



SCOPE OF WORK AND SPECIFICATIONS

Supply and Installation of 6.6kV Distribution equipment / systems to stations and substations (Naledi Johannesburg)

COMPULSORY REQUIREMENTS:

The following schedules shall be returned with the tender document which shall be evaluated:

- Programme of execution
- CIDB grading of **4 EP** or higher

SAFETY REQUIREMENTS:

All work in this contract shall comply with the Occupational Safety Act, 1993 (Act No: 85 of 1993). These items shall all be included in the tendered rates. A copy of the act as well as an approved safety file shall be kept on site for the duration of the project.

1. General

- The contractor shall be responsible for the removal and transportation of old equipment covered under this scope to Driehoek stores in Germiston.
- The contractor shall
 - Perform the services as outlined by the scope of work below
 - Be responsible for cleanliness of site after the work is done
 - Work under Prasa supervision at all times

- Be responsible for security and safety of their staff and equipment during the duration of the contract.

1.1. Subcontracting

- 1.1.1. The Contractor shall not make use of any sub-Contractor to perform the works or parts thereof without prior permission from the Project Manager.

1.2. Health and Safety

- 1.2.1. The contractor shall be responsible for the safety of personnel on site; a detailed safety plan shall therefore be submitted by the appointed contractor upon award. The safety file requirements are provided to assist the tenderers to cater for the safety aspects.
- 1.2.2. The site access certificate shall only be issued (to the successful bidder) after the evaluation and approval of the safety file.
- 1.2.3. The Contractor shall comply with all applicable legislation and Metrorail's safety requirements adopted from time to time and instructed by the Project Manager / Technical Officer. Such compliance shall be entirely at his own cost, and shall be deemed to have been allowed for in the rates and prices in the contract.
- 1.2.4. The Contractor shall ensure that a safety representative is at site at all times.
- 1.2.5. The Contractor shall report all incidents in writing to the Project Manager / Technical Officer. Any incident resulting in the death of or injury to any person on the works shall be reported within 24 hours of its occurrence and any other incident shall be reported within 48 hours of its occurrence.

2. Financial

- 2.1. Payments shall be made for fully functional equipment only, i.e, all work completed.
- 2.2. All prices quoted shall be fixed and firm for the duration of the contract
- 2.3. If the Contractor fails to complete the Services within the time stipulated in this Contract for completion of Services or a part or portion of Services, the Contractor shall be liable to the Employer for an amount calculated at 0.3% of the Contract Price per delayed Day per order, which shall be paid for every Day which shall elapse between the time for due

completion and completion of the relevant Services. However, the total amount due under this sub-clause shall not exceed the maximum of 10% of the Contract Price.

2.4. The imposition of such penalty shall not relieve the Contractor from its obligation to complete Services or from any of its obligations and liabilities under the Contract.

2.5. Rates supplied in the BOQ shall be used to calculate the final payment for equipment.

3. Scope of Work – Braamfontein RMS to Mayfair substation

3.1. Specification and requirements for Mayfair

- 3.1.1 The contractor shall supply and install 10km of 50mm² 11kV HT Arial Bundle Conductor (ABC) with suspensions clamps from RMS substation to Vrededorp substation, terminate to cable to the VCB and then from Vrededorp to Mayfair H-Frame. The ABC shall be installed through the bushings to the inside of the substation, thereafter use the transitional joint to join the ABC with the HT cable. The HT cable then terminates to the VCBs. This will just connect on the other side of the substation through terminations not joints – Confirm with Thembi
- 3.1.2 Supply and install Jointing kits for ABC
- 3.1.3 The contractors shall Supply and install a 30m pipe made of non-conductive material and suspend it to the existing boom structure to cross the Arial Bundle Conductor between RMS and Vrededorp substations
- 3.1.4 The contractors shall Supply and install a set of 11kV HT Drop out fuses 5A (x3) complete with frame and porcelain insulators
- 3.1.5 The contractors shall Supply and install a set (x3) of lightning arrestors rated 11kV
- 3.1.6 The contractor shall supply and install an LT Box to fit the B26 Orange IP65 rated with 200A MCB 9 (LT) lockable through a padlock.
- 3.1.7 The contractor shall supply and install an a 300m 35mm² LT (600/1000V) 4 Core XLPE cable from H-frame to the building for all the sites in this contract.
- 3.1.8 The contractor shall supply and install an a 600m 50mm² HT (11kV) 3 Core XPLE cable from H-frame to the Substation building for all the sites in this contract.
- 3.1.9 Supply and install a 50kva ,6.6kv/400v,Dyn11, 3-phase AC,50Hz,stepdown pole mounted Transformer complete for outdoor
- 3.1.10 Design and supply a mobile charging unit installed on the trailer. The mobile charger shall be able to charge the battery and charger unit specified on item 3.2 below.

