



Transnet Property

Tender Number: XXX

Description of the Works: SUPPLY, DEVELOPMENT, INSTALLATION, TESTING AND COMMISSIONING OF THE NATIONAL SMART METERING SYSTEM FOR THE ELECTRICITY AND WATER AT TRANSNET PROPERTY

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option A	
C2.2	Activity Schedule	
C2.3	Labour Rates for Ad-hoc Works	



C2.1 Pricing Instructions: Option A

The *conditions of contract*

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

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

Identified and defined terms

- 11 (20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract.
- 11.2 (22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.
- (27) The Price for Work Done to Date is the total of the Prices for
- each group of completed activities and
 - each completed activity which is not in a group
- A completed activity is one which is without Defects which would either delay or be covered by immediately following work.
- (30) The Prices are the lump sums for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

1.2. Measurement and Payment

- 1.2.1 The Activity Schedule provides the basis of all valuations of the Price for Work Done to Date, payments in multiple currencies, price adjustments for inflation and general progress monitoring.
- 1.2.2 The amount due at each assessment date is based on **completed activities and/or milestones** as indicated on the Activity Schedule.
- 1.2.3 The Activity Schedule work breakdown structure provided by the *Contractor* is based on the Activity Schedule provided by the *Employer*. The activities listed by the *Employer* are the minimum activities acceptable and identify the specific activities which are required to achieve Completion. The activity schedule work breakdown structure is compiled to the satisfaction of the *Project Manager* with any additions and/or amendments deemed necessary.
- 1.2.4 The *Contractor's* detailed Activity Schedule summates back to the Activity Schedule provided by the *Employer* and is in sufficient detail to monitor completion of activities related to the Accepted Programme in order that payment of completed activities may be assessed.



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- 1.2.5 The short descriptions in the Activity Schedule are for identification purposes only. All work described in the Works Information is deemed included in the activities.
- 1.2.6 The Activity Schedule is integrated with the Prices, Accepted Programme and where required the forecast rate of payment schedule.
- 1.2.7 Activities in multiple currencies are separately identified on both the Activity Schedule and the Accepted Programme for each currency.
- 1.2.8 The tendered total of the prices as stated in the Contract Data is obtained from the Activity Schedule summary. The tendered total of the prices includes for all direct and indirect costs, overheads, profits, risks, liabilities and obligations relative to the Contract.



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C2.2 Activity Schedule

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

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

1. SMART METERING HARDWARE SUPPLY, DEVELOPMENT, DELIVERY, INSTALLATION, TESTING & COMMISSIONING					
NO	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE	ACTIVITY PRICE
1.1	Site Establishment and de-establishment	Sum		R	R
1.2	Northern Region – Metering Points Site assessments				
1.2.1	Energy Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	114	R	R
1.2.2	Water Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	103	R	R
1.3	Eastern Region – Metering Points Site assessments				
1.3.1	Energy Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	202	R	R
1.3.2	Water Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	196	R	R

1.4	Western Region – Metering Points Site assessments				
1.4.1	Energy Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	114	R	R
1.4.2	Water Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	106	R	R
1.5	KZN Region – Metering Points Site assessments				
1.5.1	Energy Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	67	R	R
1.5.2	Water Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	63	R	R
1.6	Inland Region – Metering Points Site assessments				
1.6.1	Energy Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	111	R	R
1.6.2	Water Metering Points new meter specification confirmation, infrastructure readiness, and cellular coverage	Each	91	R	R



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1.7	<i>Provisional Sum for installations relating to the upgrade of existing infrastructure</i>	<i>Sum</i>	<i>1</i>	<i>R 1 000 000.00</i>	<i>R 1 000 000.00</i>
1.8	Design, Development, and deployment of Smart Metering IoT Azure Solution				
1.8.1	Backend Development of IoT Solution	Each	1	R	R
1.8.2	Frontend Development of IoT Solution	Each	1	R	R
1.8.3	Onboarding of Smart Meters to IoT Solution	Each	1167	R	R
1.8.4	Software Testing and Commissioning	Sum	1	R	R
1.9	Supply, Delivery, Installation, Testing & Commissioning of Smart Energy Meters for EPC Buildings - price according to 3-phase LV applications 400V, $V_{max} = 400 V_{RMS}$, $I_{max} > 100 A_{RMS}$ with enclosures, CT's and any required peripherals, and full installation, testing and commissioning.				
1.9.1	KZN Region	Sum	4	R	R
a.	Smart Energy Meter	Each	4	R	R
b.	Current Transformers	Each	4	R	R
c.	Enclosures	Each	4	R	R
d.	Certificate of Compliance	Each	4	R	R
1.9.2	Western Cape Region	Sum	8	R	R
	Smart Energy Meter	Each	8	R	R
	Current Transformers	Each	8	R	R
	Enclosures	Each	8	R	R
	Certificate of Compliance	Each	8	R	R
1.9.3	Inland Region	Sum	10	R	R
	Smart Energy Meter	Each	10	R	R
	Current Transformers	Each	10	R	R
	Enclosures	Each	10	R	R
	Certificate of Compliance	Each	10	R	R
1.9.4	Northern Region	Sum	11	R	R
	Smart Energy Meter	Each	11	R	R
	Current Transformers	Each	11	R	R



