

Be moved



prasa

PASSENGER RAIL AGENCY
OF SOUTH AFRICA



metrorail

**PROJECT SPECIFICATION AND BILL OF QUANTITY
FOR:**

RE-INSTATING WINKELSPRUIT TRACTION SUBSTATION

Table of Contents

SPECIFICATION FOR SUPPLY AND DELIVERY OF VARIOUS TOOLS FOR MAINTENANCE

1. PURPOSE OF THE PROJECT
2. DURATION
3. GENERAL
4. ADDITIONAL WORKS
5. DESCRIPTION OF WORK
6. DELIVERY RATES
7. LABOUR RATE
8. PENALTIES
9. GUARANTEE
10. CIDB GRADING
11. SITE MEETING
12. HANDOVER
13. BILL OF QUANTITIES

SPECIFICATION FOR RE-INSTATING WINKELSPRUIT TRACTION SUBSTATION

1. PURPOSE OF THE PROJECT

The purpose of this project is to re-instate vandalized equipment at Winkelspruit substation as per attached BOQ.

2. PROJECT DURATION

Prasa KZN requires that the Works be completed within **SIX (6) months** which period shall include any statutory and builder's holidays falling within this period. The completion date will be determined by adding the period specified above to the date of written notification of acceptance of tender, or to such later date as may be specified in the advice of award. Lead-time has been built into the period specified.

3. GENERAL

- 3.1 The Contractor's general obligations under the contract comprise the completion and, unless otherwise stipulated, the provision at his own expense of all labour, plant, tools, equipment, material, transport, consumable stores, services, samples and temporary works, and everything, whether of a temporary or permanent nature, required in and for the supply, deliver and completion of the works.
- 3.2 Any other work arising out of or incidental to the above or required of the contractor or the completion of the works in accordance with the true meaning and intent of the contract documents shall also be the responsibility of the contractor.
- 3.3 Metrorail reserves the right to inspect and or test any material or equipment delivered.
- 3.4 Completion of work shall be subjected to the approval of the Regional Electrical Engineer.
- 3.5 All equipment shall be visually inspected for damages during delivery. Any damages shall be reported immediately to the designated representative, who will issue the necessary instructions.

4. ADDITIONAL WORKS

Any additional work not authorized by the Project Manager, even if proven necessary for the successful completion of the project will be tenderer's own account.

5. DESCRIPTION OF WORK

The contractor shall perform the following tasks:

- 5.1 Supply and install control cables from the outdoor yard equipment to the Control panel
- 5.2 Supply and install complete AC Disconnect structure with earthing mechanism
- 5.3 Perform oil purification repair leaks on traction transformer.
- 5.4 Supply and install 88kv traction transformer LV bushing.

5.5 Provide earth mat and bonding of structures.

5.6 Supply and install 4.5MW rectifier diodes.

5.7 Supply and install back to back wall bushings

5.8 Supply and install yard fencing

5.9 Transportation of scrap to Durban depot

5.10 The contractor shall provide security for the duration of the project until the substation is handed over to Prasa.

5.11 Replace SF₆ gas pipe, fill up gas and provide spare bottle of gas

5.12 Testing and commissioning

6. SPECIFICATIONS

The contractor shall adhere but is not limited to the following:

6.1 Installation Requirements for 3KV Substation- BBB5452

6.2 3KV Rectifier for traction Substations- BBB0496

6.3 Earthing Arrangement for Traction Substations- BBB3620

6.4

7. LABOUR RATE

See bill of quantities

8. PENALTIES

8.1 The Contractor shall be charged a penalty of R 10 000.00 (ten thousand Rand) if found on site without valid site access certificate.

8.2 The contractor will be charged a penalty of 0.3% of the contract price per day delayed after the project duration has expired but not exceeding 10% of the contract value.

8.3 The contractor will be charged a penalty of R10 000.00 (ten thousand Rand) for working without occupation

9. GUARANTEE

9.1 All tools supplied by the Contractor shall be subject to a guarantee for a period of one year against faulty.

9.2 The guarantee period shall commence the day the project is handed over to and accepted by the PRASA staff.

9.3 Should any failure arise due to bad workmanship and/or faulty materials during the guarantee period, the contractor shall replace or repair the equipment within 7 days of the notification.

