th><i>Condition to be met</i></th> <th><i>key date</i></th> </tr> </thead> <tbody> <tr> <td>1 Supply, Decommission, Installation and Commissioning of Uninterruptible Power Supply units</td> <td>Variable</td> </tr> </tbody> </table>	<i>Condition to be met</i>	<i>key date</i>	1 Supply, Decommission, Installation and Commissioning of Uninterruptible Power Supply units	Variable		
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1 Supply, Decommission, Installation and Commissioning of Uninterruptible Power Supply units	Variable							
30.1	The <i>access dates</i> are	<table border="1"> <thead> <tr> <th>Part of the Site</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>1 Approval of the SHE File</td> <td>Variable</td> </tr> <tr> <td>2 Attendance of the induction process / issuing of induction cards.</td> <td>Variable</td> </tr> </tbody> </table>	Part of the Site	Date	1 Approval of the SHE File	Variable	2 Attendance of the induction process / issuing of induction cards.	Variable
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1 Approval of the SHE File	Variable							
2 Attendance of the induction process / issuing of induction cards.	Variable							
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.						
31.2	The <i>starting date</i> is	01 September 2023						
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	2 weeks.						
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.							
4	Testing and Defects							
42.2	The <i>defects date</i> is	52 (fifty two) weeks after Completion of the whole of the <i>works</i>.						

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43.2	The <i>defect correction period</i> is	2 weeks
5	Payment	
50.1	The <i>assessment interval</i> is monthly on the	25th (twenty fifth) day of each successive month.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	Payment will be effected on or before the last day of the month following the month during which a valid Tax Invoice and Statement were received.
51.4	The <i>interest rate</i> is	the prime lending rate of Rand Merchant Bank (RMB)
6	Compensation events	
60.1(13)	The <i>weather measurements</i> to be recorded for each calendar month are,	<p>the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10 mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 08:00 hours South African Time</p> <p>and these measurements: mm</p>
	The place where weather is to be recorded (on the Site) is:	Port of Durban
	The <i>weather data</i> are the records of past <i>weather measurements</i> for each calendar month which were recorded at:	Durban Weather Station
	and which are available from:	South African Weather Service 012 367 6023 or info3@weathersa.co.za.
7	Title	No additional data is required for this section of the <i>conditions of contract</i>.

8 Risks and insurance

80.1 These are additional *Employer's* **None** risks

84.1 The *Employer* provides these insurances from the Insurance Table

1 Insurance against: **Loss of or damage to the *works*, Plant and Materials is as stated in the Insurance policy for Contract Works/ Public Liability.**

Cover / indemnity: **to the extent as stated in the insurance policy for Contract Works / Public Liability**

The deductibles are: **as stated in the insurance policy for Contract Works / Public Liability**

2 Insurance against: **Loss of or damage to property (except the *works*, Plant and Materials & Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) arising out of or in connection with the performance of the Contract as stated in the insurance policy for Contract Works / Public Liability**

Cover / indemnity **Is to the extent as stated in the insurance policy for Contract Works / Public Liability**

The deductibles are **as stated in the insurance policy for Contract Works / Public Liability**

3 Insurance against: **Loss of or damage to Equipment (Temporary Works only) as stated in the insurance policy for contract Works and Public Liability**

Cover / indemnity **Is to the extent as stated in the insurance policy for Contract Works / Public Liability**

The deductibles are: **As stated in the insurance policy for Contract Works / Public Liability**

4 Insurance against:	Contract Works SASRIA insurance subject to the terms, exceptions and conditions of the SASRIA coupon
Cover / indemnity	Cover / indemnity is to the extent provided by the SASRIA coupon
The deductibles are	The deductibles are, in respect of each and every theft claim, 0,1% of the contract value subject to a minimum of R2,500 and a maximum of R25,000.
Note:	The deductibles for the insurance as stated above are listed in the document titled "Certificate of Insurance: Transnet (SOC) Limited Principal Controlled Insurance."

- 84.1 The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract for any one event is
- The *Contractor* provides these additional Insurances
- The *Contractor* must comply at a minimum with the provisions of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 as amended.**
- 1 Where the contract requires that the design of any part of the *works* shall be provided by the *Contractor* the *Contractor* shall satisfy the *Employer* that professional indemnity insurance cover in connection therewith has been affected**
 - 2 Where the contract involves manufacture, and/or fabrication of Plant & Materials, components or other goods to be incorporated into the *works* at premises other than the site, the *Contractor* shall satisfy the *Employer* that such plant & materials, components or other goods for incorporation in the *works* are adequately insured during manufacture and/or fabrication and transportation to the site.**



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- 3 Should the *Employer* have an insurable interest in such items during manufacture, and/or fabrication, such interest shall be noted by endorsement to the *Contractor's* policies of insurance as well as those of any sub-contractor**
- 4 Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R 5 000 000.**
- 7 The insurance coverage referred to in 1, 2, 3, and 4 above shall be obtained from an insurer(s) in terms of an insurance policy approved by the *Employer*. The *Contractor* shall arrange with the insurer to submit to the *Project Manager* the original and the duplicate original of the policy or policies of insurance and the receipts for payment of current premiums, together with a certificate from the insurer or insurance broker concerned, confirming that the policy or policies provide the full coverage as required. The original policy will be returned to the *Contractor*.**

84.2 The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the works, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract for any one event is

Whatever the *Contractor* requires in addition to the amount of insurance taken out by the *Employer* for the same risk.

84.2	The insurance against loss of or damage to the works, Plant and Materials as stated in the insurance policy for contract works and public liability selected from:	Principal Controlled Insurance policy for Contract
9	Termination	There is no additional Contract Data required for this section of the <i>conditions of contract</i>.
10	Data for main Option clause	
B	Priced contract with Bill of Quantities	No additional data is required for this Option.
60.6	The <i>method of measurement</i> is	The Bill of Quantities have been measured in accordance with SANS 1200 unless indicated otherwise.
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	Both parties will agree as and when a dispute arises. If the parties cannot reach an agreement on the <i>Adjudicator</i>, the Chairman of the Association of Arbitrators will appoint an <i>Adjudicator</i>.
W1.2(3)	The <i>Adjudicator nominating body</i> is: If no <i>Adjudicator nominating body</i> is entered, it is:	The Chairman of the Association of Arbitrators (Southern Africa) the Association of Arbitrators (Southern Africa)
W1.4(2)	The <i>tribunal</i> is:	Arbitration
W1.4(5)	The <i>arbitration procedure</i> is	The Rules for the Conduct of Arbitrations of the Association of Arbitrators (Southern Africa)
	The place where arbitration is to be held is	Durban, KwaZulu Natal, South Africa