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	Enclosures	Each	11	R	R
	Certificate of Compliance	Each	11	R	R
1.9.5	Eastern Cape Region	Sum	6	R	R
	Smart Energy Meter	Each	6	R	R
	Current Transformers	Each	6	R	R
	Enclosures	Each	6	R	R
	Certificate of Compliance	Each	6	R	R
1.10	Supply, Delivery, Installation, Testing & Commissioning of Smart Energy Meters at Bulk Electricity Supply Points (60 Commercial Accounts, 14 Residential Accounts) - price according to 3-phase MV applications $V_{max} = 11 \text{ kV}_{RMS}$, $I_{max} = 800 \text{ A}_{RMS}$ with enclosures, CT's, VTs and any required peripherals, and full installation, testing and commissioning. * (1) 3-phase 33kV meter required in KZN only				
1.10.1	KZN Region	Sum	13	R	R
a.	Smart Energy Meter – 11kV	Sum	12	R	R
b.	Current Transformers – 11kV	Each	12	R	R
c.	Voltage Transformers – 11kV	Each	12	R	R
d.	Enclosures – 11kV	Each	12	R	R
e.	Certificate of Compliance – 11kV	Each	12	R	R
f.	Smart Energy Meter –33kV	Sum	1	R	R
g.	Current Transformers –33kV	Each	1	R	R
h.	Voltage Transformers –33kV	Each	1	R	R
i.	Enclosures –33kV	Each	1	R	R
j.	Certificate of Compliance –33kV	Each	1	R	R
1.10.2	Western Cape Region	Sum	12	R	R
	Smart Energy Meter – 11kV	Each	12	R	R
	Current Transformers	Each	12	R	R
	Voltage Transformers	Each	12	R	R
	Enclosures	Each	12	R	R
	Certificate of Compliance	Each	12	R	R
1.10.3	Inland Region	Sum	25	R	R
	Smart Energy Meter – 11kV	Each	25	R	R
	Current Transformers	Each	25	R	R
	Voltage Transformers	Each	25	R	R
	Enclosures	Each	25	R	R
	Certificate of Compliance	Each	25	R	R
1.10.4	Northern Region	Sum	13	R	R
	Smart Energy Meter – 11kV	Each	13	R	R



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	Current Transformers	Each	13	R	R
	Voltage Transformers	Each	13	R	R
	Enclosures	Each	13	R	R
	Certificate of Compliance	Each	13	R	R
1.10.5	Eastern Cape Region	Sum	11	R	R
	Smart Energy Meter – 11kV	Each	11	R	R
	Current Transformers	Each	11	R	R
	Voltage Transformers	Each	11	R	R
	Enclosures	Each	11	R	R
	Certificate of Compliance	Each	11	R	R
1.11	Supply, Delivery, Installation, Testing & Commissioning of Smart Energy Meters at Tenant Points of Supply - price according to 3-phase LV applications 400V, $V_{max} = 400 V_{RMS}$, $I_{max} > 100 A_{RMS}$ with enclosures, CT's and any required peripherals, and full installation, testing and commissioning.				
1.11.1	KZN Region	Sum	123	R	R
	Smart Energy Meter	Each	123	R	R
	Current Transformers	Each	123	R	R
	Enclosures	Each	123	R	R
	Certificate of Compliance	Each	123	R	R
1.11.2	Western Cape Region	Sum	59	R	R
	Smart Energy Meter	Each	59	R	R
	Current Transformers	Each	59	R	R
	Enclosures	Each	59	R	R
	Certificate of Compliance	Each	59	R	R
1.11.3	Inland Region	Sum	140	R	R
	Smart Energy Meter	Each	140	R	R
	Current Transformers	Each	140	R	R
	Enclosures	Each	140	R	R
	Certificate of Compliance	Each	140	R	R
1.11.4	Northern Region	Sum	63	R	R
	Smart Energy Meter	Each	63	R	R
	Current Transformers	Each	63	R	R
	Enclosures	Each	63	R	R
	Certificate of Compliance	Each	63	R	R
1.11.5	Eastern Cape Region	Sum	110	R	R
	Smart Energy Meter	Each	110	R	R
	Current Transformers	Each	110	R	R
	Enclosures	Each	110	R	R



