



REQUEST FOR SUPPLY, DELIVER AND INSTALL TRANSFORMERS IN WETTON, DIEP RIVER AND RETREAT SUBSTATION.

**PROJECT DESCRIPTION: SUPPLY, DELIVER AND INSTALL
TRANSFORMERS IN WETTON, DIEP RIVER AND RETREAT
SUBSTATION.**

TRANSACTION:

Request for Quotations

END USER: Infrastructure

(REGION / DEPARTMENT): Western Cape



1. Introduction

The department requires three transformers to be supplied in various relay rooms in the Western Cape Region which are Wetton, Diep River and Retreat relay rooms. The various transformers are of the same size, configuration and are meant for power supply to relay rooms. 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 50KVA, 11 KV/400 signal transformer in Wetton Substation.
- Supply, deliver and install new 50KVA, 11KV/400 signal transformer in Diep River Substation.
- Supply, deliver and install new 50KVA, 11KV/400 signal transformer in Salt River Substation .



- Contractor to disconnects old transformer and re-connect all new transformers.
- Supply and install transformer kiosk.
- Supply and install 3 phase withdrawable Circuit Breaker In=100A on the LT side of the transformer
- Deliver old complete transformers with oil to Salt River Depot. Electrical department will dispose the oil.
- The transformer shall be manufactured in accordance with SANS 780 and/or SANS/IEC 60076
- 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.
- The kiosk shall be designed for operation from the front and back.
- The kiosk shall be pad locked to prevent unauthorised access.
- The Kiosk shall be Galvanised and painted battleship grey for coastal conditions.
- 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 Wetton, Diep River and Retreat will be as follows:

Wetton: Transformer Name Plate.

HV-Volts	11000	HV - Amps	2,62
LV-Volts	400	LV - Amps	72,17
Impedance %	4.81	Vector Group	Dyn11
Cooling	ONAN	Core & winding mass	
Total mass kg		Oil litre	
Tapping's	5	kVA	50

Wetton: Galvanised and painted battleship grey milled steel Transformer Kiosk Dimensions.

Width	1560mm
Depth	1130mm
Height	1270mm
Milled steel plate thickness	2.3mm


Wetton : 3 phase withdrawable Circuit Breaker Ratings

Tmax XT1B160	Ue=690V AC -500VDC Ui = 800V Vimp= 8KV					S/NCA41031085
Ue(V)	230V/240	415	440	525	690	250
Icu(KA)	25	18	15	6	9	18
Ics(%Icu)	100	100	75	100	100	100
Cat	~50-60HZ					
NEMA AB1(V)	240	480				
HIC	25	8				
I1(40°C)						
Min				70A		
Med				85A		
Max				100A		
I1(40°C)						
Min				70A		
Med				85A		
Max				100A		



Diep River: Transformer Name Plate.

HV-Volts	11000	HV - Amps	2,62
LV-Volts	400	LV - Amps	72,17
Impedance %	4.81	Vector Group	Dyn11
Cooling	ONAN	Core & winding mass	
Total mass kg		Oil litre	
Tapping's	5	kVA	50

Diep river: Galvanised and painted battleship grey milled steel Transformer Kiosk Dimensions

Width	1560mm
Depth	1130mm
Height	1270mm
Milled steel plate thickness	2.3mm



Diep River :3 phase Withdrawable Circuit Breaker Ratings

Tmax XT1B160	Ue=690V AC -500VDC Ui = 800V Vimp= 8KV					S/NCA41031085
Ue(V)	230V/240	415	440	525	690	250
Icu(KA)	25	18	15	6	9	18
Ics(%Icu)	100	100	75	100	100	100
Cat	~50-60HZ					
NEMA AB1(V)	240	480				
HIC	25	8				
I1(40°C)						
Min				70A		
Med				85A		
Max				100A		


Retreat: Transformer Name Plate.