9.4 Should the Contractor fail to comply with the requirements stipulated above, PRASA shall be entitled to undertake the necessary repair work or effect replacement of defective apparatus or material, and the Contractor shall reimburse PRASA the total cost of such repair or replacement, including the labour costs incurred in replacing defective material.

9.5 Retention money will not be deducted by Prasa KZN as part of this contract.

10. CIDB GRADING

CIDB grading for this project is 4 EP

11. SITE MEETING

Site meeting is required for this project and contractors to wear safety shoes.

12. HANDOVER

Handover will occur when the substation is finally commissioned and energized to satisfaction of the Project Manager/Project Coordinator/ Technical Manager, in accordance with the details as set out in the handing over documentation of PRASA.

13. BILL OF QUANTITIES

ITEM NO	DESCRIPTION	UNIT	Local Content	QTY	RATE		AMOUNT	
					R	C	R	C
1.	Unit B: 3kV DC Rectifier							
1.1	Supply & Install 4.5MW Rectifier Diodes complete with heatsink module and RC "snubber" circuit on the existing rectifier panel	Each	80% from Rail Electrification System and Components	18				
1.2	Re-instate rectifier attenuation circuit using existing	Each	80% from Rail Electrification	1				

	components		on System and Component s				
1.3	Supply & Install rectifier fan failure unit	Each	80% from Rail Electrification System and Component s	1			
1.4	Supply & Install diode monitoring unit complete with ammeter, voltmeter and diode indicators	Each	80% from Rail Electrification System and Component s	1			
1.4	Supply & Install rectifier over temperature	Each	80% from Rail Electrification System and Component s	1			
1.5	Supply & install back to back sets of wall bushings rated for the 4.5MVA transformer output voltage	Each	100%from Rail Electrification System and Component s	5			
1.6	Re-connect two indoor busbars rated for the 4.5MVA transformer output voltage. using existing busbars	sum	100%from Rail Electrification System and Component s	1			
1.7	Reconnect the existing cooling fan	Each	100%from Rail	1			

	and test the operation		Electrification System and Components					
2	AC/DC LINK STRUCTURE							
2.1	Supply and install outdoor busbars from the AC-DC link to wall bushings rated for the 4.5MVA transformer output voltage	Each	5% National Treasury Designated Sectors Circular	8				
2.2	Supply and install outdoor busbars including clamps from the AC-DC link to transformer, rated for the 4.5MVA transformer output voltage	Each	5% National Treasury Designated Sectors Circular	6				
2.3	Supply and install 3kv DC earth bar	Ea	5% National Treasury Designated Sectors Circular	1				
2.4	Supply and install 3kv DC 500mm ² single core cable	m	90% from Rail Electrification System and Components	15				
2.5	Supply and install bonding of the structure	Sum	90% from Rail Electrification System	1				

			and Component s					
2.6	Replace sets of jumper cable across link contacts	Ea	90% from Rail Electrification System and Component s	5				
3.	Traction transformer							
3.1	Supply and install oil temperature gauge including capillary tube complete with wiring	each	Powerline Hardware 100%	1				
3.2	Purify oil	litre	Powerline Hardware 100%	10976.5				
3.3	Top up oil if necessary	litre	Powerline Hardware 100%	10976.5				
3.4	Supply and install control cables	m	90% from Rail Electrification System and Component s	35				
3.5	Repair leak on tap changer	sum	N/A	1				
3.6	Replace transformer LV bushing	Ea	Powerline Hardware 100%	1				
4	GCB Structure							

4.1	Supply and install control cable	m	90% from Rail Electrification System and Components	80				
4.2	Supply and install power cable from panel	m	90% from Rail Electrification System and Components	40				
4.3	Replace gas pipe for 88KV Siemens 3AP1FG circuit breaker	Ea	Powerline Hardware 100%	1				
4.4	Fill up SF ₆ gas	sum	N/A	1				
4.5	Provide 11kg spare bottle of gas	ea	N/A	1				
5	Current transformer Structure							
5.1	Supply and install control cable	m	90% from Rail Electrification System and Components	40				
5.2	Supply and install AC earth leakage relay covered in a box	ea	N/A	1				
5.3	Replace bonding of the structure	Sum	90% from Rail Electrification System and	1				

