



prasa
PASSENGER RAIL AGENCY
OF SOUTH AFRICA

SCM SUBMISSION: SPECIFICATION / SCOPE OF WORK

PURPOSE OF SUBMISSION	BID ESPECIFICATION – APPOINTMENT OF A CONTRACTOR TO SUPPLY, INSTALL AND COMMISSION 20KVA BACK-UP SOLAR AT DENVER AND TORONGA TRAIN STATION AT GAUTENG REGION.
DESCRIPTION OF GOODS / SERVICES / WORK	SUPPLY, INSTALL AND COMMISSION 20KVA BACK-UP SOLAR AT DENVER AND TORONGA TRAIN STATION AT GAUTENG REGION.
REQUEST FOR PROPOSAL NUMBER	
DIVISION	PRASA CRES
USER DEPARTMENT	PRASA CRES FACILITIES (SGR)
DATE SUBMITTED	FEBRUARY 2025

1. INTRODUCTION

The work is: Appointment of a contractor for the scope of works entails supply, installation, and commissioning of 20KVA solar PV system at Denver and Toronga train station.

2. BACKGROUND OF THE PROJECT

The passenger railway services offered by PRASA at the subject corridors are not at par with the normal operations of passenger rail service. The railway infrastructure at these facilities has been rendered functionally obsolete due to the acts of vandalism that occurred over the past years. PRASA infrastructure such as railway tracks and related overhead track equipment, ticket office buildings, platform surfaces, lighting equipment, ablution facilities, retail/commercial facilities, parking, etc. has been damaged beyond use.

PRASA CRES strategy has pointed to a need for rapid development of the Rail Top Priority Corridors, in line with the Service Resumption and the Infrastructure Investment and Development in these Corridors.

The installation of the back-up solar system will provide the ticket office with sufficient power supply as well as lighting on the platforms. Thus, turning the ticket office into functional state

3. DETAILS OF THE PREFERRED SOLUTION

The preferred solution is to procure a service provider to supply, install and commission the solar back-up system.

4. AREAS TARGETED FOR THIS PRODUCTS OR WORK OR SERVICE REQUIRED.

4.1 Denver train station

4.2 Toronga train Station

5. SCOPE OF WORK

The scope of work entails supply, installation, and commissioning of 20KVA back-up System at Toronga & Denver train station.

The high-level scope of work to be executed under this project will include, but not. Limited to the following:

5.1 Denver Train Station:

5.1.1 Supply of a complete 20KVA back-up solar system

5.1.2 Installation of a complete 20KVA back-up solar system according to SANS 10142

5.1.3 Commissioning of a complete 20kVA back-up solar system.

5.2. Toronga Train Station:

5.2.1 Supply of a complete 20KVA back-up solar system

5.2.2 Installation of a complete 20KVA back-up solar system according to SANS 10142

5.2.3 Commissioning of a complete 20kVA back-up solar system.

6. WARRANTY

The repaired components must be supplied with a 12-month warranty from the date of fitment for the work that was carried out.

7. COMPLIANCE

7.1. Non-conformance (NCR) must be returned within 10 working days.

7.2. All components, once tested and certified, shall be issued with a compliance certificate.

7.3. All components must have a quality assurance label indicating the name of the organization, date, card tested by.

7.4. All components should be SABS approved.

8. CONTRACT PERIOD

The contract duration is 3 months.

9. PRICE ADJUSTMENTS

Prices will be fixed for the duration of this contract.

10. PENALTIES

- 10.1. Should the Contractor fail to deliver on or before the agreed date, a penalty of 3% per day will be charged on the total value of the Purchase order (PO) but shall not exceed 10 percent of the total value of the PO.
- 10.2. PRASA CRES reserves the right to test the product at any given time during the contract period for compliance. The Contractor will be held liable with costs for any deviations in the specifications which may have resulted in damages and downtime to Rolling Stock equipment. A meeting will be arranged by both parties to discuss the outcome of the investigation and the costs incurred.

11. DEMOLITION

The contractor is responsible for the demolition of the existing equipment and the transportation of the existing equipment from the above-mentioned stations to Elandsfontein Depot.

12. OVERALL STAFFING AND KEY PROFESSIONAL STAFF

A contractor shall provide qualified and experienced professional staff for the following.

- 12.1. Project manager
- 12.2. Electrician / millwright / electro mech.
- 12.3. Construction health and safety officer

13. MINIMUM QUALIFICATIONS OF KEY PROFESSIONAL STAFF

- 13.1. Project manager - Electrical qualification (Degree, Diploma or N-level certificate).
- 13.2. Electrician / millwright / electro mech- Minimum 5 years' experience in Electrical building environment.
- 13.3. Construction health and safety officer - The desired minimum qualifications for the Construction Health and Safety Officer are as follows: Minimum of 3 years industry experience as a health and safety officer.

14. GENERAL INFORMATION

- 14.1. The contract shall be registered with the ECB as laid down in the Electrical a. Installation Regulations of the Occupational Health and Safety Act 85/1993, clause 5.