HV-Volts	11000	HV - Amps	2,62
LV-Volts	400	LV - Amps	72,17
Impedance %	4.81	Vector Group	Dyn11
Cooling	ONAN	Core & winding mass	
Total mass kg		Oil litre	
Tapping's	5	kVA	50

**Retreat: Galvanised and painted battleship grey milled steel Transformer Kiosk
Dimensions**

Width	1560mm
Depth	1130mm
Height	1270mm
Milled steel plate thickness	2.3mm



Retreat Withdrawable Circuit Breaker Ratings

Tmax XT1B160	Ue=690V AC -500VDC Ui = 800V Vimp=					S/NCA41031085
Ue(V)	230V/240	415	440	525	690	250
Icu(KA)	25	18	15	6	9	18
Ics(%Icu)	100	100	75	100	100	100
Cat	~50-60HZ					
NEMA AB1(V)	240	480				
HIC	25	8				
I1(40°C)						
Min				70A		
Med				85A		
Max				100A		



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
10	Manufacturing of distribution transformer	SANS 780 and/or SANS/IEC 60076

Table 1: List of Drawings, Specifications and Engineering Instructions



4. CIDB Grading

The Projects requires a CIDB Grading **2EP or Higher**.

5. Mandatory Requirements

The following forms mandatory requirements and failer to submit 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.

No.	Description of requirement	
a)	Completion of ALL RFP documentation (includes ALL)	x
b)	Briefing Session Form D.Bidders must also reflect on the Compulsory Briefing Session Attendance Register(Delete if not applicable)	x
c)	Signed Joint Venture, Consortium Agreement or Partnering Agreement (whichever is applicable)	
d)	Proof of CIDB grading 2EP or higher Professional Qualification: Qualified Electrician with N3 or Higher and Trade Test Certificate	



6. Basic Requirements

6.1. Basic Requirements

If you do not submit/meet the following mandatory documents/requirements, your bid will be automatically disqualified:

No.	Description of requirement	
a)	Letter of Good Standing: COID	x
b)	Valid SARS Pin	x
c)	Company Registration Documents	x
d)	Copies of Directors ID's Documents	x
e)	CSD supplier registration number	x

6.2 Stage 1B - Other Mandatory Requirements

If you do not submit/meet the following mandatory documents/requirements, PRASA may request the bidder to submit the information within five (5) working days. Should this information not be provided, your bid proposal will be disqualified.

7. Time Frame

The planned time frame for the implementation of this proposed project is 4 months.

8. Evaluation Process



The minimum threshold for the technical/functionality requirements is 60%. Bidders who score below the minimum requirement shall not be considered for further evaluation.

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

ITEM	CRITERIA	WEIGHT
1	Key Staff – Experience	50
2	Previous Company / Organisational Experience:	50
3	TOTAL	100

Details of the scoring methodology presented above are outlined below:

0 - Not submitted / Irrelevant, 10 - Poor; 20 - Average; 30- Good; 40-Very Good, 50- Excellent.

QUALITY CRITERIA	INDICATORS					
	Not submitted / Irrelevant= 0 Points	Poor= 10 Points	Average =20 Points	Good= 30Points	Very good =40 Points	Excellent = 50 points
Experience of Key Personnel (based on submitted CVs) Provide CV of an Electrician detailing experience and knowledge for traction substation. Score of an Electrician will be allocated according to the number of years in traction substation.	No experience or No CV submitted. (Equates to a score of 0).	Electrician CV was submitted. 1year experience and less (Equates to a score of 10).	Electrician CV was submitted. 2years' experience or more but less than 3 (Equates to a score of 20).	Electrician CV was submitted. 3years' experience or more but less than 4 (Equates to a score of 30).	Electrician CV was submitted. 4years' experience or more but less than 5 (Equates to a score of 40).	Electrician CV was submitted. 5years' experience or more. (Equates to a score of 50).