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The person or organisation who will choose an arbitrator

- if the Parties cannot agree a choice or
- if the arbitration procedure does not state who selects an arbitrator, is

The Chairman of the Association of Arbitrators (Southern Africa)

12 Data for secondary Option clauses

X2 Changes in the law No additional data is required for this Option

X7 Delay damages

X7.1 Delay damages for Completion of the whole of the *works* are **R 5984.45 per day**

X16 Retention

X1 The retention-free amount is **Nil**

The retention percentage is **5% on all payments certified.**

X18 Limitation of liability

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- | | | |
|-------|---|--|
| X18.1 | The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to: | Nil |
| X18.2 | For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to: | The deductible of the relevant insurance policy |
| X18.3 | The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to: | The cost of correcting the Defect |
| X18.4 | The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to: | The Total of the Prices |
| X18.5 | The <i>end of liability date</i> is | 1 year after Completion of the whole of the works |

Z ***Additional conditions of contract are:***

**Z3 Additional clauses relating to
 Joint Venture**

Z3.1

Insert the additional core clause 27.5

27.5. In the instance that the *Contractor* is a joint venture, the *Contractor* shall provide the *Employer* with a certified copy of its signed joint venture agreement, and in the instance that the joint venture is an 'Incorporated Joint Venture,' the Memorandum of Incorporation, within 4 (four) weeks of the Contract Date.

The Joint Venture agreement shall contain but not be limited to the following:

- **A brief description of the Contract and the Deliverables;**
- **The name, physical address, communications addresses and domicilium citandi et executandi of each of the constituents and of the Joint Venture;**
- **The constituent's interests;**
- **A schedule of the insurance policies, sureties, indemnities and guarantees which must be taken out by the Joint Venture and by the individual constituents;**
- **Details of an internal dispute resolution procedure;**
- **Written confirmation by all of the constituents:**
 - i. **of their joint and several liabilities to the *Employer* to Provide the Works;**
 - ii. **identification of the lead partner in the joint venture confirming the authority of the lead partner to bind the joint venture through the *Contractor's* representative;**

iii. **Identification of the roles and responsibilities of the constituents to provide the Works.**

- **Financial requirements for the Joint Venture:**

iv. **the working capital requirements for the Joint Venture and the extent to which and manner whereby this will be provided and/or guaranteed by the constituents from time to time;**

v. **the names of the auditors and others, if any, who will provide auditing and accounting services to the Joint Venture.**

Z3.2

Insert additional core clause 27.6

27.6. The *Contractor* shall not alter its composition or legal status of the Joint Venture without the prior approval of the *Employer*.

Z4 Additional obligations in respect of Termination

Z4.1

The following will be included under core clause 91.1:

In the second main bullet, after the word 'partnership' add 'joint venture whether incorporate or otherwise (including any constituent of the joint venture)' and

Under the second main bullet, insert the following additional bullets after the last sub-bullet:

- **commenced business rescue proceedings (R22)**
- **repudiated this Contract (R23)**

Z4.2	Termination Table	The following will be included under core clause 90.2 Termination Table as follows:
		Amend "A reason other than R1 – R21" to "A reason other than R1 – R23"
Z4.3		Amend "R1 – R15 or R18" to "R1 – R15, R18, R22 or R23."

Z5 **Right Reserved by the Employer to Conduct Vetting through SSA**

Z5.1	The Employer reserves the right to conduct vetting through State Security Agency (SSA) for security clearances of any Contractor who has access to National Key Points for the following without limitations:
	<ol style="list-style-type: none"> 1. Confidential – this clearance is based on any information which may be used by malicious, opposing or hostile elements to harm the objectives and functions of an organ of state. 2. Secret – clearance is based on any information which may be used by malicious, opposing or hostile elements to disrupt the objectives and functions of an organ of state. 3. Top Secret – this clearance is based on information which may be used by malicious, opposing or hostile elements to neutralise the objectives and functions of an organ of state.

**Z6 Additional Clause Relating to
Collusion in the Construction
Industry**

Z6.1 The contract award is made without prejudice to any rights the *Employer* may have to take appropriate action later with regard to any declared tender rigging including blacklisting.

**Z7 Protection of Personal
Information Act**

Z7.1 The *Employer* and the *Contractor* are required to process information obtained for the duration of the Agreement in a manner that is aligned to the Protection of Personal Information Act.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

The tendering *Contractor* is advised to read both the NEC3 Engineering and Construction Contract - June 2005 (with amendments June 2006 and April 2013) and the relevant parts of its Guidance Notes (ECC3-GN) in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 Guidance Notes.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name):	
	Address	
	Tel No.	
	Fax No.	
11.2(8)	The <i>direct fee percentage</i> is	%
	The <i>subcontracted fee percentage</i> is	%
11.2(18)	The <i>working areas</i> are the Site and	
24.1	The <i>Contractor's</i> key persons are:	
	1 Name:	
	Job:	
	Responsibilities:	
	Qualifications:	
	Experience:	
	2 Name:	
	Job	
	Responsibilities:	
	Qualifications:	
	Experience:	

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		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled.
11.2(14)	The following matters will be included in the Risk Register	
31.1	The programme identified in the Contract Data is	
B	Priced contract with bill of quantities	
11.2(21)	The <i>bill of quantities</i> is in	
11.2(31)	The tendered total of the Prices is	(in figures) (in words), excluding VAT

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PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option B	2-4
C2.2	The <i>bill of quantities</i>	5-9

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, April 2013 (ECC3) Option B states:

Identified and defined terms 11

11.2 (21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

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

- the quantity of the work which the *Contractor* 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 *Contractor* 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.

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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 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.

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

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

2.2. General assumptions

- 2.2.1. 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.
- 2.2.2. 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.
- 2.2.3. 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.
- 2.2.4. 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.
- 2.2.5. 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.
- 2.2.6. 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.

Notes:

- 2.2.7.
- The tenderer must ensure that the UPS are priced considering the technical specifications as outlined by the Employer. The tenderer must submit the data sheets for the UPS selected.
 - The tenderer must submit the calculations and motivations complete with curves supporting verification of the desired backup time for each UPS as per the specified batteries. Backup time shall be calculated based on UPS full load and minimum ambient temperature of 25 degrees up to 30 degrees.