- 14.2. The electrical contractor shall be or have in his employment an accredited person
Proof must be supplied of the above requirements: PV Green Card Holder
- 14.3. All materials/components shall be of high standard (SABS approved)
- 14.4. All components/materials supplied and installed shall be new and will be capable of providing specified power at 380V.
- 14.5. A contractor is not allowed to sub- contract without the permission of the Prasa project manager.
- 14.6. Contractor: Successful tender who is appointed by PRASA-CRES and will be responsible for carrying out the work as per this specification.
- 14.7. The Contractor shall always be responsible for supervision of the work and for follow-up instructions to monitor that the work is being done to specification. He shall immediately take appropriate remedial action, in areas where the specified standards are not achieved.
- 14.8. The Contractor shall allow PRASA representatives to visit plant workshop sites anytime to monitor/inspect construction process and ticket office facilities.
- 14.9. The PRASA Maintenance engineering department shall at any time during Contract period carry out inspection of the contractor's performance methods and procedures.
- 14.10. The contractor shall provide transport, equipment, tools, consumables, supervision, protection, and labor necessary to successfully complete the contract.

15. SAFETY

- 15.1. The Contractor shall comply with requirements of safety legislations and regulations in all respects.
- 15.2. The contract shall submit a COVID -19 safety compliance plan.
- 15.3. All vehicles shall be roadworthy.
- 15.4. The contractor shall be responsible for security of personnel and material onsite as well as during transit.
- 15.5. Normal protection measures in accordance with the Protection Manual shall apply.
- 15.6. An effective safety procedure to be followed by all personnel on any work site in

the case of approaching rail traffic shall be compiled by the Contractor and implemented before any work commences. This procedure shall be updated whenever the need arises, and any changes shall be communicated to all employees on a works site before work proceeds.

15.7. It is the requirement of this contract that the contractor should provide PRASA with a Safety File with a detailed safety plan prior to being issued with a site access certificate, in accordance with the latest version of the OHS Act and the SPK7 and the E4E. (safety file check list shall be provided by PRASA).

15.8. The Contractor shall make necessary arrangements for sanitation, water, and electricity on site during the installation of the equipment.

17. COMMISSIONING AND TESTING

Designated PRASA personnel, in conjunction with the Contractor, shall carry out the final commissioning test. The Contractor shall carry out any remedial work, necessary.

18. HANDING OVER

The handovers shall be for each portion of the work when the Electrical System is tested and commissioned to the satisfaction of the Project Manager, in accordance with the details as set out in the handing over documentation by PRASA.

19. SECURITY

The contractor shall provide on-site security for personnel and material stock and should ensure that patrols are in place at the section handed over to the contractor and until the completed work is handed over to PRASA. No claims of material or losses shall be lodged with the client for stolen goods during the construction before the completed work is handed over to PRASA.

20. MEASUREMENT AND PAYMENTS

20.1. Completed work will be inspected and Invoices will be submitted to finance department after passing the inspection and testing.

20.2. Any rejected and incomplete work will not be paid for until it is rectified.

21. PRICING SCHEDULE

21.1. Prices must be quoted in South African Rand, inclusive of all applicable taxes.

21.2. The price offer is firm and clearly indicates the basis thereof.

21.3. Pricing Bill of Quantity is completed in line with schedule if applicable.

21.4. Cost breakdown must be indicated.

21.5. Price escalation basis and formula must be indicated.

21.6. To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilize a different format. Deviation from this pricing schedule could result in a bid being declared non-responsive.

21.7. PRASA CRES is not obligated to appoint the lowest bidder.

21.8. Pricing Preliminary & Generals, Health & safety should be inclusive of all stations on tender.

22. BILL OF QUANTITIES

22.1. TORONGA TRAIN STATION.

SCHEDULE OF QUANTITIES AND RATES / PRICE (\$)

Item No.	Description	Unit	Qty	Rate/unit (Excl VAT)	Total Price (Excl VAT)
	SECTION 1				
1.	Preliminary and General				
	All Preliminary and General applicable to this project	Item	1	R	R
	Occupational Health and safety				
2.	Compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations and with the Employers Health and Safety	Item	1	R	R
	<u>SECTION 2</u>				
	<u>ELECTRICAL WORKS</u>				
	Supply and fit: 20KW 3-phase Hybrid inverter. Include all relevant cables, lugs, and ferrules as per manufacturer's specifications	No.	1	R	R
	Supply and fit: Lithium Battery Wall Mount 51.2V 5.12kWh 100Ah AM-5 Include battery stand, side covers, all relevant cables, bracket, lugs, and ferrules as per manufacturer's specifications	No.	4	R	R
	Supply and fit of 250A fuse.	No.	1	R	R
	Supply of AC DB with a 63 Amp Automatic Change	No.	1	R	R

