



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

ADDENDUM: BILLS OF QUANTITIES

ADDENDUM TO PT24/045: 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 4



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ANNEXURE 2: CORRECTED BOQ

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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									
1.5	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	Perform tasks as specified								
	Check Voltage Transformers(VT) as described in the specification	ea	1						
1.6	Meduim Voltage 11 kV Switchgear in Mini Substations and free standing RMU	ea	1						
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	RATE		YEAR 1 - AMOUNT	RATE		YEAR 2 - AMOUNT	RATE		YEAR 3 - AMOUNT	
				YEAR 1			YEAR 2			YEAR 3			
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 - AMOUNT	RATE		YEAR 2 - AMOUNT	RATE		YEAR 3 - AMOUNT
				YEAR 1			YEAR 2			YEAR 3		
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		RATE		YEAR 2 - AMOUNT		RATE		YEAR 3 - AMOUNT	
				YEAR 1		YEAR 2		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 arrestor												
(a)	11/22 kV Lightning Arrestor	ea	1										
(b)	400/230 V Lightning Arrestor	ea	1										
(c)	DB-1V 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		RATE		YEAR 3 - AMOUNT
				RATE	YEAR 1	RATE	YEAR 2	RATE	YEAR 3	
TOTAL BROUGHT FORWARD										
(a)	120m² x 3 Core	m	1							
(b)	95m² x 3 Core	m	1							
(c)	70m² x 3 Core	m	1							
2.2.2	Supply & install cable joint similar to Raytech Heat Shrink Type for following cables									
(a)	120m² x 3 Core 11 kV	ea	1							
(b)	95m² x 3 Core 11 kV	ea	1							
(c)	70m² x 3 Core 11 kV	ea	1							
2.2.3	Supply & install cable termination similar to Raytech Heat Shrink Type for following cables									
(a)	120m² x 3 Core 11 kV	ea	1							
(b)	95m² x 3 Core 11 kV	ea	1							
(c)	70m² 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)	120m² x 4 Core	ea	1							
(b)	95m² x 4 Core	ea	1							
(c)	70m² x 4 Core	ea	1							
(d)	50m² x 4 Core	ea	1							
(e)	35m² x 4 Core	ea	1							
(f)	25m² x 4 Core	ea	1							
(g)	16m² x 4 Core	ea	1							
(h)	16m² x 3 Core	ea	1							
(i)	10m² x 4 Core	ea	1							
2.2.5	Supply & install cable joint similar to Raytech Heat Shrink Type for following cables									
(a)	120m² x 4 Core	ea	1							
(b)	95m² x 4 Core	ea	1							
(c)	70m² x 4 Core	ea	1							
(d)	50m² x 4 Core	ea	1							
(e)	35m² x 4 Core	ea	1							
(f)	25m² x 4 Core	ea	1							
(g)	16m² x 4 Core	ea	1							
(h)	16m² x 3 Core	ea	1							
(i)	10m² x 3 Core	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									
2.2.6	Supply, install and connect bare copper earth conductor with ferrul or lug included for the following sizes								
(a)	120m² Bare Copper	ea	1						
(b)	95m² Bare Copper	ea	1						
(c)	70m² Bare Copper	ea	1						
(d)	50m² Bare Copper	ea	1						
(e)	35m² Bare Copper	ea	1						
(f)	25m² Bare Copper	ea	1						
(g)	16m² Bare Copper	ea	1						
(h)	16m² Bare Copper	ea	1						
(i)	10m² 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	m³	1						
(b)	Hard Material (Power Tools Required)	m³	1						
(c)	Hard Rock (Blasting)	m³	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									

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