



REQUEST FOR SUPPLY, DELIVER AND INSTALL TRANSFORMERS IN BELLVILLE, DIEP RIVER AND SALT RIVER SUBSTATION.

**PROJECT DESCRIPTION: SUPPLY, DELIVER AND INSTALL
TRANSFORMERS IN BELLVILLE, DIEP RIVER AND SALT RIVER
SUBSTATION**

TRANSACTION:

Request for Quotations

END USER: Infrastructure

(REGION / DEPARTMENT): Western Cape



1. Introduction

The department requires three transformers to be supplied in various substations in the Western Cape Region which are Bellville, Diep River and Salt River Substation. The various transformers are of different sizes, configuration and are meant for power supply to relay rooms and traction substations. Supply of these transformers shall ensure adequate protection, safe travel of trains and provide maintenance flexibility and improve signal power supply.

2. Scope of Works

The scope of work for this project shall entail the following activities:

The scope of the desired solution will be to perform the necessary replacement of the transformers at dedicated areas.

2.1 Description of the works

The scope of works shall include the following activities:

- Removal of old transformers in the dedicated Substations.
- Supply, deliver and install new 2MVA, 33 /11 kV signal transformer in Bellville Substation and place in designated area.
- Supply, deliver and install new 2MVA, 33 /11 kV signal transformer in Diep River Substation and place in designated area.
- Supply, deliver and install new 100 kVA, 33 kV /380 V signal transformer in Salt River Substation and place in designated area.
- Contractor to disconnects and re-connect all transformers.
- Deliver old complete transformers with oil to Salt River Depot. Electrical department will dispose the oil.
- Provide factory tests prior deliveries for departmental approval.
- Prior to installation on site, the transformers shall be tested and commissioned and approved authority and test certificates shall be issued.
- Provide all site tests reports as per requirements.
- Handing over of transformers to PRASA Western Cape.
- Transformer to be galvanized and painted battleship grey for coastal conditions. Please include paint certificates.
- Contractor to provide an Electrical engineer/ Technologist (Heavy Current) as their Project Manager.



- Submit ECSA registration as the advantage.
- The Transformers to be supplied must conform to the National Treasury Instruction which indicates that only locally produced or locally manufactured transformers and associated equipment with a stipulated minimum threshold for local production and content will be considered (Refer to the National Treasury instruction – Transformer Regulation).

Factory Test for Transformers

- No-Load Losses
- No-Load Excitation Current
- Load Losses and Impedance Voltage
- Dielectric Tests
- Partial Discharge Test
- Insulation resistance
- Short Circuit Test
- Turns Ratio Test

On Site tests for Transformers

- Insulation Resistance Test
- Turns Ratio
- Complete/provide Oil analysis (DGA, Dielectric)
- Hi Potential testing (High voltage Pressure test)



3. Specification and Engineering Instructions

The technical data specification for the transformers to be supplied at Bellville, Diep River and Salt River will be as follows:

Bellville Transformer Name Plate

HV-Volts	33 000	HV - Amps	35
LV-Volts	11 000	LV - Amps	105
Impedance %	5.32	Vector Group	Dyn11
Cooling	ONAN	Core & winding mass	2920
Total mass kg	6500	Oil litre	1500
Tapping's	5	kVA	2000

Diep River Transformer Name Plate

HV-Volts	33 000	HV - Amps	35
LV-Volts	11 000	LV - Amps	105
Impedance %	5.32	Vector Group	Dyn11
Cooling	ONAN	Core & winding mass	2920
Total mass kg	6500	Oil litre	1500
Tapping's	5	kVA	2000

Salt River Transformer Name Plate

kVA	100	HV - Amps	179
HV-Volts	33 000	LV - Amps	151.5
LV-Volts	380	Sample Number	2455451
Impedance %	4.51	Oil litre	606
Cooling	ONAN		



Contractor shall visit the site for further required information before manufacturing.

Below is the list of Specifications, Drawings and Engineering specifications to be used.