	over Switch and Box.				
	DC disconnecter Box	No.	1	R	R
	Sundries (Trunking and Clips, Lugs and Ferrules plus Nitto tape.)	Sum	1	R	R
	Connect the above system to DB.	Sum	1	R	R
	Supply and connect of Cable Run from DB to Inverter I.e. 16mm 4 core + earth sq armored	m	20	R	R
	Supply and connect of Cable from Battery to Inverter	m	5	R	R
	Supply and Fit: Heavy duty lockable battery cabinet	No.	1	R	R
	PV Surge arrestor device	No.	4	R	R
	Supply and fit 12-way surface mount distribution board. 63 Amps Earth leakage for AC protection, 20 Amp circuit breaker for plug socket protection x 2. PV modules isolator 20 Amps x 10. 3 x 63 Amps circuit breaker for batteries. Surge protection (SPD). Include all relevant cables, lugs, and ferrules as per manufacturer's specifications	No.	1	R	R
	Supply and fit: Battery fuse	No.	4	R	R
	Supply and fit: Battery Holder		4		
	<u>SOLAR</u>				
	Supply and fit PV Modules: Peak power 650 Watts each PV module fit on top of galvanized stand such that maximum solar radiation is absorbed by solar panel.	No	31	R	R
	Supply and installation of mounting Kits suitable for Corrugated Roof Include all brackets, antivandal claps, cables, lugs, and ferrules as per manufacturer's specifications (Portrait Install)	Sum	1	R	R

	Supply and install DC Combiner DC 600V Box 2 In 2 Out	No.	1	R	R
	Sundries (Trunking, MC 4 Connectors, Hazard Stickers)	Sum	1	R	R
	Connect the above system to Invertor.	No.	1	R	R
	<u>EARTHING</u>				
	Earth bonding for all the buildings as per SANS 10142.	item	1	R	R
	<u>ELECTRICAL COMPLIANCE</u>				
	All work to comply to SANS 10142 Compliance certificate to be provided on completion. Pricing to include all necessary complete connection				
	Certificate of compliance and all other testing required including a 12 month guarantee	Item	1	R	R
	CARRIED TO SUMMARY				
	SUB-TOTAL TOTAL			R	R

22.2. DENVER TRAIN STATION

SCHEDULE OF QUANTITIES AND RATES / PRICE (\$)

Item No.	Description	Unit	Qty	Rate/unit (Excl VAT)	Total Price (Excl VAT)
	<u>SECTION 1</u>				
	<u>ELECTRICAL WORKS</u>				
	Supply and fit: 20KW 3-phase Hybrid inverter. Include all relevant cables, lugs, and ferrules as per manufacturer's specifications	No.	1	R	R
	Supply and fit: Lithium Battery Wall Mount 51.2V 5.12kWh 100Ah AM-5 Include battery stand, side covers, all relevant cables, bracket, lugs, and ferrules as per manufacturer's specifications	No.	4	R	R
	Supply and fit of 250A fuse.	No.	1	R	R
	Supply of AC DB with a 63 Amp Automatic Change over Switch and Box.	No.	1	R	R
	DC disconnecter Box	No.	1	R	R
	Sundries (Trunking and Clips, Lugs and Ferrules plus Nitto tape.)	Sum	1	R	R
	Connect above system to DB.	Sum	1	R	R
	Supply and connect of Cable Run from DB to Inverter I.e. 16mm 4 core + earth sq armored	m	20	R	R
	Supply and connect of Cable from Battery to Inverter	m	10	R	R
	Supply and Fit: Heavy duty lockable battery cabinet	No.	1	R	R

	PV Surge arrestor device	No.	4	R	R
	Supply and fit 12-way surface mount distribution board. 63 Amps Earth leakage for AC protection, 20 Amp circuit breaker for plug socket protection x 2. PV modules isolator 20 Amps x 10. 3 x 63 Amps circuit breaker for batteries. Surge protection (SPD). Include all relevant cables, lugs, and ferrules as per manufacturer's specifications	No.	1	R	R
	Supply and fit: Battery fuse	No.	4	R	R
	Supply and fit: Battery Holder		4		
	<u>SOLAR</u>				
	Supply and fit PV Modules: Peak power 650 Watts each PV module to be fitted on top of galvanized stand such that maximum solar radiation is absorbed by solar panel.	No	31	R	R
	Supply and install of mounting Kits suitable for Corrugated Roof Include all brackets, antivandal claps, cables, lugs, and ferrules as per manufacturer's specifications (Portrait Install)	Sum	1	R	R
	Supply and install DC Combiner DC 600V Box 2 In 2 Out	No.	1	R	R
	Sundries (Trunking, MC 4 Connectors, Hazard Stickers)	Sum	1	R	R
	Connect the above system to Invertor.	No.	1	R	R
	<u>EARTHING</u>				
	Earth bonding for all the buildings as per SANS 10142.	item	1	R	R
	<u>ELECTRICAL COMPLIANCE</u>				

	All work to comply to SANS 10142 Compliance certificate to be provided on completion. Pricing to include all necessary complete connection				
	Certificate of compliance and all other testing required including a 12 month guarantee	Item	1	R	R
	CARRIED TO SUMMARY				
	SUB-TOTAL			R	R

SUMMARY

<u>STATION</u>		<u>AMOUNT</u>
TORONGA TRAIN STATION		R
DENVER TRAIN STATION		R
	<u>SUBTOTAL</u>	R
	<u>VAT @ 15%</u>	R
	<u>GRAND TOTAL</u>	R

Note: Section 1 on BOQ 22.1, pricing should be include all the stations.