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C2.2 the *bill of quantities*

ITEM NO	DESCRIPTION	PAGE	AMOUNT
A	PRELIMINARIES AND GENERAL	6	R
B	SUPPLY AND INSTALL UNINTERRUPTIBLE POWER SUPPLY UNITS	7	R
C	UPS REMOTE MONITORING SYSTEM	8	R
D	INSTALLATION AND COMMISSIONING	8	R
E	DECOMMISSION AND DISPOSAL OF EXISTING UPS	9	R
Amount carried forward to form of Offer and Acceptance			R

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ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	<u>PRELIMINARY & GENERAL</u>				
	<u>Preambles</u> Fixed preliminary items will be valued and paid on a proven cost basis. Time related preliminary items may relate to fixed preliminary items and items not listed and expressed as a sum and will be pro-rated against value of construction items completed.				
A1	<u>FIXED CHARGE ITEMS</u>				
A1.1	Tools and equipment	Sum	1		
A1.2	Access to site	Sum	1		
A1.3	Comply with all Health and Safety Requirements	Sum	1		
A2	<u>TIME RELATED ITEMS</u>				
A2.1	Supervision for duration of construction	Month	7		
	SUB-TOTAL A				R

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ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	<u>SECTION B</u>				
B.1	<u>SUPPLY AND INSTALL UNINTERRUPTIBLE POWER SUPPLY UNITS</u>				
	<u>Including cables (Maximum length 5 meters) sized according to UPS size</u>				
B1.1	3 KVA	No.	8		
B1.2	5 KVA	No.	46		
B1.3	10 KVA	No.	5		
B1.4	15 KVA	No.	2		
B1.5	20 KVA	No.	2		
B1.6	40 KVA	No.	1		
B1.7	80 KVA	No.	4		
B1.8	100 KVA	No.	2		
B.2	<u>SUPPLY AND INSTALL BATTERY CABINETS</u>				
	<u>Including cables (Maximum length 2 meters) sized according to UPS size</u>				
B2.1	3 KVA (4 x 18 Ah)	No.	8		
B2.2	5 KVA (64 x 7 Ah)	No.	46		
B2.3	10 KVA (6 x 18 Ah)	No.	5		
B2.4	15 KVA (64 x 17 Ah)	No.	2		
B2.5	20 KVA (32 x 45 Ah)	No.	2		
B2.6	40 KVA (32 x 102 Ah)	No.	1		
B2.7	80 KVA (68 x 105 Ah)	No.	4		
B2.8	100 KVA (68 x 105 Ah)	No.	2		
	SUB-TOTAL B				R

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ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	<u>SECTION C</u>				
C1	<u>UPS REMOTE MONITORING SYSTEM</u>				
C1.1	Supply, Install, and configure SNMP cards and RJ45 CAT 6 cables compatible to the new UPS supplied.	No.	70		
C1.2	Supply and configure monitoring computers	No.	2		
C1.3	Connect and configure UPS to SCADA software (existing)	Sum	1		
	SUB-TOTAL C				R

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	<u>SECTION D</u>				
D1	<u>INSTALLATION AND COMMISSIONING</u>				
D1.1	Install and Commission: Durban 3kva - 10kva	No.	59		
D1.2	Install and Commission: Durban 15va - 40kva	No.	5		
D1.3	Install and Commission: Durban 80kva - 100kva	No.	6		
	SUB-TOTAL D				R

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ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	<u>SECTION E</u>				
E1	<u>DECOMMISSION AND DISPOSAL OF EXISTING UPS</u>				
E1.1	Decommission and disposal of existing UPS	Sum	1		
	SUB-TOTAL E				R
	GRAND TOTAL (SUB-TOTAL A-E)				R
	VAT @15%				R
	GRAND TOTAL (INCLUDING VAT)				R

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PART C3: SCOPE OF WORK

Document reference	Title	No of page
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	Total number of pages	19

C3.1 EMPLOYER’S WORKS INFORMATION

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SECTION 1

1 Description of the *works*

1.1 Executive overview

The scope of work for this contract covers the delivery, supply, installation, and commissioning of new Uninterruptible Power Supply (UPS) units for the Port of Durban. The new UPS units will replace the existing UPS units that have reached their designed life span. The project will also include monitoring of UPS systems via remote monitoring software. Part C4 of the NEC 3 outlines the location of the UPS units that are included in this scope.

1.2 Employer's Objectives

The *Employer's* objective is to enter into an *Engineering Construction Contract* with the *Contractor* to decommission, remove and deliver to the PSS depot existing UPS units, supply, install and commission new Uninterruptible Power Supply (UPS) units for the Port of Durban.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
TNPA	Transnet National Ports Authority
UPS	Uninterruptible Power Supply
CCTV	Closed-Circuit Television
BBBEE	Broad Based Black Economic Empowerment
EMP	Environmental Management Plan
IP	Ingress Protection
CM	Construction Manager
DWG	Drawings
EO	Environmental Officer
HAW	Hazard Assessment Workshop
HAZOP	Hazard and Operability Study
HMI	Human Machine Interface
HSSP	Health and Safety Surveillance Plan
IR	Industrial Relations

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IPP	Industrial Participation Policy
QA	Quality Assurance
SANS	South African National Standards
SHE	Safety, Health and Environment
SIP	Site Induction Programme
SMP	Safety Management Plan

2 Scope of work

The scope of work includes but not limited to the following.

- a) Disconnection and decommissioning of existing UPS units and Battery cabinets as per bills of quantities (BOQ's)
- b) Supply, installation & commissioning of new UPS units and Battery cabinets as per bills of quantities (BOQ's). All supplied UPS units and Battery cabinets shall comply with the technical specification in Annexure A of the Works Information.
- c) The *Contractor* shall be responsible for the complete installation of the UPS systems and Battery cabinets together with relevant electrical controls, power circuitry and interconnecting cables.
- d) Supply and installation of all interconnecting cables within the UPS system including cables to the batteries, shall be installed by the *Contractor*.
- e) The Contractor shall issue a Certificate of Compliance (COC) for all UPS installations.
- f) The *Contractor* shall connect and configure the new UPS systems to monitoring software's for remote monitoring as detailed in this Scope of work and Technical Specifications. The UPS shall be monitored through two separate stations via SCADA and other software provided by the *Contractor*.
- g) All excess and discarded material shall be disposed of at a registered landfill site. The *Contractor must* ensure while working on site that the discarded material shall be placed in a suitable waste container or skip to avoid ground or water pollution.
- h) The *Contractor shall* compile and submit for the *Employer's* approval, a Safety Health and Environmental (SHE) File.
- i) All the works will be done in existing occupied operational areas and strict liaison with the *Project Manager* will always have to be done at agreed time to ensure minimal interruptions to any facilities.

3 Plant and Materials Standards

3.1. Quality of Plant and Material

- 3.1.1. The *Contractor* shall use plant and material which comply with the *Employer's* Standards specifications and quality requirements, and shall, if so ordered, furnish the *Project Manager* with certificates showing that the materials do so comply.
- 3.1.2. Where so specified, materials shall bear the official mark of the appropriate standard.
- 3.1.3. Samples ordered or specified shall be delivered to the *Project Manager's* office.
- 3.1.4. Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the published instructions of the relevant manufacturer.