QUALITY CRITERIA	INDICATORS					
	Not submitted / Irrelevant = 0 Points	Poor= 10 Points	Average=20 Points	Good = 30 Points	Very good =40 Points	Excellent = 50 points
<u>Organizational Experience</u> Supply evidence of previous experience in the form of completed projects/services /contracts related to installation of transformers. The evidence should come in the form of five (5) completed reference letters, where 1 reference letter equates to 1 project completed. The reference letter must address the below items.	No project completed with zero relevant reference letter equates to a score of 0	One project completed with one relevant reference letter equates to a score of 10 Note: The reference letter must be signed and stamped by the company/business where the services were previously rendered and comply with the two listed criteria.	Two project successfully completed with two relevant reference letter equates to a score of 20. Note: The reference letter must be signed and stamped by the company/business where the services were previously rendered and comply with the two listed criteria.	Three projects successfully completed with three relevant reference letters equates to a score of 30. Note: The reference letter must be signed and stamped by the company/business where the services were previously rendered and comply with the two listed criteria	Four projects successfully completed with four relevant reference letters equates to a score of 40. Note: The reference letter must be signed and stamped by the company/business where the services were previously rendered and comply with the two listed criteria	Five projects successfully completed with five relevant reference letters equates to a score of 50. Note: The reference letter must be signed and stamped by the company/business where the services were previously rendered and comply with the two listed criteria



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. <u>Previous client and completed works/services information.</u> i.Name of the organisation ii.Description of works/goods/services that were provided iii. Year		If the reference letter reflects a negative report attributable to the Supplier, that reference letter will not be considered. If the reference letter does not feature all criteria, then the tenderer will be given the lowest score.	If the reference letter reflects a negative report attributable to the Supplier, that reference letter will not be considered. If the reference letters do not feature all criteria, then the tenderer will be given the lower score.	If the reference letter reflects a negative report attributable to the Supplier, that reference letter will not be considered. If the reference letters do not feature all criteria, then the tenderer will be given the lower score	If the reference letter reflects a negative report attributable to the Supplier, that reference letter will not be considered. If the reference letters do not feature all criteria, then the tenderer will be given the lower score.	If the reference letter reflects a negative report attributable to the Supplier, that reference letter will not be considered. If the reference letters do not feature all criteria, then the tenderer will be given the lower score.
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iv. Duration						
B. <u>Evaluation of Service Provider's Performance</u>						
i. Project completed within the stipulated timeframes and adhering to lead times.						
ii. Quality.						



METRORAIL WESTERN CAPE

CONTACTABLE REFERENCE FOR TENDERER

TENDER/PROJECT: APPOINTMENT OF CONTRACTOR TO SUPPLY, DELIVER AND INSTALL TRANSFORMERS IN WETTON, DIEP RIVER AND RETREAT

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	Amount
	Removal of old equipment				
	Remove old 50KVA,11KV/400 Transformers in Wetton ,Diep river and Retreat and deliver it to Salt River	each	3		
A	Detail A -Wetton relay room/substation				
A1	Supply and Deliver 50kVA,11kv/400 complete signal transformer	each	1		
A2	Install 50KVA, 11KV/400 complete signal supply Transformer.	each	1		
A3	Galvanised and painted battleship grey milled steel Transformer Kiosk	each	1		
A	Supply and Install 3phase gang Withdrawable CB In=100A	each	1		
B	Detail B – Diep River relay room/Substation				
B1	Supply and Deliver 50kVA,11kv/400 complete signal transformer	each	1		
B2	Install 50KVA, 11KV/400 complete signal supply Transformer.	each	1		
B3	Galvanised and painted battleship grey milled steel Transformer Kiosk	each	1		
B4	Supply and Install 3phase gang Withdrawable CB In=100A	each	1		
C	Detail C – Retreat relay room/Substation				
C1	Supply and Deliver 50kVA,11kv/400 complete signal transformer	each	1		
C2	Install 50KVA, 11KV/400 complete signal supply Transformer.	each	1		
C3	Galvanised and painted battleship grey milled steel Transformer Kiosk	each	1		
C4	Supply and Install 3phase gang Withdrawable CB In=100A	each	1		
	Factory test and Commissioning.	each	3		
Total Amount (Excluding VAT)					
VAT @15%					
Total Amount (Including VAT)					