



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

ADDENDUM: BILLS OF QUANTITIES

ADDENDUM TO PT24/043: 36 MONTHS TERM CONTRACT : REPAIR AND MAINTENANCE OF HIGH TENSION OR HIGH VOLTAGE INSTALLATIONS ON STATE OWNED BUILDING FOR THE DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE: PRETORIA REGION AREA 2



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Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

ANNEXURE 2: CORRECTED BOQ

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	RATE YEAR 1		RATE YEAR 2		RATE YEAR 3	
				YEAR 1 - AMOUNT	YEAR 2 - AMOUNT	YEAR 1 - AMOUNT	YEAR 2 - AMOUNT	YEAR 1 - AMOUNT	YEAR 2 - AMOUNT
	SCHEDULE NO 1: ELECTRICAL RETICULATIONS: PREVENTITIVE MAINTENANCE								
	Substations, Mini Substations and Distribution Equipment								
1.1	Clean and remove weeds and grass for 2m around structures and remove undesirable materials.								
1.1.1	Substation Buildings 12m x 6m	ea	1						
1.1.2	Mini Substations 6m x 5m	ea	1						
1.1.3	LV Kiosks	ea	1						
1.2	Clean and dust inside of substations, Mini Substations and LV Kiosk including equipment and switchgear as per specification Annexure "C"								
1.2.1	Substation	ea	1						
1.2.2	Mini Substation	ea	1						
1.2.3	LV Kiosks	ea	1						
1.3	Inspect, Evaluate and report on quality of building structures, Mini Subs and LV Kiosk that includes paint, roof structure(Leaks), doors, windows, etc as specified								
1.3.1	Substation Buildings	ea	1						
1.3.2	Mini Substations	ea	1						
1.3.3	LV Kiosks	ea	1						
1.3.4	LV Distribution Boards	ea	1						
1.4	Evaluate identification labels of Substations Mini Sub, and LV Kiosk and where require supply and install identification labels as per the requirement of the Department								
1.4.1	Substation Identification label: 100mm high red letters on white background board 200mm wide and long enough to accommodate 10 letters	ea	1						
1.4.2	Mini Sub and LV Kiosk Identification label: 65mm high red letters on white background board 120mm wide and long enough to accommodate 10 letters	ea	1						
TOTAL CARRIED FORWARD									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	RATE YEAR 1		RATE YEAR 2		RATE YEAR 3	
				YEAR 1 - AMOUNT	YEAR 2 - AMOUNT	YEAR 1 - AMOUNT	YEAR 2 - AMOUNT	YEAR 1 - AMOUNT	YEAR 2 - AMOUNT
TOTAL BROUGHT FORWARD									
1.5	Medium Voltage 11 kV Switchgear in Substation								
1.5.1	Collect information and capture on drawing as specified								
1.5.2	Visual inspection as described in the specification	ea	1						
1.5.3	Functional inspection and services as described in the specification	ea	1						
1.5.4	Inspect and collect information on protection devices(Relays) and current transformers(CT) as specified	ea	1						
1.5.5	Perform required tests as specified	ea	1						
1.5.6	Metering Equipment: Ammeters, Voltmeters, Trip counters and consumption meters	ea	1						
1.5.7	Check Voltage Transformers(VT) as described in the specification	ea	1						
1.6	Medium Voltage 11 kV Switchgear in Mini Substations and free standing RMU								
1.6.1	Collect information and capture on drawing as specified	ea	1						
1.6.2	Visual inspection as described in the specification	ea	1						
1.6.3	Functional inspection and services as described in the specification	ea	1						
1.7	Transformers: Free standing in Subs, Mini Substations and Pole mounted								
1.7.1	Collect information and capture on drawing as specified	ea	1						
1.7.2	Check, Evaluate, Report and Test as described in the specification	ea	1						
1.7.3	Supply and replace silica jel in breathers for transformers from 50 KVA to 1000 KVA	ea	1						
1.7.4	Supply and replace silica jel breather unit with silica jel included for transformers 50 KVA to 1000 KVA	ea	1						
1.8	Battery Tripping Unit (BTU)								
1.8.1	Collect information and capture on drawing as specified	ea	1						
1.8.2	Evaluate, Service, Repair BTU as specified	ea	1						
1.8.3	Supply, Install and Connect 1.5 V battery cell	ea	1						
TOTAL CARRIED FORWARD									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	YEAR 1		YEAR 2		YEAR 3	
				RATE	YEAR 1 - AMOUNT	RATE	YEAR 2 - AMOUNT	RATE	YEAR 3 - AMOUNT
TOTAL BROUGHT FORWARD									
1.9	Transformer Oil (Switchgear and Transformer) Quality control of oil, top-up and refill transformer oil in switchgear and transformer as specified								
1.9.1	Obtain oil samples from equipment and arrange for test and submit results to the department	ea	1						
1.9.2	Purification of oil on site including transport and labour per litre	ea	1						
1.9.3	Supply oil on site including transport and labour per litre, as and when required	ea	1						
1.10.	LV Distribution boards, kiosks and mini-sub LC compartment								
1.10.1	Compile layout drawing of switchgear in LV compartment and DB specify functions of switchgear as specified								
(a)	LV Distribution Board	ea	1						
(b)	LV Kiosk	ea	1						
(c)	Mini-Sub LV compartment	ea	1						
1.10.2	Labeling								
(a)	Verify on site as specified if all equipment and switchgear is labeled and legend cards available at distribution boards. Supply and install labels where necessary according to the department specification	ea	1						
(b)	Label with 8 x 10 mm high letters (White letter on black background)	ea	1						
(c)	Label with 6 x 5 mm high letters (White letter on black background)	ea	1						
1.10.3	Visual inspection as described in the specification	ea	1						
1.10.4	Functional inspection of equipment and switchgear as described in the specification	ea	1						
1.11	Earthing								
1.11.1	Allow for the execution of the evaluation and inspection of earthing as described in the specification	ea	1						
1.11.2	Allow for testing of the earth system as specified	ea	1						