3.2. Materials, Spares and consumables provided "free issue" by the Employer

- 3.2.1. The *Contractor* shall supply all the necessary equipment and material required to execute the *Works*. The *Employer* will not supply any materials, consumables and spares.

3.3. Contractor's procurement of Plant, Materials, Management of Inventory and Disposal of redundant Equipment and Spares

- 3.3.1. The *Contractor shall* make use of SANS approved tools, equipment and plants and material. Test certificates shall be given to the *Project Manager* on request.
- 3.3.2. The *Contractor* shall keep minimum levels of critical spares as agreed with *Project Manager* to avoid prolonged interruption of operations.
- 3.3.3. All spares held by the *Contractor* on behalf of the *Employer* shall be managed as per *Employer* inventory management policies and procedures. Monthly reports on inventory shall be submitted to the *Project Manager*.
- 3.3.4. The *Employer* remains the owner of all obsolete equipment, inventory and Material and the disposal of such shall be managed as per the *Employer* inventory management procedures. Redundant equipment shall be identified and handed to the *Project Manager*.
- 3.3.5. It is the right of the *Employer* to decide which equipment needs to be disposed.

3.4. Applicable Standards and Regulations

The supply and installation of UPS system shall comply with the following standards:

- a) The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
- b) SANS 62040 (Part 1- 3)-Uninterruptible Power Supply

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- c) The National Environmental Management Act, 1998 (Act No.107 of 1998)
- d) SANS 10142 of Wiring of premises, Part 1: Low-voltage installation
- e) COVID-19 Regulations and Guidelines

Note: The *Contractor* shall ensure compliance to the latest standards

4 Construction

4.1 Temporary works, Site services & construction constraints

4.1.1 *Employer's* Site entry and security control, permits, and Site regulations.

The Uninterruptible Power Supply units are to be installed in various areas of the Port of Durban which extends from Point to Bluff area. The main access to the port is via Quayside Road (Port of Durban entrance 3). Power Supplies and Services (PSS) depot shall provide access to the *Contractor* to areas where work needs to be conducted. The *Contractor* shall work in accordance to the PSS depot working hours i.e. weekdays 07:30 – 15:30 for easy access to site. The *Contractor* shall provide his own transport to site. The access provided to *Contractor* s include both vehicular and pedestrian access.

All *Contractor* personnel who will be working on this project shall undergo an induction conducted by TNPA representative before occupying TNPA premises. All *Contractor* personnel shall at all times wear their security ID card and uniform bearing their employer's name or colour code so as to be easily identifiable as being employed by the particular company concerned. The *Contractor* personnel shall adhere to all the standard operating procedures for TNPA security to ensure compliance to the applicable standards and regulations (e.g. International Ship and Port Facility Security (ISPS) Code).

The *Contractor* shall keep daily records of his/her people engaged on the Site and Working Areas (including Subcontractors) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

4.2 Health and safety facilities on Site

4.2.1 All health and safety matters associated with the *Works* shall be dealt with in accordance with Occupational Health & Safety Act, 1993 (Act No. 85 of 1993) and the Transnet National Ports Authority Health and Safety Specifications which will be attached to the Works Information.

4.2.2 The *Contractor* shall prepare, implement and administer the *Contractor's* Health and Safety Management Plan (CHSMP). The Health and Safety Management Plan must provide a systematic method of managing hazards and implementing control measures.

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- 4.2.3 The *Contractor* must prepare and submit the occupational health & safety file to the *Project Manager* for acceptance. The *Project Manager* will then submit the occupational health & safety to the TNPA Legal & Compliance Department for approval before the commencement of the *works*.
- 4.2.4 A pre-employment medical examination as well as exit medicals will be required. The medical examinations must be carried out by a registered Occupational Health Practitioner. All cost associated will be for the *Contractor*'s account and the *Contractor* shall price for it in the bill of quantities.
- 4.2.5 It is the *Contractor*'s responsibility to ensure that all its Sub-*Contractor*'s comply with the requirements of the Occupational Health & Safety Act, 1993 (Act No. 85 of 1993).
- 4.2.6 The *Contractor* performs the *works* and all construction activities within the Site and Working Areas in accordance with the *Contractor*'s Health and Safety Management Plan.

4.3 Title to Materials from demolition

- 4.3.1 The *Contractor* has no title to any materials arising from demolition in the performance of the works with title to such materials remaining with the *Employer*. The *Project Manager* shall instruct the *Contractor* how to label, mark, set aside and/or dispose of such materials for the benefit of the *Employer*.

4.4 Cooperating with and obtaining acceptance of others

- 4.4.1 The *Works* are required to be performed in an operational environment where TNPA employees will proceed with normal duties, during the installation of the new UPS units. The employees and end user will be notified to minimise disruptions. The *Contractor* shall liaise with the *Project Manager* in scheduling work and shall comply with all instructions.
- 4.4.2 The *Contractor* performs the *Works* and co-operates with the *Employer* who operates on site during the entire duration of the *Contract* period.
- 4.4.3 The *Contractor* performs the *Works* and co-operates with others, of whom the *Contractor* is to be notified once appointed by the *Employer*, who operate on Site during the entire duration of the *Contract* period.

4.5 Contractor's Equipment

- 4.5.1 The *Contractor* keeps daily records of his Equipment used on Site and the Working Areas (distinguishing between owned and hired Equipment) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

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4.5.2 All Equipment used by the *Contractor* on site shall be properly maintained and operated. All vehicles on public roads shall be roadworthy, with the necessary licences and safety requirements.

4.5.3 The *Contractor* complies with the following:

The *Contractor* shall supply all necessary materials, transport, labour, tools, plant, PPE, demarcating signage as per the latest construction regulation for proper completion of the works.

4.6 Equipment provided by the *Employer*

4.6.1 No Equipment shall be provided by the *Employer*.

4.7 Site services and facilities:

4.7.1 No facilities shall be provided by the *Employer*. The *Contractor* may make the necessary arrangements with the relevant Transnet *Supervisor* to make use of ablution facilities that might be on or near the site.

4.7.2 The *Contractor* shall make his own arrangements for provision of telephones on Site at his own cost, should the *Contractor* deem it necessary.

