

RATE SCHEDULE CUM BILL OF MATERIAL
(SECTION : A :- SUPPLY OF EQUIPMENTS/MATERIALS/ITEMS)

SI. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
1(A)	<p><u>POLES FOR STRAIGHT RUN / DP STRUCTURE / Four pole structure-</u> Supply of Steel Tubular swaged welded poles Type 410-SP-62, confirming to IS 2713 (part-II) for 11 KV line 12 Mtrs long including MS base plate of size 30 cms x 30 cms x 10 cm and welded top cap, duly painted with two coats of red oxide paint and one coat of bitumious paint for the lenth to be embedded in groung & plinth and two coat of aluminium paint for remaining portion above the ground.</p>	80	Nos.		
1(B)	<p><u>POLES FOR STRAIGHT RUN / DP STRUCTURE / Four pole structure-</u> Supply of Steel Tubular swaged welded poles Type 410-SP-72, confirming to IS 2713 (part-II) for 11 KV line 13 Mtrs long including MS base plate of size 30 cms x 30 cms x 10 cm and welded top cap, duly painted with two coats of red oxide paint and one coat of bitumious paint for the lenth to be embedded in groung & plinth and two coat of aluminium paint for remaining portion above the ground.</p>	30	Nos.		

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2	<p><u>7/4 mm STAY SET WITH TURN BUCKLE / BOW TIGHTENER/ BOW SET WITH TURN BUCKLES</u></p> <p>Supply of stay set complete Galvanised with 19/20 mm dia x1.8 meter long stay rod, anchor plate size 45 cm x45 cm x7.5 mm thick, thimble, stay clamp,turn buckle,(20 mm x60 mm) /bow tightener, 7/4.00 mm dia. GI stay wire and strain insulator, clamps , hardware etc. as required.</p>	30	sets.		
3	<p>Supply of 11 KV pin type insulators(10KN) & fittings as per relevant IS :731 , IS: 3188, IS:2486(Part-I) as per specification ,complete with large steel head GI pins, nuts, washer etc. as required Make - BHEL Banglore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern insulator Abu Road</p>	300	Nos.		
4	<p>Supply of 11 KV disc insulators(70KN) for 11 KV overhead line as per relevant IS :731 , IS: 3188, IS:2486(Part-I) as per specification with galvanised insulator fitting, ball and socket type and complete with galvanised strain clamps, bolts, nuts, washers etc. as required MakeBHEL Banglore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern insulator Abu Road</p>	66	Nos.		

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SI. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
5	Supply of lightning arrester station type non-linear resistor as per IS :3070 type, suitable for 11 kv over head lines with rated voltage of 9 Kv (rms) with nominal discharge current rating of 10 KA and complete with galvanised bolts, nuts, washers ,fitting etc. as required.	12	Nos.		
6	Supply of 12 KV, rated current 100 Amps DO fuse assembly as per relevant IS complete with mounting base, hardware , clamps insulators, operating rod, terminal connector including fuse rating 30 AMPS etc.	4	Sets		
7	Supply of 11 KV outdoor type gang operated AB switch tripple pole 800 Amps rating , with 3 post pin insulators per phase, bimetallic connector mounted horizontal or vertical position on provided cross arm with adequate length of G.I. Pipe for operating handle erected on extended square shaft. The operating handle provided with lock & key at suitable height from ground level with necessary clamps, hardware etc.	4	Sets		
8	Supplying of 15 mm G.I. Pipe 3 meter long for protection of earth wire	125	M		
9	Supply of GI strip size 50 x 6 mm for earthing	500	Mtrs		
10	Supply of GI strip size 25 x 3 mm mm for earthing	500	Mtrs.		

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SI. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
11-a	Supply of earth electrode 50 mm dia.3 Mtr long GI perforated pipe (grade - B). G.I.Pipe shall be with funnel with wire mesh for watering	32	Nos.		
11-b	Supply of earth electrode 25 mm dia.3 Mtr long GI perforated pipe (grade - B). G.I.Pipe shall be with funnel with wire mesh for watering	100	Nos.		
12	Supply earth wire size 6.09 mm. Dia.GI wire	2000	Mtrs.		
13	Supply of ACSR conductor of size"DOG" conductor for over head line with stringing binding with proper size of aluminium conductor, jumpering and suitable size of P.G. clamps for jumpering, jumpering from O/H line to Lighting arrester/AB switches/ DO fuse assembly and transformer as per arrangement of sub-station drgs. etc. as required.	6000	Mtrs.		