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	Certificate of Compliance	Each	110	R	R
1.12	Pricing to include Supply, Delivery, Installation, box excavation in all materials including compaction and disposal of surplus material, Concrete works, Testing & Commissioning of Below Ground Smart Check Water Meters at Bulk Water Supply Points (50 Commercial Accounts, 14 Residential Accounts) – pricing to assume DN 150mm Installation				
1.12.1	KZN Region	Sum	13	R	R
	Smart Bulk Water Meter	Each	13	R	R
	Sum to assume DN 150mm Below Ground Installation priced per Drawing TP/DWG.01 - Installation items and pipe fittings complete with nuts, gaskets seals and corrosion protection per Steel Pipe Fittings and Items List, Sectional Plan and Elevation measurements - Drawing TP/DWG.01 - Construct complete 1650mm x 1750mm x 680mm Face brick below ground chamber - Chamber fitted with 100mm roof slab with Ref: 395 reinforcement mesh and SECUREX 2A lockable ductile iron manhole cover 75mm floor slab with Ref: 395 reinforcement mesh with thick stone carpet - Allow for excavation in all materials for 2000mm trenches backfill, compact and dispose of surplus material. Excavation to include for transport, barricading, handling, dumping fees and safeguarding. - Allow 2m³ thrust blocks class 20/19 - Install complete tamper proof bulk meter protect cover to meet specifications (Annexure 1 – R9)				
	Enclosures	Each	13	R	R
1.12.2	Western Cape Region	Sum	12	R	R
	Smart Bulk Water Meter	Each	12	R	R
	Sum to assume DN 150mm Below Ground Installation priced per Drawing TP/DWG.01 - Installation items and pipe fittings complete with nuts, gaskets seals and corrosion protection per Steel Pipe Fittings and Items List, Sectional Plan and Elevation measurements - Drawing TP/DWG.01 - Construct complete 1650mm x 1750mm x 680mm Face brick below ground chamber - Chamber fitted with 100mm roof slab with Ref: 395 reinforcement mesh and SECUREX 2A lockable ductile iron manhole cover 75mm floor slab with Ref: 395 reinforcement mesh with thick stone carpet - Allow for excavation in all materials for 2000mm trenches backfill, compact and dispose of surplus material. Excavation to include for transport, barricading, handling, dumping fees and safeguarding. - Allow 2m³ thrust blocks class 20/19 - Install complete tamper proof bulk meter protect cover to meet specifications (Annexure 1 – R9)				
	Enclosures	Each	12	R	R
1.12.3	Inland Region	Sum	15	R	R
	Smart Bulk Water Meter	Each	15	R	R
	Sum to assume DN 150mm Below Ground Installation priced per Drawing TP/DWG.01 - Installation items and pipe fittings complete with nuts, gaskets seals and corrosion protection per Steel Pipe Fittings and Items List, Sectional Plan and Elevation measurements - Drawing TP/DWG.01 - Construct complete 1650mm x 1750mm x 680mm Face brick below ground chamber - Chamber fitted with 100mm roof slab with Ref: 395 reinforcement mesh and SECUREX 2A lockable ductile iron manhole cover 75mm floor slab with Ref: 395 reinforcement mesh with thick stone carpet - Allow for excavation in all materials for 2000mm trenches backfill, compact and dispose of surplus material. Excavation to include for transport, barricading, handling, dumping fees and safeguarding. - Allow 2m³ thrust blocks class 20/19 - Install complete tamper proof bulk meter protect cover to meet specifications (Annexure 1 – R9)				
	Enclosures	Each	15	R	R
1.12.4	Northern Region	Sum	13	R	R
	Smart Bulk Water Meter	Each	13	R	R