4.8 Facilities provided by the *Contractor*:

4.8.1 No facilities shall be required for this project.

4.9 Existing premises, inspection of adjoining properties and checking work of Others

4.9.1 The *Contractor* will be held responsible for any damage to existing structures and surfacing caused by the *Contractor* during the execution of the contract; fair wear and tear excluded and shall be repaired to the satisfaction of the *Supervisor* on conclusion of the *works*. For this purpose, a joint inspection with the *Supervisor* will be carried out prior to occupation of the site(s) and any existing damage noted. A post-inspection to note any damages caused by the *Contractor* during the execution of the works will also be carried out.

4.10 Control of noise, dust, water and waste

4.10.1 Before moving Equipment onto the Site and Working Areas and commencing operations, the *Contractor* shall submit his proposed methods of construction which demonstrate the measures taken to avoid and or reduce any nuisance arising from dust, noise and vibration for acceptance by the *Project Manager*.

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4.11 Completion, testing, commissioning and correction of Defects

4.11.1 The *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 required which is to be done before the Completion Date and in any case before the dates stated.
- On completion of the tests, a full test report shall be issued. The report shall contain all measurements and results for the test.
- The *Project Manager* cannot certify Completion until all the work required has been 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.

4.11.2 The *Contractor* is permitted to carry out the following *works* after Completion:

Repair defects identified within the guarantee/warranty period.

4.11.3 Use of the *works* before Completion has been certified

Employer will not use any part of the works before Completion

4.11.4 Materials facilities and samples for tests and inspections

The *Contractor* shall provide all the materials facilities and samples required to complete the works.

4.11.5 Start-up procedures required to put the *works* into operation

In order to put the works into operation the *Employer* shall require the *Contractor* to conduct all the tests and commissioning activities required. The *Project Manager* in conjunction with the *Contractor* shall conduct inspections before the *Contractor* is allowed to put on works into operation. Works will only be put into operation, when all the performance tests has been witnessed by the *Project Manager* and all compliance certificates has been issued.

4.11.6 Access given by the *Employer* for correction of Defects

The *Employer* shall allow the *Contractor* to access and use of a part of the works, which has been taken over if needed to correct a Defect.

4.11.7 The *Contractor* complies with the following constraints and procedures of the *Employer* where the *Project Manager* arranges access for the *Contractor* after Completion:

The *Employer* impose the same Site access / egress restrictions as communicated elsewhere under *Employer's* Works Information at the starting date / access date stated under Contract Data.

4.11.8 Performance tests after Completion

The *Contractor* will be required to perform tests to the equipment after completion of works.

4.11.9 Training and technology transfer

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Where applicable, the *Employer* requires the *Contractor* to provide training in the use and maintenance of the works or any associated transfer of technology from him to the *Employer's* representatives.

4.12 Take over procedures

- 4.12.1 The Employer may take over the completed section of the works before the Completion Date. The Employer shall take over the works once the works has been tested and commissioned.
- 4.12.2 The Contractor ensures that the documentation as described under paragraph 4.13 is presented to the Project Manager by the Completion Date.
- 4.12.3 The Contractor ensures that the Project Manager has a full and accurate dossier of As-built documents that represent the status of the completed works to present to the Employer.

4.13 As-built drawings, operating manuals and maintenance schedules

The *Contractor* provides the following:

4.13.1 As Built/ Final Documentation

- In Providing the Services (including all incidental services required), the *Contractor* shall conform and adhere to the requirements of the *Employer's* Document Submission.
- As-Built drawings to be signed off by the Construction Manager and a TNPA representative.
- The *Contractor* will prepare the final As-Built drawings within 14 days of receiving the accepted red line drawings from the *Employer*.

4.13.2 Installation, Maintenance and Operating Manuals and Data Books

All maintenance, fault localising and operating manuals shall be submitted to the *Project Manager* at handover. The *Contractor* issue the manuals in both hardcopy and electronic copy.

4.13.3 The required number of copies of the manual (s) shall be as specified by the Employer and submitted per type or model number of equipment included in the contract, or as specified by the Project Manager.

4.13.4 A typical example of what the binder/file (s) shall be marked with on the spine and the front cover is as follows: -

Project Name

Manual Title, e.g. Installation, Maintenance and Operating Manual

FBS/WBS No. and Title

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Manual Numbering (e.g. Volume 1 of 2, etc.)

Contract Number/Package No.

Contractor Name

Unless otherwise stated, the required number of copies of all As Built/Final/Data Packs shall be:

3 x hard copies

3 x USB with Adobe Acrobat (.pdf) and "Native" formats

5 Electrical & Mechanical engineering works and Workmanship

5.1 Electrical & mechanical engineering works

This section shall be read in conjunction with the Technical Specifications in Annexure A.

- 5.1.1 The Contractor shall be responsible for the disconnection and decommission of the existing UPS systems and Battery cabinets.
- 5.1.2 The Contractor shall supply, install & commission the new UPS units and Battery cabinets as per bills of quantities (BOQ's). All supplied UPS units and Battery cabinets shall comply with the technical specification in Annexure A of the Works Information.
- 5.1.3 All UPS units shall be sized as per the BOQ.
- 5.1.4 The tenderer shall calculate the battery sizes required to achieve the specified backup time for each UPS and indicate the sizes of the batteries and battery cabinet on the BOQ.
- 5.1.5 The *Contractor* shall be responsible for the complete installation of the UPS systems and Battery cabinets together with relevant electrical controls, power circuitry and interconnecting cables.
- 5.1.6 The *Contractor* shall install interconnecting cables within the UPS system including cables to the batteries.
- 5.1.7 The *Contractor* shall connect to the existing cabling from the electrical sub-distribution board supplying the UPS system. Should the existing cable be damaged, the *Contractor shall* advise the *Project Manager* who will give approval upon condition assessment.
- 5.1.8 The *Contractor* shall conduct all configurations required for remote monitoring UPS systems. The UPS units shall be monitored by two different software's that will be installed in two separate monitoring stations (i.e., Port Engineering monitoring station and Security monitoring station). The Port Engineering station shall monitor UPS through SCADA software which is our existing software, and each UPS unit shall have a network management card that shall be used for connecting the UPS to LAN through an Ethernet port to broadcast

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information about the UPS status to SCADA. The communication protocol for the network management card shall be Modbus TCP/IP over ethernet.

The Security monitoring station shall be monitored using software supplied by the *Contractor*. The *Contractor* shall supply, install and configure a supervisory software that shall manage multiple (i.e., more than seventy) UPS's using network management card. The *Contractor* shall determine the suitable software for the provided UPS's, the software shall be able to control and monitor the UPS as outlined in the Technical Specifications.