			Component s					
6	88 Kv Disconnect Link							
6.1	Supply and install control cable	m	90% from Rail Electrification System and Component s	60				
6.2	Supply and install 88kv disconnect link structure complete using existing plinths. Structure to be bonded	Ea	100%from Rail Electrification System and Component s	1				
7	88KV Surge Arrester Structure							
7.1	Supply and install discharge earthing cable	m	90%from Rail Electrification System and Component s	20				
8	Earth Mat							
8.1	Re-instate Substation earthing, conduct earth Test and provide a detailed report	Sum	100%from Rail Electrification System and Component s	1				
9	Substation Steel Door							
9.1	Supply and install door switch, spark	Sum	100%from Rail	1				

	gap and bonding		Electrification System and Components					
9.2	Supply and install galvanized single steel door (1m x2.4m)	Each	Powerline Hardware 100%	1				
10	Diamond Mesh Fence and Gates							
10.1	Supply & Install 1.2m mesh barrier fence complete around 88kV AC Disconnect yard. Rate to include support poles and any other accessories.	m	100% National Treasury Designated Sectors Circular	15				
10.2	Supply and install 1.2m mesh barrier fence pedestrian gates complete	Each	100% National Treasury Designated Sectors Circular	1				
11	Transportation of scrap	Sum	N/A	1				
12	Testing and commissioning	Sum	N/A	1				
			SUB TOTAL					
			VAT 15%					
			GRAND TOTAL					

14. EVALUATION METHODOLOGY

14.1 TRANSFORMATION PROCUREMENT

(a) PRASA may transform its procurement spend by utilising the following:

- 14.1.1 PPPFA allows organs of state to utilise prequalification criteria for preferential procurement.
- 14.1.2 PPPFA allows organs of state to utilise subcontracting as a condition of tender. It also allows organs of state to choose more than one options to sub-contracting i.e. subcontract to EME or QSE and an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships amongst others and clearly state this requirement in the tender document as organs of state are allowed to choose more than one category for subcontracting.
- 14.1.3 PPPFA allows organs of state to use objective criteria and stipulate same in the tender document.
- 14.1.4 The above regulations allows PRASA to achieve their objective of Enterprise and Supplier Development (ESD) as far as participation of local enterprises is concerned especially when market analysis has been done to justify including an EME or QSE or an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or township etc.

a. Local Content: (LC requirement per designation)

- i. The PPPFA Regulations, 2017, prescribe how Local Production and Content is to be measured in public sector Bids. In terms of these regulations when issuing bids involving designated sectors, PRASA must advertise such bids with a specific bid condition that only locally produced or manufactured Goods or Services which meet a stipulated minimum threshold for local production and content will be considered. For example, if the stipulated minimum threshold for LC is 70%, this means that 70% of the bid price must be spent on LC (i.e. everything that is not included in Imported Content.)
- ii. Designated sectors, sub-sector or industry or product, are those sectors which in accordance with national development and industrial policies have been designated by the DTI in consultation with National Treasury, for Local Production and Content. The National Treasury must inform organs of state of any designation made through a circular / instruction note. The circulars/instructions issued by NT on designated sectors must always be strictly adhered to when bids in these sectors are issued. Refer to NT's website for the latest list of designated sectors. Further please refer to the circulars/instructions issued by NT as certain sectors have designated sub-sectors/components in addition to the overall thresholds.
- iii. PRASA, its Divisions and Subsidiaries are to note that local content is applicable to all designated products irrespective of the value unless indicated otherwise in the specific Instruction/Circular.