TOTAL CARRIED FORWARD									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	RATE YEAR 1	YEAR 1 - AMOUNT	RATE YEAR 2	YEAR 2 - AMOUNT	RATE YEAR 3	YEAR 3 - AMOUNT
TOTAL BROUGHT FORWARD									
1.12	Underground cable systems								
1.12.1	Identify and evaluate cable routes and identification markers and capture information on drawing as specified	ea	1						
1.12.2	Execute visual inspections and report on the quality of cable terminations and protection as specified	ea	1						
1.12.3	Execute in service evaluation as described in the specification	ea	1						
1.13	Overhead lines								
1.13.1	Identify and evaluate line routes and capture information on drawing as specified	ea	1						
1.13.2	Execute visual inspections and report on the quality of the line as described in the specifications	ea	1						
1.13.3	Execute maintenance as described in the specification	ea	1						
1.13.4	Earthing								
(a)	Allow for the execution of the evaluation of the evaluation and inspection of earthing as described in the specification	ea	1						
(b)	Allow for testing of the earth system as specified	ea	1						
TOTAL CARRIED FORWARD TO SUMMARY PAGE									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	YEAR 1 - AMOUNT		YEAR 2 - AMOUNT		YEAR 3 - AMOUNT	
				RATE	YEAR 1	RATE	YEAR 2	RATE	YEAR 3
	SCHEDULE NO.2 ELECTRICAL RETICULATIONS: PREVENTATIVE MAINTENANCE: MATERIALS								
2.	Overhead line equipment								
	Materials required to maintain overhead lines and replace damaged equipment								
2.1.1	Replace drop out type fuse links								
(a)	5 Amp	ea	1						
(b)	10 Amp	ea	1						
(c)	15 Amp	ea	1						
(d)	20 Amp	ea	1						
2.1.2	Replace 10m Galvanized Steel Pole including excavation and removal of existing damaged pole, planting of new pole and compact	ea	1						
2.1.3	Replace 10m Wooden Pole including excavation and removal of existing damaged pole, planting of new pole and compact	ea	1						
2.1.4	Replacing of Insulators								
(a)	11/22 kV Pin Insulators	ea	1						
(b)	11/22 kV Disc type strain insulators	ea	1						
2.1.5	Replacing of lightning arrester								
(a)	11/22 kV Lightning Arrester	ea	1						
(b)	400/230 V Lightning Arrester	ea	1						
(c)	DB-LV Clip in Type	ea	1						
(d)	DB/Meter surface mounted type	ea	1						
2.1.6	Supply and install Anchor complete excavation included	ea	1						
2.2	Cable:								
	Materials required to repair, replace or extend underground cable								
2.2.1	Supply and install and joint or terminate the PILC 6.6/11 kV cable								
TOTAL CARRIED FORWARD									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	YEAR 1 - AMOUNT		YEAR 2 - AMOUNT		YEAR 3 - AMOUNT	
				RATE	YEAR 1	RATE	YEAR 2	RATE	YEAR 3
TOTAL BROUGHT FORWARD									
(a)	120m ² x 3 Core	m	1						
(b)	95m ² x 3 Core	m	1						
(c)	70m ² x 3 Core	m	1						
2.2.2	Supply & install cable joint similar to Raytech Heat Shrink Type for following cables								
(a)	120m ² x 3 Core 11 KV	ea	1						
(b)	95m ² x 3 Core 11 KV	ea	1						
(c)	70m ² x 3 Core 11 KV	ea	1						
2.2.3	Supply & install cable termination similar to Raytech Heat Shrink Type for following cables								
(a)	120m ² x 3 Core 11 KV	ea	1						
(b)	95m ² x 3 Core 11 KV	ea	1						
(c)	70m ² x 3 Core 11 KV	ea	1						
2.2.4	Supply and install and joint or terminate the following PVC 600/1000 V Cable								
(a)	120m ² x 4 Core	ea	1						
(b)	95m ² x 4 Core	ea	1						
(c)	70m ² x 4 Core	ea	1						
(d)	50m ² x 4 Core	ea	1						
(e)	35m ² x 4 Core	ea	1						
(f)	25m ² x 4 Core	ea	1						
(g)	16m ² x 4 Core	ea	1						
(h)	16m ² x 3 Core	ea	1						
(i)	10m ² x 4 Core	ea	1						
2.2.5	Supply & install cable joint similar to Raytech Heat Shrink Type for following cables								
(a)	120m ² x 4 Core	ea	1						
(b)	95m ² x 4 Core	ea	1						
(c)	70m ² x 4 Core	ea	1						
(d)	50m ² x 4 Core	ea	1						
(e)	35m ² x 4 Core	ea	1						
(f)	25m ² x 4 Core	ea	1						
(g)	16m ² x 4 Core	ea	1						
(h)	16m ² x 3 Core	ea	1						
(i)	10m ² x 4 Core	ea	1						
TOTAL CARRIED FORWARD									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	YEAR 1 - AMOUNT		YEAR 2 - AMOUNT		YEAR 3 - AMOUNT	
				RATE	YEAR 1	RATE	YEAR 2	RATE	YEAR 3
TOTAL BROUGHT FORWARD									
2.2.6	Supply, install and connect bare copper earth conductor with ferrul or lug included for the following sizes								
(a)	120m ² Bare Copper	ea	1						
(b)	95m ² Bare Copper	ea	1						
(c)	70m ² Bare Copper	ea	1						
(d)	50m ² Bare Copper	ea	1						
(e)	35m ² Bare Copper	ea	1						
(f)	25m ² Bare Copper	ea	1						
(g)	16m ² Bare Copper	ea	1						
(h)	16m ² Bare Copper	ea	1						
(i)	10m ² Bare Copper	ea	1						
2.2.7	Allow for excavation and back filling for underground cables and joint holes in the following ground conditions								
(a)	Pickable Material	m ³	1						
(b)	Hard Material (Power Tools Required)	m ³	1						
(c)	Hard Rock (Blasting)	m ³	1						
2.2.8	Supply, install, fit and connect ammeter or voltmeter in Distribution Board, Kiosk and Mini Sub LV compartment								
(a)	96 x 96mm Maximum Demand CT Operated	ea	1						
(b)	96 x 96mm Instantaneous Type CT Operated	ea	1						
(c)	96 x 96mm 0 to 400 V Scale Voltmeter	ea	1						
(d)	Selector Switch 6 Position + Off	ea	1						
(e)	HRC 5 Amp Fuse cartridges	ea	1						
2.3.	Transformers:								
2.3.1	Transformer Repairs:								
	Repair the following according to the Departments standards including Oil Etc.								
(a)	Replace Tap changer	ea	1						
(b)	Replace Transformer Top Gasket	ea	1						
(c)	Replace LT Insulator Gasket(4) including Cone	ea	1						
(d)	Replace HT Insulator Gasket(3) including Cone	ea	1						
(e)	Repair of Minor leaks (Tightning or Tap seal)	ea	1						
TOTAL CARRIED FORWARD TO THE SUMMARY PAGE									