- 5.1.9 The *Contractor* shall supply, install and configure network management card and remote monitoring computers.
- 5.1.10 Supply and install RJ45 CAT 6 cables connecting to each UPS unit.
- 5.1.11 The *Contractor* shall conduct all the necessary functional and performance tests during commissioning of each UPS
- 5.1.12 Energizing of each UPS shall be conducted as per the manufacturer's requirement which will outline the step-by step start-up procedures.
- 5.1.13 Commissioning of the equipment shall include but not be limited to:
- a) Energizing and starting the UPS.
 - b) Switching from normal to bypass operation.
 - c) Switching from bypass to normal operation.
 - d) Switching over to manual bypass.
 - e) Switching from bypass to normal operation.
 - f) Isolating and de-energizing the UPS. The *Contractor shall* conduct all the necessary functional and performance tests during commissioning of each UPS
- 5.1.14 Issue Certificate of Compliance (COC) for all electrical installations undertaken.
- 5.1.15 The *Contractor* shall be responsible for developing a Preventive Maintenance Plan (PMP) that will detail all the necessary maintenance requirements and frequency (interval) that is necessary to ensure continued safe and reliable operation of the UPS.

5.2 Workmanship

- 5.2.1 The *Contractor* shall make good, to the satisfaction of the *Project Manager*, defective material and/or workmanship which is not in accordance with this *Works Information*, and which may appear within a period of 12 months from the date of acceptance of the work, and shall repair all damage caused thereby, free of charge.

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- 5.2.2 The *Contractor* shall protect the items covered under this Contract against vandalism, misuse and accidental damage.
- 5.2.3 The *Contractor* shall ensure that he has sufficient spares, materials, and employed staff to plan and execute the services required by the *Employer* as per the Works Information.
- 5.2.4 All workmanship, parts, equipment, or materials furnished for this Contract shall be unconditionally warranted against failures or defects for a period of 2-years.
- 5.2.5 Working of overtime is not intended on this Contract, and no overtime will be paid in respect of normal service.

5.3 Preventative Maintenance Plan

- 5.3.1 A *Contractor* shall be responsible for developing a Preventive Maintenance Plan (PMP) that will detail all the necessary maintenance requirements and frequency (interval) that is necessary to ensure continued safe and reliable operation of the UPS.

6 List of Drawings and Specifications

6.1 Drawings issued by the *Employer*

No drawings will be issued by the *Employer* to the *Contractor*. Annexure A is a Technical Specification provided by the *Employer*.

7 Management and Start-Up

7.1 Safety risk management

All Occupational Health and Safety Act Regulations pertaining to the work being carried out must be adhered to. The *Contractor* shall be responsible for the precautions and measures to ensure the health and safety of all individuals on the Site and temporary areas (if applicable) outside of the Site, but utilised by the *Contractor*, with the prior approval of the *Employer*.

The *Employer's* employees and *Contractor s* (including their employees) shall at all times be supervised by a competent *Supervisor* appointed in writing in terms of the regulations of the Occupational Health and Safety Act and made aware of his responsibilities.

The *Contractor* shall adhere to all the Health and Safety requirements as stipulated on the *Employer's* Health and safety specification.

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7.1.1 The Contractor is required to submit a Safety, Health and Environmental (SHE) file to the risk department for assessment and approval. SHE File is to be kept on site at all times. The file must contain amongst others the following (*Contractor's* Obligation):

- Principal Contractor s/Contractor s Organogram
- Letter of Good Standing with Compensation Fund
- General Liability Insurance (Summary of Policy)
- Notification Letter of Construction Work ~ Department Of Labour (If Applicable)
- Appointments (Inclusive of legal appointments)
- *Contractor* Induction: Employees and Visitors
- Principal Contractor 's SHEQ Policy
- Health & Safety Plan
- Fall Protection Plan inclusive of Fall Protection Risk assessment (If Applicable)
- Risk Assessments (inclusive of action plan to manage controls)
- Method Statements
- Safe Operating Procedures
- Incidents / Accidents Register and Investigation Report Template
- Emergency Contact Telephone Numbers
- Contractor Site Emergency Plan (For Site establishment)
- Documented Proof of Daily Toolbox Safety Talks/ DSTI
- Inspections Checklist
- All Registers
- Welfare Facilities arranged
- Electrical Compliance (COC) (If Applicable)
- Mandatory Agreement (TIMS Section 37(2) Agreement)

The *Contractor* shall include the following COVID-19 requirements on the SHE file:

- COVID-19 Risk assessment
- COVID-19 Risk assessment Action plan
- *Contractor* COVID-19 induction Training
- COVID-19 Communication plan (Attendance registers DOL Directive 479, Risk assessment, etc.)
- Appointment of COVID-19 Manager/Representative
- COVID-19 Operational Plan (include Return to work questionnaire, COVID-19 Reporting and investigation procedure, social distancing, Symptom screening procedure, sanitizing and disinfecting procedures, Cloth masks and other PPE, Measures in respect of workplaces to which public have access, Ventilation, Hygiene

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and cleaning measures and Waste Management, and not limited to the above specifications).

- COVID-19 Registers and Checklists

Contractor shall be responsible for the supply and use of the following PPE:

- SABS approved Safety Protective and Occupational Footwear,
- SABS approved Acoustics - Hearing Protection,
- Eye protection - glasses, goggles and face shields as required,
- SABS approved Occupational Protective Helmets,
- Full length work clothes, long sleeved and long pants on the berth areas,
- Life jackets if working within 2m of the quay edge,
- Any specialized protective clothing which is standard work practice as referred to in their Contract.
- SABS approved and calibrated gas meters for confined spaces.

Risk Specialist will be responsible for assisting the Project Manager with health and safety related issues. Monitoring risks and updating the risk register.

7.2 Environmental constraints and management

The *Contractor* complies with the following Environmental Management requirements:

- i) The *Contractor* shall identify the kinds of environmental impacts that will occur as a result of his activities and then prepare separate method statements describing how each of those impacts will be prevented or managed so that the standards set out in this document are achieved.
- ii) The *Contractor* shall submit an Environmental Management Plan (EMP) to be included in a SHE File. The EMP must include, but not limited to the following sections detailing the environmental risks/possible impacts and management controls (mitigation measures) pertaining to the risks listed in the section:
 - Site establishment including Contractor's site camp.
 - Protection of sensitive/no-go areas.
 - Management of hazardous chemicals and flammable substances.
 - Pollution control & Spill response.
 - Waste Management.
 - Environmental education and awareness.
 - Protection of marine species and birds
 - Removal of project waste and debris from the marina waters.

