LAYING OF HT/LT CONTROL CABLE INSTALLATION OF C&R PANEL KIOSKS BREAKERS ETC.

Chapter Code No	DESCRIPTION OF WORK	UNIT	Rate/Unit
1	2	3	4
	Laying of HT/LT control cable installation of C&R panel Kiosks Breakers etc.		
11.1	Erection of OCB/Kiosk/VCB complete with accessories including use of special tools & conducting all pre-commissioning test before energization,filling oil etc. complete in all respect with erection & grouting of structure (excluding civil works). The relays will be tested by Discom.		
11.1.1	33 KV OCB	Nos.	5556.68
11.1.2	33 KV VCB/SF-6 Breaker	Nos.	5556.68
11.1.3	11 KV OCB/KIOSK	Nos.	4502.76
11.1.4	11 KV VCB (Outdoor)	Nos.	5556.68
11.1.5	11 KV VCB (Indoor)	Nos.	4502.76
11.2	Installation of control panel including checking of wiring and conducting all pre-commissioning tests before energization, satisfactory operation of all equipment existing thereof. (The relay will be tested by Discom).		
11.2.1	33 KV Control Panel	Nos.	1370.76
11.2.2	11 KV Control Panel	Nos.	1370.76
11.3	Installation of current/potential transformers on supporting structure including checking of wiring & conducting all pre-commissioning tests before energization & satisfactory operation in all respect (The CT/PT set will be tested by Discom).		
11.3.1	33 KV CT(1 set of 3 Nos.) OR PT Set	Set	1370.76
11.3.2	11 KV CT(1 set of 3 Nos.) OR PT Set	Set	1370.76
11.4	Erection & commissioning of battery set and battery charger including all required connection/wiring from battery set to battery charger and A.C.mains complete in all respect.		
11.4.1	110 Volts D.C.	Set	1370.76
11.4.2	24 Volts D.C.	Set	1370.76

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Chapter Code No	DESCRIPTION OF WORK	UNIT	Rate/Unit
1	2	3	4
11.5	Laying, testing termination of control cable 1100 volts PVC insulated including supply and installation of ferrules to designate various cores of control cables by terminal Nos. of identification including utilization of cable gland. The control cable should be clearly arranged in trenches avoiding crossings including clamping of control cable at regular interval and providing identify tags.		
11.5.1	2x2.5 Sq.mm.	Mtr.	14.88
11.5.2	3x2.5 Sq.mm.	Mtr.	17.50
11.5.3	4x2.5 Sq.mm.	Mtr.	19.95
11.5.4	5x2.5 Sq.mm.	Mtr.	22.42
11.5.5	10x2.5 Sq.mm.	Mtr.	24.87
11.5.6	12x2.5 Sq.mm.	Mtr.	27.32
11.5.7	4x4 Sq.mm.	Mtr.	22.42
11.5.8	6x4 Sq.mm.	Mtr.	27.32
11.6	Supply andFixing of metallic junction box size 450x300x250 mm outdoor type floor mounting fabricated out of cold rolled steel sheet 16 SWG with required branching and support of M.S. Angle 45x45x5mm The box should be printed with the coat of Zinc Chromate primer and 2 coats of light grey paint. Removal of gland plate of 3 mm. Thickness with rubber gasket for cable entry at bottom gland plate should be spacious to fix 6 Nos. cable glands of 25mm size double hinged door with pad lock provision should be gasket with foam & rubber to make junction box dust & water proof supply of junction box will include following items.	Nos.	2819.23
(A)	The top cover of junction box should have slope of 10 mm so that water is not collected on top of the box.		
(B)	18 Nos. terminal blocks of 30 Amp. Bolted type with end plate and screws fixed on 36 cm mounting channel for terminal block with bolts & nuts of 25x9 Sq.mm.on side support inside junction box. The terminal blocks should be detachable type, which can be removed or added individually and suitable for 4/6 Sq.mm.coppers lugs. The terminal blocks should be preferably of GEC/Alsthom/ Essun/Malamin PVC or equivalent make.		
(C)	The supports of junction box made of M.S.Angle size 45x45x5mm with cleat having 1.2 meter length of each support should be grouted in cement concrete ratio 1:3:6.		
11.7	Laying, connecting, testing and commissioning of 1100 Volt PVC cable at 33/11 KV Sub-Station including connections of leads cutting stripping of cable insulation providing compression type terminals fixing of cable glands crimping of lugs clamping of cable cores etc. complete in all respect as per requirement of Engineer Incharge. PVC cable size.		
11.7.1	4 Core 6 Sq.mm. to 25 Sq.mm.	Mtr.	17.50
11.7.2	3.5 Core 50 Sq.mm.to 95 Sq.mm.	Mtr.	37.30