3.1.11 Supply and deliver a 18kG oil pump with a flow rate of 28L/min, 230V AC powered and rated at 750W

3.2. Batteries and Chargers for distribution substation

- 3.2.1 The contractor shall supply and install sealed batteries and battery charger units in accordance with specification CEE 0085.
- 3.2.2 The supply voltage for all control circuits shall be 110V. (12V each cell)
- 3.2.3 The capacity of the battery shall be no less than 26AH.
- 3.2.4 A 10A charger (minimum) shall be supplied under this contract.
- 3.2.5 The contractor shall be responsible for all connections required for the interfacing of equipment supplied under this contract with the existing.

3.3. Specification for Charger and Batteries for Traction substation

- 3.3.1 The contractor shall supply and install the battery charger equipment as per specification BBB5452 clauses 23 and 24 and specification BBB2502.
- 3.3.2 The charger shall be fully capable of charging the battery bank at the substation.
- 3.3.3 The contractor shall supply and install all cabling required for the full functioning of the battery charger.
- 3.3.4 The battery bank supplied shall have a service life of 20-25 years; this shall be backed up with technical documentation.

4. CHEDULE OF QUANTITIES AND PRICES FOR RMS AND MAYFAIR

Item	Description	Unit	Qty	Unit Cost	Total Cost
1.	Supply and Install 10km 50mm ² HT Arial Bundle Conductor for all the sites on the contract	m	10000	R.....	R.....
2.	Wall bushings for the HT ABC to the substation buildings (RMS, Vrededorp and mayfair)	Each	9	R.....	R.....

3.	Transitional joints from ABC to 3 core HT cable (set of 3)- To connect cable termination inside the substation to the breaker terminals	Set	6	R.....	R.....
4.	HT (11kV) Termination kits outdoor (set of 3)	Set	6	R.....	R.....
5.	HT (11kV) Termination kits indoor (set of 3)	Set	6	R.....	R.....
6.	Supply and install suspension clamps between RMS and Vrededorp and Mayfair substations	SUM	LOT	R.....	R.....
7.	30m PVC Coated Pipe with clamps/fittings	Each	1	R.....	R.....
8.	HT 5A Drop-out fuses on H-frame with brackets (3 per set)	set	3	R.....	R.....
9.	Lightning arrestors(3 per set)	set	3	R.....	R.....
10.	HV jumpers from the transmission line to the HT side of the pole mounted transformer via drop out fuses	SUM	LOT	R.....	R.....
11.	Battery and charger (Vrededorp and RMS)	each	2	R.....	R.....
12.	35mm2 LT 4 Core XLPE for all the sites on the contract	m	300	R.....	R.....

13.	LT terminations (set of 3)	Set	2	R.....	R.....
14.	50mm ² HT 3 Core XPLE cable	m	600	R.....	R.....
15.	LT Housing with 200A MCB	Each	1	R.....	R.....
16.	Provide COC for installation	Each	1	R.....	R.....
17.	6.6kv/400v ,3phase AC,50Hz,stepdown pole mounted transformer at mayfair substation	Each	1	R.....	R.....
18.	Design and supply a mobile charging unit	Each	1	R.....	R.....
19.	Supply and deliver a portable 3KVA mobile Petrol generator	Each	1	R.....	R.....
20.	Supply and deliver an oil pump	Each	2	R.....	R.....
21.	Jointing kits for ABC (3 per set)	Each	30	R.....	R.....
22.	Supply and installa battery and charger for Braamfontein traction substation	Each	1	R.....	R.....
		TOTAL EXCL. VAT			R.....
		VAT @ 15%			R.....

		GRAND TOTAL	R.....
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5. Scope of Work – Grosvenor

- 5.1. The contractors shall Supply and install a set of HT Drop out fuses 5A (x3) complete with frame and porcelain insulators
- 5.2. The contractors shall Supply and install a set (x3) of lightning arrestors rated 11kV
- 5.3. Supply and install a 50kva ,6.6kv/400v,Dyn11, 3-phase AC,50Hz,stepdown pole mounted Transformer complete for outdoor
- 5.4. The contractor shall supply and install an LT Box B26 Orange IP65 rated with 200A MCB

6. SCHEDULE OF QUANTITIES AND PRICES FOR GROSVENOR

Item	Description	Unit	Qty	Unit Cost	Total Cost
1	HT 5A Drop-out fuses on H-frame with brackets (3 per set)	Set	1	R.....	R.....
2	Lightning arrestors (3 per set)	Set	1	R.....	R.....
3	LT Housing with 200A MCB	Each	1	R.....	R.....
4	LT terminations (3 per set)	Set	1	R.....	R.....
6	Provide COC for installation	Each	1	R.....	R.....
7	6.6kv/400v,50kva,3-phaseAC,50Hz pole mounted transformer	Each	1	R.....	R.....
		TOTAL EXCL. VAT			R.....

		VAT @ 15%	R.....
		GRAND TOTAL	R.....