ITEM	DESCRIPTION	UNIT	QTY PER YEAR	YEAR 1 - AMOUNT		YEAR 2 - AMOUNT		YEAR 3 - AMOUNT	
				RATE YEAR 1	RATE YEAR 2	RATE YEAR 2	RATE YEAR 3	RATE YEAR 3	RATE YEAR 3
	SCHEDULE NO 3: ELECTRICAL RETICULATIONS: STANDBY LABOUR AND MAINTENANCE SUPPORT								
3.1	Rates: The rates for labour will be deemed to include for statutory minimum labour rates, contribution to bonus, holiday, pension, medical funds etc, for normal working hours, over time, Sunday and holiday as well as for transport cost including traveling time								
3.1.1	Labour:								
3.1.1.1	Labour rates per hour - Normal Hours								
(a)	Master Installations Electrician	p/h	1						
(b)	Installations Electrician	p/h	1						
(c)	Labourer	p/h	1						
3.1.1.2	Labour rates per hour - Overtime Hours								
(a)	Master Installations Electrician	p/h	1						
(b)	Installations Electrician	p/h	1						
(c)	Labourer	p/h	1						
3.2	Materials: The cost of non scheduled materials shall be deemed to include for the cost of material after deduction of any discount and delivery								
3.2.1	Mark Up on new parts, material and equipment provided from elsewhere only								
(a)	Non Scheduled Sum	R	1	R 3 190 000,00	R 3 336 724,82	R 3 336 724,82	R 3 495 616,48	R 3 495 616,48	R 3 495 616,48
(b)	% Markup on the Amount of R1 000 000-00 (The amount of R3 000 000-00 is to be taken and multiplied by the percentage markup and carried over to the Amount Column eg Markup 20 % x R1 000 000-00 = R200 000-00. This R600 000-00 will then be written on the open space in the Amount Column)Max 20% Allowed	%	20	R 215 055,60	R 667 344,96	R 667 344,96	R 699 123,30	R 699 123,30	R 699 123,30
3.3	Transport: The cost of workers and drivers traveling time shall be deemed to be included with the unit rates for transport cost. Distances will be measured from the HEAD OFFICE of DPW in Pretoria.								
TOTAL CARRIED FORWARD									
TOTAL BROUGHT FORWARD									

