



INDIAN INSTITUTE OF TECHNOLOGY KANPUR



Tender Notice No. 26/Elect./2019

SCHEDULE OF QUANTITY

Name of Work: Replacement of old 11 KV SF6 panel installed at substation No. 1 Phase-I with new VCB base panel (in buy back of old ABB make SF-6 Panel).

Name of the Contractor					
S. No	Description of Items	Qty	Unit	Rate in Figures in Rupees	Amount
1	Supply, installation, testing and commissioning of indoor type, metal clad switchgear with fabricated from 2 mm thick CRCA/aluzinc material, 11KV, 1250 amp, 25kA/3Sec VCB panel with 7 VCBs with integrated operating handle, totally enclosed and fully interlocked with self support copper busbar, horizontal draw out breaker with all compartments type tested for internal arc for 25 kA for 1 sec as per IEC 62271-100, as amended up to date and additional specifications and following capacities and enclosed specifications E-01				
A	Incoming (1 set) - 1250 A VCB electrically operated, draw out type with completely encapsulated poles and continuous rated closing & tripping coils.				
i).	Three nos 800-400/1-1 ratio, 2.5VA, class 1.0 Resin Cast Current Transformer for metering purposes and class 5P10 Resin Cast Current Transformer for protection purposes.				
ii).	Three nos. Potential Transformer 11kV epoxy cast resin, withdrawable type with HT fuse				
iii).	Numerical relay with LCD Display - 3 over current + Earth Fault with instantaneous element with IDMT/ DMT characteristics selectable at site , master trip relay hand reset type trip circuit supervision function, inrush protection, record and store at least 100 Events with Date and Time Stamp, Last Five Fault Records stored in Non-volatile memory , Self Supervision function, Minimum 4 Digital Binary Inputs and 6 Digital output Contacts, Modbus communication Protocol with RS-485 Port, Breaker Control (ON/OFF) ,Modbus protocol for communication., Antipumping relay.				
iv).	Multifunction Meter for measurement of Current, Voltage, Power Factor, KVA, KVAR, Frequency, KWHR and maximum demand recording and indicating with compatibility to RS485 port.				
v).	One Set of Red / Green / Indication Lamps for close and open position. One Amber indicating lamp for trip circuit healthy. One Set of white phase indication lamps for phase.				
B	Outgoing(6set) - three nos with 1250A VCB electrically operated, draw out type with completely encapsulated poles, and continuous rated closing & tripping coils.				

S. No	Description of Items	Qty	Unit	Rate in Figures in Rupees	Amount
i).	Three Nos. 400-200 /1-1 ratio, 5 VA, Class 1.0 Resin Cast Current Transformers for metering purposes and Class 5P10 Resin Cast Current Transformers for Protection Purposes.				
ii).	Instrument & Protection Panel - Numerical relay with LCD display- 3 OC+ 1 E/F with instetenious element IDMT/DMT characteristics selectable at site , master trip relay hand reset type trip circuit supervision function, inrush protection, record and store at least 100 Events with Date and Time Stamp, Last Five Fault Records stored in non-volatile memory, Self Supervision function, Minimum 4 Digital Binary Inputs and 6 Digital output Contacts, Modbus Communication Protocol with RS-485 Port, remote Breaker Control (ON/OFF) feature over Modbus.				
iii).	Auxiliary relay for fault (OTI, WTI, Buchholz-Alarm and Trip				
iv).	Multifunction Meter for measurement of Current, Voltage, Power Factor, KVA, KVAR, Frequency, KWHR and maximum demand recording and indicating with compatibility to RS485 port.				
v).	One Set of Red / Green / Indication Lamps for close and open position. One Amber indicating lamp for trip circuit healthy. One Set of white phase indication lamps for phase.	1.00	Nos.		
2	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	95.00	Mtr		
3	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	2.00	Nos.		
4	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep)and re-filling etc. as required				
a)	50 mm Dia	6.00	Mtr		
b)	80 mm Dia	6.00	Mtr		
c)	100 mm Dia	6.00	Mtr		
5	Supplying and laying Insulating mat "Shock safe" 3.0 mm thick for up to 33.0 kV class C in front of electrical panels, ISI marked as required complete.	10.00	Sq.Mtr.		
6	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 kV grade as required				
a)	above 120sq.mm. upto 240 sq.mm.	7.00	Nos.		

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7	S&M end termination with brass compression gland and aluminium lugs etc. complete as reqd. for the following size of PVC/XLPE insulated al conductor cable 1.1kV grade as reqd.				
a	10 C x 2.5 sq.mm.	10.00	Nos.		
8	Digging & refilling the cable trench , ramming and making good the same as reqd.	10.00	Mtr..		
9	Lifting removing cable upto185sq.mm. size from trench/clamps, making role & depositing the same in store I/c cartage.	20.00	Mtr..		
10	Supply & laying of one number XLPE steel armoured copper control cable of grade exceeding 1.1 KV of size 4 x 4 Sq.mm. as per following details.				
a)	Direct in ground including excavation, sand cushioning, protective covering and refilling the trench as reqd.	5.00	Mtr..		
b)	In the existing RCC / HUME / STONE WARE / METAL pipe as reqd.	5.00	Mtr..		
c)	Direct in the existing masonry open duct as reqd.	20.00	Mtr.		
11	Supplying and laying chequered plate in cut pcs of 6mm thick with handle cutting/ welding as required complete.	4.00	Sq. Mtr.		
12	Providing 15mm thick cement plaster of mix 1:4 (1 cement : 4 fine sand) at all levels.	6.00	Sqm		
13	Providing and laying in position reinforced cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) in foundation of pump, DG set etc. including form work etc. as required (excluding reinforcement).	1.00	cum		
14	Supplying and fixing 'C' Channel of size 100 x 50 mm ISMC in cut sizes i/c cutting/ welding as required complete.	10.00	Mtr..		
15	Providing brick work (in width 225 mm or more) with F.P.S. bricks of class designation 7.5 in cement mortar 1:4 (1 cement : 4 coarse sand) at all levels.	5.00	cum		
16	Excavation for foundation in soft soil including dressing of sides and ramming of bottoms, lift up to 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 metres.	3.00	cum		
	Total (Part-A)				
	Part B				

S. No	Description of Items	Qty	Unit	Rate in Figures in Rupees	Amount
1	Less for retaining old panel with 6 nos defective SF6 breaker assembly as and where as basis.	1.00	Set.		
	Total (Part -B)				
	(Total Part 'A') - (Total Part 'B')				