- iv. PRASA, its Divisions and Subsidiaries must be aware that certain Bidders may have approached the DTI to be exempted from meeting all LC requirements. Where such exemption has been received by a Bidder, Procurement must request a copy of such exemption from the Bidder with their Bid submission.
- v. Where a response to PRASA's bid invitation indicates that the market does not have capacity for the LC threshold for that particular designated sector or alternatively where PRASA is aware prior to issue a bid, of the market's lack of capacity, SCM must:
 - verify this position by conducting a market analysis; and/or
 - issue Request for Information (RFI);
 - Based on the results above the GCPO must engage the DTI to seek exemption from the LC requirement. The application for an exemption must be accompanied by a report of the outcome from the above exercise, as proof of the status of the market. Should an exemption be granted, the exemption must be referred to in the Bid document.
 - Where, after the contract has been awarded, a bidder can no longer meet the LC requirements, Procurement and the end user must deal with such a bidder in terms of the contractual terms and conditions relating to non-performance. However, there are National Treasury Instruction Notes that were issued with a clause which affords bidders an opportunity to approach the DTI with a request for exemption. In this regard, Procurement and the end-user must always verify if exemption is applicable against that specific Instruction Note.

LC Requirements in Bid Documents

- i. It is a requirement that the following documents be listed as mandatory returnable documents, whenever a minimum threshold for LC is required:
 - ii. Declaration Certificate for Local Production and Content [SBD 6.2]; and
 - iii. Annexure C – Local Content Declaration: Summary Schedule.
- iv. The following documents are supporting schedules and may be requested as essential returnable documents if PRASA would like to verify them for a particular bid:
 - v. Annexure D – Imported Content Declaration: Supporting Schedule to Annexure C; and
 - vi. Annexure E – Local Content Declaration: Supporting Schedule to Annexure C.
- b. Principles of Subcontracting as a prequalification criterion in terms of the PPPFA
(if feasible – please state reasons, if not)

The following principles of subcontracting must be applied:

- i. Subcontracting as a prequalification requirement for contracts above R30m: This relates to a decision taken by PRASA compelling bidders to, where feasible, subcontract to designated groups or companies on specific identified commodities.
- ii. Where a feasibility analysis on subcontracting is conducted and the outcome indicates that a lesser percentage than the 30% mentioned in the regulations is feasible, this lesser percentage should be set as a prequalification criteria in the bid document; and

Target Procurement: Prequalification criteria for preferential procurement (*if set aside for targeted procurement or not*)

If PRASA decides to apply pre-qualifying criteria to advance certain designated groups, it must advertise the bid with a specific bidding condition that only one or more of the following bidders may respond:

a bidder with a stipulated minimum B-BBEE status level;

an Exempted Micro Enterprise (EME) or a Qualifying Small Enterprise (QSE); and

a bidder subcontracting a minimum of 30% to an EME or QSE.

a bidder subcontracting a minimum of 30% to an EME or QSE which is:

at least 51% owned by black people;

at least 51% owned by black people who are youth;

at least 51% owned by black people who are women;

at least 51% owned by black people with disabilities;

51% owned by black people living in rural or underdeveloped areas or townships;

at least 51% owned by black people who are military veterans; or

a tenderer subcontracting a minimum of 30% to a co-operative which is at least 51% owned by black people.

EVALUATION PROCESS

Interested bidders for this project shall be evaluated in terms for their administrative responsiveness, substantive responsiveness, technical/functional (capacity testing) evaluation and preference points. The evaluation committee shall use the following Evaluation Criteria depicted in table 12.1 below for

the selection of the preferred bidder that shall render / deliver the required works, goods and / or services.

EVALUATION PROCESS	
Stage 1	
Compliance	Administrative Responsiveness
	Substantive responsiveness (mandatory)
Stage 2	
Technical/Functional Criteria	Testing of capacity – meet minimum threshold of 70%
Stage 3	
Preference Points	
Price	80
BBBEE	20
TOTAL	100

Figure 12.1: Evaluation criteria for the selection of a potential bidder

12.2.1 STAGE 1 - Administrative and Substantive Responsiveness

If a supplier / bidder do not submit the following documents the Proposal will be disqualified automatically:

No.	Description of requirement	
Standard returnable document		
a)	Completion of ALL RFP documentation (includes ALL declarations, ALL Standard Bidding Documents (SBD) and Commissioner of Oath signatures required)	
b)	Submission of a signed Briefing session Form D and signed briefing session attendance register.	
c)	8 EP CIDB Grading	
d)	The Declaration Certificate for Local Content (SBD 6.2) and	