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Chapter Code No	DESCRIPTION OF WORK	UNIT	Rate/Unit
1	2	3	4
11.8	Supply,transportation and laying of sand layer of 75 mm below the power cable and 75 mm above the same alongwith using 200x100x75 mm size Class-II bricks in channel shape comprising of following sizes as under the back filling in the layer of compacted 100 mm thick earth,. Cable will be laid as per the methods of IS:1255 and details in 11.13		
11.8.1	For Single Power Cable, the trench width will be 350 mm using 20 Nos of bricks of above specification.	Mtr.	90.30
11.8.2	For Double Power cable, the trench width will be 470 mm using 35 Nos of bricks of above specification.	Mtr.	151.47
11.8.3	For Triple Power Cable, the trench width will be 590 mm using 50 Nos of bricks of above specification.	Mtr.	212.32
11.9	Laying energisation & commissioning of underground cable for working voltage of 11 KV/33 KV Aluminium conductor ,Power cable XLPE/PILCA armoured in RCC class NP-2 Non-pressure pipes of sizes mentioned against each refilling of earth in the remaining excavated area making necessary connection including testing etc. as required (It includes providing, laying & jointing RCC class NP-2 Non-pressure pipes conforming to IS:458 of approved make with collars, jointed with CM 1:20 depth of cable shall be 1.2 meter. (Cable shall be provided by the Nigam).		
	(A) 33 KV Cable		
11.10.1	3x185 sq. mm in pipe of dia 300 mm	Mtr.	597.71
11.10.2	3x300 sq. mm in pipe of dia 300 mm	Mtr.	597.71
	(B) 11 KV Cable		
11.10.3	3x150 sq. mm in pipe of dia 250 mm	Mtr.	448.20
11.10.4	3x185 sq. mm in pipe of dia 250 mm	Mtr.	448.20
11.10.5	3x240 sq. mm in pipe of dia 300 mm	Mtr.	597.71
11.10.6	3x300 sq. mm in pipe of dia 300 mm	Mtr.	597.71
11.10.7	3x400 sq. mm in pipe of dia 300 mm	Mtr.	597.71
11.11	Providing and fixing of G.I. Pipe B-Class (IS:1239 marks) at the starting and finishing point of 33 & 11 KV under ground cables and to lay & clamp vertically with the existing support including labour charges.		
11.11.1	Providing and fixing of G.I. Pipe of 125 mm diameter. B-Class (IS:1239 mark),at the starting and finishing point of 11 KV under ground cables and to lay & clamp vertically with the existing support including labour charges.	Mtr.	1524.20
11.11.2	Providing and fixing of G.I. Pipe of 150 mm diameter. B-Class (IS:1239 mark),at the starting and finishing point of 33 KV under ground cables and to lay & clamp vertically with the existing support including labour charges.	Mtr.	1728.34

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Chapter Code No	DESCRIPTION OF WORK	UNIT	Rate/Unit
1	2	3	4
11.12	Installation of metering points on 11 KV Out going feeder at 33/11 KV S/S.	Nos	21915.91
	The installation work to be carried out as per drawing/design, under the supervision of concerned Assistant Engineer		
(a)	Mounting structure		
	The requisite steel members will be supplied by contractor including the hardware. Contractor shall joint/weld the members to form the mounting structure as per drawing. Necessary tools, welding, machines, lifting devices etc. shall be arranged by contractor.		
(b)	Civil works		
	Erection of lattices in alignment including excavation and concreting of structure foundation including cement, sand and grit 20 mm size (crusher broken) having ratio 1:3:6 and grit 40 mm size for ratio 1:5:10 and curing for period as required (21 days). Area of concreting will be as per the drawing.		
(c)	Metering Equipments:		
	The requisite metering equipments (CTPT set, meter,meter box & suitable conductors for jumpers), will be provided by the concerned Assistant Engineer in healthy condition at site. The cables from CTPT set to meter box laid down in 50 mm GI pipe with suitable bends & nipples, shall be provided by contractor alongwith the consumable items such as PVC tapes, petroleum jelly etc. The cable should be PVC multi strand copper 4 core 2.5/4 Sq. mm ISI marked and firm & tight connections shall be made by suitable connector e.g. at CTPT sets by using clamps and at meter/TTB by suitable lugs etc. The CTPT sets so installed shall be earthed by means of the MS Flat (size 50x6 mm) by joining it with the nearest earthing available at the sub-station. Requisite earthing material shall be made available by the contractor..		
(d)	Meter:		
	Meters should be fixed firmly inside the tamper proof box, as per drawing. All the meter fixture will be provided by contractor including all consumables.		
(e)	Meter Box		
	The meter box shall be provided by the concerned Assistant Engineer. However, hardware or any other items required to fix the meter inside the meter box will be provided by contractor. The meter box will be fixed firmly with sufficient strength at a place as per drawing. The test terminal block(TTB) link type shall be provided by contractor in the meter box.		
(f)	Painting:		
	All surfaces interior and exterior of lattice structure shall be white aluminum painted.		
(g)	Commissioning of Metering Equipments:		
	Installed meters inside the box and metering equipments duly mounted on the mounting structure will be powered up by connecting load in the presence of the concerned Assistant Engineer who will arrange the necessary shut down. The completion certificate shall be furnised by contractor.be filled accordingly. Since the work involves higher A.C. voltage level, the contractor shall take full care regarding safety norms, so as to avoid any accidental hazards.		

NOTE: The Rates are inclusive of all applicable Taxes/ Duty except service tax which will be paid extra by Nigam if applicable.

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