7. Scope of Work – Croesus

- 7.1. The contractors shall Supply and install a set of HT Drop out fuses 5A (x3) complete with frame and porcelain insulators
- 7.2. The contractors shall Supply and install a set (x3) of lightning arrestors rated 11kV
- 7.3. Supply and install a 50KVA,6.6KV/400V,Dyn11,3-phase AC,50Hz, stepdown pole mounted Transformer complete for the outdoor .
- 7.4. The contractor shall supply and install an LT Box B26 Orange IP65 rated with 200A MCB

8. SCHEDULE OF QUANTITIES AND PRICES FOR CROESUS

Item	Description	Unit	Qty	Unit Cost	Total Cost
1	HT 5A Drop-out fuses on H-frame with brackets (3 per set)	Set	1	R.....	R.....
2	Lightning arrestors (3 per set)	Set	1	R.....	R.....
3	LT Housing with 200A MCB	Each	1	R.....	R.....
4	LT terminations (3 per set)	Set	1	R.....	R.....
6	Provide COC for installation	Each	1	R.....	R.....

7	6.6KV/400V,50KVA,3-Phase AC,50Hz Transformer	Each	1	R.....	R.....
		TOTAL EXCL. VAT			R.....
		VAT @ 15%			R.....
		GRAND TOTAL			R.....

9. Scope of Work – New Canada Facilities depot

- 9.1. The contractor shall Supply and install a new H-frame 150m away from the transmission line complete with stay wire.
- 9.2. The contractor shall install the HT ABC from the transmission line to the new H-frame structure
- 9.3. The contractor shall Supply and install a set of HT Drop out fuses 5A (x3) complete with frame and porcelain insulators
- 9.4. The contractors shall Supply and install a set (x3) of lightning arrestors rated 11kV
- 9.5. Supply and install a 100KVA,6.6KV/400V,Dyn11,3-phase AC,50Hz, stepdown pole mounted Transformer complete for the outdoor .
- 9.6. The contractor shall supply and install an LT Box B26 Orange IP65 rated with 200A MCB

10.SCHEDULE OF QUANTITIES AND PRICES FOR NEW CANADA FACILITIES DEPOT

Item	Description	Unit	Qty	Unit Cost	Total Cost
1	Supply and install a new H-frame complete	Each	1	R.....	R.....
2	HT 5A Drop-out fuses on H-frame with brackets (3 per set)	Set	1	R.....	R.....
3	Lightning arrestors (3 per set)	Set	1	R.....	R.....

4	LT Housing with 200A MCB	Each	1	R.....	R.....
5	LT terminations (3 per set)	Set	1	R.....	R.....
6	Provide COC for installation	Each	1	R.....	R.....
7	6.6KV/400V,50KVA,3-Phase AC,50Hz Transformer	Each	1	R.....	R.....
		TOTAL EXCL. VAT			R.....
		VAT @ 15%			R.....
		GRAND TOTAL			R.....

11.SCHEDULE OF QUANTITIES AND PRICES FOR NALEDI TO JHB

Item	Description	Unit	Qty	Unit Cost	Total Cost
1	Supply and install battery and charger (Naledi, Langlaagte, Dube and Inhlazane station)	Each	4	R.....	R.....
2	Supply and install a HT 5A Drop-out fuses on H-frame with brackets (3 per set)	Set	6	R.....	R.....
3	Supply and install a Lightning arrestors (3 per set)	Set	6	R.....	R.....

4	Supply and install a LT Housing with 200A MCB	Each	6	R.....	R.....
5	Supply and install a LT terminations (3 per set)	Set	6	R.....	R.....
6	Provide COC for installation	Each	6	R.....	R.....
		TOTAL EXCL. VAT			R.....
		VAT @ 15%			R.....
		GRAND TOTAL			R.....

12. ANNEXURE “A”: EVALUATION MATRIX

NOTE: The Technical or Functionality criteria must be guided by the project scope of works and area of focus.

Scoring of Functionality:

Responsive tenders will firstly be evaluated on functionality. The minimum score for functionality is 90 and a bidder who scores below this minimum shall not be considered for further evaluation in terms of the preference point systems.

Functionality and Capabilities	Max Points	Minimum Required
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Clause by clause compliance The tenderers shall provide clause by clause compliance with the scope of work Fully Comply = 50 points Non-compliance= 0 Points NB: provide a letter of compliance to specification.	50	50
Similar Works: provide client list including letter of reference with contactable details 6 and above similar projects = 20 points 3 - 5 similar projects = 15 points 1-2 similar projects = 10 points No similar projects = 0 Points NB!! Submit letter of references from your previous clients, with traceable contacts details.	20	10
Programme of works in line with the scope of work ≤ 1 month= 30 points ≥ 1 month and ≤ 3 months = 15 points > 3 months = 0 points	30	30
GRAND TOTAL	100	90

13.Financial evaluation

Pricing

A maximum of 80 points is allocated for price. The evaluation for price will be done based on the following formula:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Rand value of tender under consideration

P_{min} = Rand value of lowest acceptable tender

BBBEE Evaluation

The BBBEE component of evaluation is weighted at 20% of the evaluation criteria. Bidders will be awarded the following points based on the level of their BBBEE as per their BBBEE Certificate issued by an agency approved by SANAS:

B-BBEE Contribution Level	80:20 Preference System
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant	0