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	Sum to assume DN 150mm Below Ground Installation priced per Drawing TP/DWG.01				
	a. Installation items and pipe fittings complete with nuts, gaskets seals and corrosion protection per Steel Pipe Fittings and Items List, Sectional Plan and Elevation measurements - Drawing TP/DWG.01 b. Construct complete 1650mm x 1750mm x 680mm Face brick below ground chamber c. Chamber fitted with 100mm roof slab with Ref: 395 reinforcement mesh and SECUREX 2A lockable ductile iron manhole cover d. 75mm floor slab with Ref: 395 reinforcement mesh with thick stone carpet e. Allow for excavation in all materials for 2000mm trenches backfill, compact and dispose of surplus material. Excavation to include for transport, barricading, handling, dumping fees and safeguarding. f. Allow 2m ³ thrust blocks class 20/19 g. Install complete tamper proof bulk meter protect cover to meet specifications (Annexure 1 – R9)				
	Enclosures	Each	13	R	R
1.12.5	Eastern Cape Region	Sum	11	R	R
	Smart Bulk Water Meter	Each	11	R	R
	Sum to assume DN 150mm Below Ground Installation priced per Drawing TP/DWG.01				
	a. Installation items and pipe fittings complete with nuts, gaskets seals and corrosion protection per Steel Pipe Fittings and Items List, Sectional Plan and Elevation measurements - Drawing TP/DWG.01 b. Construct complete 1650mm x 1750mm x 680mm Face brick below ground chamber c. Chamber fitted with 100mm roof slab with Ref: 395 reinforcement mesh and SECUREX 2A lockable ductile iron manhole cover d. 75mm floor slab with Ref: 395 reinforcement mesh with thick stone carpet e. Allow for excavation in all materials for 2000mm trenches backfill, compact and dispose of surplus material. Excavation to include for transport, barricading, handling, dumping fees and safeguarding. f. Allow 2m ³ thrust blocks class 20/19 g. Install complete tamper proof bulk meter protect cover to meet specifications (Annexure 1 – R9)				
	Enclosures	Each	11	R	R
1.13	Supply, Delivery, Installation, Testing & Commissioning of Smart Water Meters at Tenant Points of Supply – pricing to assume DN 32mm Installation				
1.13.1	KZN Region	Sum	123	R	R
	Smart Water Meter	Each	123	R	R
	Water Management Device	Each	123	R	R
	Enclosures	Each	123	R	R
1.13.2	Western Cape Region	Sum	59	R	R
	Smart Water Meter	Each	59	R	R
	Water Management Device	Each	59	R	R
	Enclosures	Each	59	R	R
1.13.3	Inland Region	Sum	140	R	R
	Smart Water Meter	Each	140	R	R
	Water Management Device	Each	140	R	R
	Enclosures	Each	140	R	R
1.13.4	Northern Region	Sum	63	R	R
	Smart Water Meter	Each	63	R	R
	Water Management Device	Each	63	R	R
	Enclosures	Each	63	R	R
1.13.5	Eastern Cape Region	Sum	110	R	R
	Smart Water Meter	Each	110	R	R
	Water Management Device	Each	110	R	R
	Enclosures	Each	110	R	R



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Subtotal (Excl. VAT)	R
VAT	R
Subtotal (Incl. VAT)	R

2. OPERATION AND MAINTENANCE

NO	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE	ACTIVITY PRICE
2.1	Operational and Maintenance Support Training	Pax	20	R	R
2.2	36 Months Support & Maintenance of the system	Sum	All	R	R
Subtotal (Excl. VAT)					R
VAT					R
Subtotal (Incl. VAT)					R

3. SUMMARY

3.1	Smart Metering Hardware Supply, Development, Delivery, Installation, Testing & Commissioning	R
3.2	Operation and Maintenance	R
Total (Excl. VAT)		R
VAT		R
Total (Incl. VAT)		R



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C 2.3 LABOUR RATES FOR AD-HOC

LABOUR RATES FOR AD-HOC WORK.

1. **Normal office hours:**

Electrician	R...../ hour.
Plumber	R...../ hour.
General labour	R...../ hour.

2. **Overtime**

Electrician	R...../ hour.
Plumber	R...../ hour.
General labour	R...../ hour.

3. **Sundays and Public Holidays:**

Electrician	R...../ hour.
Plumber	R...../ hour.
General labour	R...../ hour.

3. **Travel:**

Travel cost	R...../ km.
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4. **Accommodation:**

Accommodation cost	R...../ night.
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