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- Decommissioning of site camp.
 - Monitoring and auditing and
 - Record keeping.
- iii) The *Contractor* performs the *works* and all construction activities within the Site and Working Areas having due regard to the environment and to environmental management practices as more particularly described in *Employer’s Plan*.
- iv) The *Contractor* shall ensure that his management, foremen and the general workforce, as well as all suppliers and visitors to Site have attended the Induction Programme prior to commencing any *work* on Site. If new personnel commence work on the Site during construction, the *Contractor* shall ensure that these personnel undergo the Induction Programme and are made aware of the environmental specifications on Site.
- v) The *Contractor* shall ensure that any Materials delivery drivers are informed of all procedures and restrictions (e.g. which access roads to use, no go areas, speed limits, noise, etc.) required by the EMP before they arrive at Site and off load any Materials.
- vi) The *Contractor* shall clear and clean the Site and Working Areas and ensure that everything not forming part of the *works* is removed from the Site and Working Areas and that all rehabilitation has taken place in accordance with the Environmental plan. The *Contractor* is responsible for the removal from Site of all waste generated through the *Contractor ’s* activities.
- vii) The *Contractor* shall ensure that all waste is removed to appropriate licensed waste management facilities. The classification of waste determines handling methods and the ultimate disposal of the Material. The *Contractor* shall manage hazardous wastes that are anticipated to be generated by his operations as follows: Characterise the waste to decide if it is general or hazardous, Obtain and provide an acceptable container with label , Place hazardous waste material in container, Inspect the container on a regular basis as prescribed by the *Contractor ’s* waste environment management plan , Track the accumulation time for the waste, Haul the full container to the disposal Site and Provide documentary evidence of proper disposal of the waste.

EXAMPLE OF CONSTRUCTION WASTE CLASSIFICATION

WASTE	CLASSIFICATION	
	HAZARDOUS	NON-HAZARDOUS
Clean soil		X

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Construction debris contaminated by oil or organic compounds	X	
Empty drums (depends on prior use)	X	X
Empty paint and coating containers		X
Waste paint and/or solvent	X	
Waste oil	X	
Phenolic waste	X	
Waste concrete		X
Rubble (not contaminated by oil or organic compounds)		X
Waste containing appreciable properties of fibrous asbestos	X	
Sewerage sludge	X	
Scrap metal		X
Explosive waste	X	
Waste timber		X
Waste Cable		X
PCB waste	X	
Waste plastic		X
Aerosol containers	X	
Batteries, light bulbs, circuit boards, etc.	X	X
<i>Domestic waste</i>		X

The *Contractor* shall be responsible for the management of Hazardous Materials. Prior to bringing any Hazardous Material required to carry out the work, the *Contractor* shall submit an MSDS to the *Employer's* Occupational Hygienist or Environmental Specialist. Hazardous Material shall not be brought into the premises until authorization is given by *Employer*. The *Contractor* shall dispose the Printed Circuit Board and batteries accordingly.

The work will not be deemed to be complete unless the site is cleared to the satisfaction of the Engineer. Burying of discarded material will not be tolerated. All relevant legislation pertaining "WASTE" must be adhered to.

- viii) The *Contractor* shall comply with the regulations of the Water Act (Act 36 of 1998), the *Hazardous Substances Act* (Act 115 of 1973), and the *Environment Conservation Act*

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(Act 73 of 1989). The *Contractor* shall provide details for approval of its spill response plan in the event of any spills of fuel, oils, solvents, paints or other hazardous Materials.

The plan will show measures to be taken to remove contaminated soils from Site and demonstrate complete removal of contamination.

7.3 Documentation control

7.3.1 All documents will be delivered to the *Project Manager* with a proof of transmittal. Copies of all correspondence, specifications, drawings, contracts, agreements, data sheets, minutes of meetings, Employers urgent instructions, invoices, payment certificates, access certificates, quality and any variations (compensation events or project change notices) will be filed and archived in the project folder by the Project Manager.

7.3.2 A document register will also be developed to capture incoming and outgoing documents. All documents issued to 3rd Party Contractor s and to the Employer must be submitted through the Project Manager.

7.3.3 All documentation shall become and remain the property of the *Employer*. Title to all information, inventions and improvements disclosed to the *Employer* by the *Contractor* under the Contract will become the property of the *Employer*.

7.4 Contractor 's management, supervision and key people

7.4.1 The *Contractor* shall provide an Organogram of all his key people (both as required by the Employer and as independently stated by the *Contractor* under Contract Data Part Two) and how such key people communicate with the Project Manager and the Supervisor and their delegates all as stated in the Employer's Works Information.

7.4.2 Within One (1) month of notification of acceptance of the tender, the *Contractor shall* submit a Schedule Plan to the *Employer* for approval and acceptance.

7.4.3 The *Contractor* or its duly authorised representative shall be required to attend monthly SHE and Project progress meetings with the *Employer* or his delegate (*Project Manager*). The *Employer* will ensure that Minutes and Records of the meeting are made available to the *Contractor* within (7) working days.

7.4.4 The *Contractor* shall further ensure that all workmen are fully aware of the conditions and requirements of this Contract and shall furnish all workmen with copies of all relevant Standard Specifications and Regulations.

7.5 Sub-Contracting

Subcontractors shall only be permitted to work after written agreement is provided between principal *Contractor* and subcontractor. *Contractor s* shall ensure their sub-Contractor s and their

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sub-Contractor 's officers; employees and agents performing work activities in the Port of Durban first attend the appropriate TNPA Induction.

Where the *Contractor* employs a Sub-Contractor who constructs or installs part of the works or who supplies Plant and Materials for incorporation into the works which involves a *Sub-Contractor* operating on the Site and/or Working Areas, then the *Contractor* ensures that any such Sub-Contractor complies with the *Employer's* Health and Safety specification as appropriate and that the subcontract documentation places back-to-back obligations on the Sub-Contractor which reflect the Contractor 's obligations under the Employer's specification all within the Contractor 's Quality Management System of the Works Information.

All Contractor s are fully accountable for the total performance of their sub-Contractor s and for ensuring that their sub-Contractor personnel are, and remain, fully trained and capable to perform their intended work.

8 Annexures

Annexure A- Technical Specification

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PART C4: SITE INFORMATION

Document reference	Title	No of pages
	This cover page	1
	Site Information	2-6
	Total number of pages	6

PART 4: SITE INFORMATION

1. Description of the Site and its surroundings

1.1. General description

The Port Durban consists of Uninterruptible Power Supply units that are mainly used to provide continuous power to CCTV cameras and data storage servers such as the Security Centre, Ports online, TNPA SAP system, and Engineering data storage servers. The *Works* included under this contract covers the requirements for the Port of Durban (TNPA) for the supply, delivery, installation, and commissioning of Uninterruptible Power Supply (UPS) units in the Port of Durban.