No.	Description of requirement	
	Annexure `C` must be completed and duly signed.	
e)	Letter of Good Standing: Compensation for Occupational Injuries & Diseases Act (COIDA)	
f)	Signed Joint Venture, Consortium Agreement or Partnering Agreement (whichever if applicable)	
Non Standard Returnable Documents		
g)	Original or certified B-BBEE certificate issued by SANAS (Certificates issued by IRBA and Accounting Officers have been discontinued, however valid certificates already issued before 1 January 2017 may be used until they phase out completely by December 2017) Bidder to include Affidavit for QSEs and EMEs. In cases of JVs or consortiums, a combined B-BBEE certificate in the name of the JV/Consortium must be submitted	
k)	CSD supplier registration number (should a bidder not registered on CSD, the bidder will be afforded 14 days after the closing date to register accordingly)	

12.2.2 STAGE 2 - Technical / Functionality Requirements

Qualifying bidders shall be evaluated on technicality / functionality after meeting all compliance requirements outlined above. The minimum threshold for the technical/functionality requirements is 70%. Bidders who score below the minimum requirement shall not be considered for further evaluation in stage 3.

Summary of the technical/functional requirements are presented in the table 12.2 below.

No	CRITERIA	WEIGHT
1.	Company / Entity's Track Record of completed similar projects (Installation of Substation Equipment) with referral letters or completion certificates 5 completed projects or more (5) 4 completed projects (4) 3 completed projects (3) 2 completed projects (2) 1 completed projects (1)	20

	0 completed project (0)	
2.	<p>Experience of key staff (Installation of Substation equipment) in relation to the scope of work and managing the project.</p> <p>Certified and qualified Electrician with Trade Test certificate X 1.</p> <ul style="list-style-type: none"> • 5 years' experience and above of skilled personnel in the installation of Substation equipment. (5). • 4 years' experience of skilled personnel in the installation of Substation equipment. (4). • 3 years' experience of skilled personnel in the installation of Substation equipment. (3). • 2 years' experience of skilled personnel in the installation of Substation equipment. (2). • 1 year experience of skilled personnel in the installation of Substation equipment. (1). • No information provided/incomplete submission/less than 1 year experience. (0) 	35
3.	<p>(N.B. The project methodology has to be in line with the scope of work. Identify the risks associated with the project activities and also mitigation measures. Furthermore clearly show risks and mitigation measures of working on the railway reserve)</p> <p>Elements: Identification of risks and mitigation, Work breakdown of activities, Quality assurance, Transportation, Scaffolding, Plant and equipment, Temporary structural supports, barricading and securing of work, Accommodation of traffic.</p> <p>Score will be allocated as follows:</p> <p>No information provided (0)</p> <p>3 or less elements of the method statement (1)</p> <p>4 elements of the method statement. (2)</p> <p>5 elements of the method statement. (3)</p> <p>6 elements of the method statement. (4)</p>	15

	7 or more elements of the method statement. (5)	
	Total	70

Table 12.2: Technical Evaluation Criteria

12.2.3 STAGE 3 - Pricing and BBBEE

Include or attach detailed pricing schedule

The following formula shall be used by the Bid Evaluation Committee to score potential bidders on pricing:

$$Ps = 80[1 - \frac{Pt - Pmin}{Pmax - Pmin}]$$

Pmin

Where:

Ps = Points scored for the price of tender under consideration;

Pt. = Rand value of the tender under consideration;

Pin = Rand value of the lowest acceptable tender.

The minimum qualifying criteria for pricing is 80 points as per the standard Evaluation Criteria presented in figure 12.1 above.

The BBBEE component of the evaluation process is weighted at 20 points in figure 12.1 of the standard Evaluation Criteria outlined above. Bidders will be awarded points based on the level of the BBBEE status presented in the BBBEE Certificate issued by an approved agency certified by SANAS. Details of the allocation of points by the Evaluation Committee are presented in figure 12.4 below.

B-BBEE STATUS LEVEL OF CONTRIBUTOR	NUMBER OF POINTS(80/20 SYSTEM) ABOVE A MILLION
1	20
2	18
3	14
4	12
5	8
6	6

B-BBEE STATUS LEVEL OF CONTRIBUTOR	NUMBER OF POINTS(80/20 SYSTEM) ABOVE A MILLION
7	4
8	2
Non-Compliant Contributor	0

Figure 12.4: BBBEE Evaluation Criteria