No	Specification, Drawings and Engineering Instruction	
	Description	Specification, Drawing No
1	Version 2002/1 - Painting of steel components of electrical equipment.	CEE.0045
2	Procedure for energizing / De-energizing of High Voltage Electrical Equipment.	CEE-GL-065 Version 3
3	Standard Specification for the cabling of High Voltage Substation.	D224EB
4	Drawings Catalogues, Instruction Manuals and Spares Lists for Electrical Equipment Supplied Under Contract.	CEE-0224
5	Hot dip galvanizing and painting of electrification steelwork.	CEE.0183 Version 2
6	Symbolic safety signs – Part 1: Standard signs and general requirements.	SANS 1186-1
7	Bus bars	SANS 1195
8	Occupational health and safety specification	MSHERQ-001
9	Specification for works on, over, under or adjacent to railway lines and near high voltage equipment	E7/1

Table 1: List of Drawing, Specifications and Engineering Instructions

4. CIDB Grading

The Projects requires a CIDB Grading **3EP or Higher**.

5. General Specifications

The Contractor shall implement measures required in terms of Covid-19 regulations. No separate payment will be made for such measures, as the contractor shall allow for this in his/her rates tendered for the Works.



6. Evaluation Process

CRITERIA

Submitted letter = 100

Not Submitted = Zero

Organizational Experience

The contractor/service provider must provide three reference letters of previous experience in the form of completed at least one project similar in installation of transformers. The reference letter must address the below items. Attached is a reference letter template that can be used. The reference letter must be sent to the company/business where services were previously rendered for. Should the bidder be in possession of an existing letter, the letter shall cover all aspects outlined below:

A. Previous client and completed works/services information

- i. Name of the organisation
- ii. Description of works/goods/services that were provided
- iii. Year
- iv. Duration

B. Evaluation of Service Provider's Performance

- i. Project completed within the stipulated timeframes and adhering to lead times.
Quality of products



METRORAIL WESTERN CAPE

CONTACTABLE REFERENCE FOR TENDERER

TENDER/PROJECT: APPOINTMENT OF CONTRACTOR TO SUPPLY, DELIVER AND INSTALL TRANSFORMERS IN BELLVILLE, DIEP RIVER AND SALT RIVER SUBSTATION.

Name of the tenderer: _____

To: PRASA – Metrorail – Western Cape

I, the undersigned duly authorized representative, hereby furnish this reference on behalf of the organisation named herein:

A. Previous client and completed works/services information

I. Name of the organisation

: _____

II. Description of works/goods/services that were provided

:

III. Year

: _____

IV. Duration

: _____

V. Value of works/services/goods

:

B. Evaluation of service provider's performance

1. Were the works/service/ product completed/delivered within stipulated timeframes Yes

☐ No

☐

If

no

kindly

comment

2. Were the works/services/product meet the expected and specified quality

Yes

☐ No

☐

If no kindly comment

Signature:

Telephone:

Date:

Business stamp with date



The Contractor shall implement measures required in terms of Covid-19 regulations.
 No separate payment will be made for such measures, as the contractor shall allow for this in his/her rates tendered for the Works.

	Description of Works	Unit	QTY	Total Rate	Lead Time (Week)	Amount
A	Detail A - Bellville Substation					
A1	Remove old 33 /11 kV Transformer and deliver it to Salt River	each	1			
A2	Supply and Deliver 2MVA, 33 /11 kV complete signal supply Transformer.	each	1			
A3	Install 2MVA, 33 /11 kV complete signal supply Transformer.	each	1			
A4	Factory test and Commissioning.	each	1			
B	Detail B – Diep River Substation					
B1	Remove old 33 /11 kV Transformer and deliver it to Salt River	each	1			
B2	Supply and Deliver 2MVA, 33 /11 kV complete signal supply Transformer.	each	1			
B3	Install 2MVA, 33 /11 kV complete signal supply Transformer.	each	1			
B4	Factory test and Commissioning.	each	1			
C	Detail C – Salt River Substation					
C1	Remove old 33kV /380 V Transformer and deliver it to Salt River	each	1			
C2	Supply and Deliver 100 kVA, 33kV /380 V complete Transformer.	each	1			
C3	Install 100 kVA, 33kV/380V complete Transformer.	each	1			
C4	Factory test and Commissioning.	each	1			
Total Amount (Excluding VAT)						
VAT @15%						
Total Amount (Including VAT)						