All Tenderers shall attend the site briefing at the Queens Warehouse building to familiarize himself/herself with the nature of the work, the conditions under which the work is to be performed, and the means of access to the site, any limitations or other authorities. The Queens Warehouse Building is located at 237 Mahatma Gandhi Road, Point, Durban

The picture below indicates the site where work shall be carried out.



Figure 1: Overview of the Port of Durban Precinct

The *Contractor* must comply with the following requirements of the *Employer*:

- All *Contractor's* personnel who will be working on this project shall undergo an induction conducted by TNPA representative before occupying TNPA premises.
- All *Contractor's* personnel shall at all times carry their Induction cards and wear their uniform bearing their employer's name or colour code so as to be easily identifiable as being employed by the particular company concerned.
- The *Contractor* personnel shall adhere to all the standard operating procedures for TNPA security as per safety induction conducted.
- The *Contractor* personnel shall ensure compliance with National Ports Act and Port Rules.
- The Contractor shall adhere to the stipulated speed limits within the Port areas including the Island View site. The speed limit is strictly 30 km/h and reduces to 20 km/h in certain operational areas.

1.2. Existing buildings, structures, and plant & machinery on the Site

As built drawing for buildings will be provided to the *Contractor* "as and when" required. The areas to be covered through this contract includes (not limited) to the Port of Durban administrative buildings, security huts, and substations. Table 1 below indicates the various sites where all the Port of Durban UPS systems are installed.

Table 1: Schedule of sites and sizes of UPS units

Item	Location	UPS Size	Recommended IP rating	Department
1	OTB Substation	3 kVA	IP 31	Port Engineering
2	DHI 33 kV Substation	5 KVA	IP 31	Port Engineering
3	Pier 2 Main 11 kV Substation	3 kVA	IP 31	Port Engineering
4	Pier 2 Main 33 KV Substation	3 kVA	IP 31	Port Engineering
5	Fynnland Substation	3 kVA	IP 31	Port Engineering
6	Millennium Tower (A/C Plant Room)	10 kVA	IP 31	Port Engineering
7	Power Supplies Depot-Sandbypass	3 kVA	IP 20	Port Engineering

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8	Power Supply – Pier 1 workshop DB	10 kVA	IP 31	Port Engineering
9	Fire Department– JBS Building	5 kVA	IP 20	Port Engineering
10	Dredging Services	5 kVA	IP 20	Security
11	C-Gate	5 kVA	IP 54	Security
12	Bay Terrace	5 kVA	IP 20	Security
13	Durmarine	5 kVA	IP 20	Security
14	N-Shed	5 kVA	IP 20	Security
15	Berthing	5 kVA	IP 20	Security
16	Tug Jetty	5 kVA	IP 54	Security
17	Marine	5 kVA	IP 20	Security
18	Maydon Wharf	5 kVA	IP 54	Security
19	M/W Security Centre	5 kVA	IP20	Security
20	Building & Marine	5 kVA	IP 20	Security
21	Shop 24 Area 1	5 kVA	IP 54	Security
22	Shop 24 Area 2	5 kVA	IP54	Security
23	Shop 24 Area 3	5 kVA	IP54	Security
24	Shop 24 Area 4	5 kVA	IP54	Security
25	Shop 24 Area 5	5 kVA	IP54	Security
26	Ship Repair	5 kVA	IP20	Security
27	CCTV Kiosk	5 kVA	IP20	Security
28	Light House Bayhead	5 kVA	IP20	Security
29	School of Port	5 kVA	IP20	Security
30	Kings Rest	5 kVA	IP20	Security
31	Fire Station	5 kVA	IP20	Security
32	New Pier Security Centre	5 kVA	IP20	Security
33	Power Supplies-Control room	5 kVA	IP20	Security
34	Light House Island View	5 kVA	IP20	Security
35	Millennium Tower Ground floor	3 kVA	IP20	Security
36	South Pier Kiosk	5 kVA	IP54	Security
37	Pier 1	5 kVA	IP54	Security
38	Pier 2 No1	5 kVA	IP54	Security
39	Pier 2 No2	5 kVA	IP54	Security
40	Pier 2 No3	5 kVA	IP54	Security

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41	Stanger Street 6.6 kV Substation	5 kVA	IP31	Port Engineering
42	School of Ports	40 kVA	IP31	Port Engineering
43	DHI 6.6 kV Substation	5 kVA	IP31	Port Engineering
44	Allan Dalton 6.6 kV Substation	5 kVA	IP31	Port Engineering
45	Allan Dalton Control Room	20 kVA	IP31	Port Engineering
46	Sandby Pass Substation	3 KVA	IP31	Port Engineering
47	Sandby Pass Substation	3 KVA	IP31	Port Engineering
48	DHI 33 kV Substation	5 kVA	IP31	Port Engineering
49	Millennium Tower – Bluff	10 KVA	IP20	Port Engineering
50	CFI, Island View Berth 1	10 KVA	IP31	Port Engineering
51	CFI, Island View Berth 1	10 KVA	IP31	Port Engineering
52	CFI, Island View, Berth 8	5 KVA	IP54	Security
53	Cato Creek	5 kVA	IP54	Security
54	OTB Basement Comms Room	15 kVA	IP 20	Security
55	OTB Security Centre 2	15 kVA	IP 20	Security
56	OTB Security Centre 1	20 kVA	IP 20	Security
57	Ocean Terminal building	80 kVA	IP 20	Port Engineering
58	Ocean Terminal building	80 kVA	IP 20	Port Engineering
59	Queens Warehouse	80 kVA	IP 20	Port Engineering
60	Queens Warehouse	80 kVA	IP 20	Port Engineering
61	Old International Airport	100 KVA	IP 20	Port Engineering
62	Maydon Wharf Gate 1	5 KVA	IP 20	Port Engineering
63	Maydon Wharf Gate 2	5 KVA	IP 20	Port Engineering
64	Maydon Wharf Gate 3	5 KVA	IP 20	Port Engineering
65	Maydon Wharf Gate 4	5 KVA	IP 20	Port Engineering
66	Maydon Wharf Gate 5	5 KVA	IP 20	Port Engineering
67	Maydon Wharf Gate 6	5 KVA	IP 20	Port Engineering
68	Maydon Wharf Gate 7	5 KVA	IP 20	Port Engineering
69	Maydon Wharf Gate 8	5 KVA	IP 20	Port Engineering
70	New Bay Terrace	100 kVA	IP 20	Port Engineering

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1.3. Hidden services

The areas where works need to be conducted consist of underground services such as water pipes and electrical cables. The contractor should ensure that he/she does not damage any nearby services such as electrical cables and pipes. The contractor shall be liable for repairing the damaged existing services inclusive of any associated arrangements.