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SI. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
14-a	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Supply of indoor cable end termination with heat shrinkable jointing kit complete with accessories including lugs suitable for cable size three core x 185 sqmm. Aluminium conductor	1	sets		
14-b	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Supply of outdoor cable end termination with heat shrinkable jointing kit complete with accessories including lugs suitable for cable size three core x 185 sqmm. Aluminium conductor(Terminal arrangement at poles).	4	sets		
15	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Supply of out door straight through cable jointing with heat shrinkable jointing kit complete with accessories including ferrules suitable for cable size three core x 185 sqmm Aluminium conductor.	2	sets		
16	Supply of CC spun pipe of 300 mm dia.	75	Mtrs.		
17	Supply of GI WIRE 12 SWG	1500	Mtrs.		
18	Supply of GI WIRE 18 SWG	1500	Mtrs.		
19	GI pipe 100 mm(Class -B) dia including clamps, hardware etc.	50	Mtrs.		
20	GI pipe 75 mm dia(Class -B) including clamps, hardware etc.	50	Mtrs.		

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SI. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
21	Supply of HT danger notice plate / name plates of size 250 mm x 200 mm x 2 mm thk., made of mild steel plate painted with vitreous enamelled white on both side and inscription in Red colour on front side as required.	150	Nos.		
22	Supply of spares				
22.1	DO Fuse 30 A	2	Nos.		
22.2	AB switch moving & fixed contacts 800 A	1	Sets		
22.3	Lightning arrester station type non-linear resistor as per IS :3070 type, suitable for 11 kv over head lines with rated voltage of 9 Kv (rms) with nominal discharge current rating of 10 KA	3	Nos.		
TOTAL					

RATE SCHEDULE CUM BILL OF MATERIAL
(SECTION : B :- INSTALLATION OF EQUIPMENT AND MATERIALS

Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
1(A)	<u>POLES FOR STRAIGHT RUN / DP STRUCTURE / Four pole structure-</u> Installation of Steel Tubular swaged welded poles Type 410-SP-62, confirming to IS 2713 (part-II) for 11 KV line 12 Mtrs long including MS base plate of size 30 cms x 30 cms x 10 cm and welded top cap, duly painted with two coats of red oxide paint and one coat of bitumious paint for the length to be embedded in ground & plinth and two coat of aluminium paint for remaining portion above the ground. Each pole should be provided with anti climbing device as specification including the supply of barbed wire.	80	Nos.		
1(B)	<u>POLES FOR STRAIGHT RUN / DP STRUCTURE / Four pole structure-</u> Installation of Steel Tubular swaged welded poles Type 410-SP-72, confirming to IS 2713 (part-II) for 11 KV line 13 Mtrs long including MS base plate of size 30 cms x 30 cms x 10 cm and welded top cap, duly painted with two coats of red oxide paint and one coat of bitumious paint for the length to be embedded in ground & plinth and two coat of aluminium paint for remaining portion above the ground. Each pole should be provided with anti climbing device as specification including the supply of barbed wire.	30	Nos.		
2	Providing cement concrete foundation including excavation (In all types of soil except rock which requires chiselling/blasting) for poles pit size 60 cmsx60 cms.x depth 1/6 of the pole length in 1:3:6 cement concrete(1 cement, 3 coarse sand, 6 graded stone aggregate 40 mm nominal size) including form work , concrete foundation of 20mm thick all around the pole foundation and upto 20 cms above the ground level and tapered suitably into collar, height plinth duly plastered and with necessary curing and fishing, back filling etc. in the approved manner.	80	Nos.		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
3	Providing cement concrete foundation including excavation(with soft and hard rock which requires chiselling/blasting) for poles pit size 60 cmsx60 cms.x depth 1/6 of pole length in 1:3:6 concrete (1 cement, 3 coarse sand, 6 graded stone aggregate 40 mm nominal size) including form work, concrete foundation of 20mm thick all around the pole foundation and upto 20 cms above the ground level and tapered suitably into collar, height plinth duly plastered and with necessary curing and fishing, back filling etc. in the approved manner.	30	Nos.		
4	<u>7/4 mm STAY SET WITH TURN BUCKLE / BOW TIGHTENER/ BOW SET WITH TURN BUCKLES</u> Erection of stay set complete Galvanised with 19/20 mm dia x1.8 meter long stay rod, anchor plate size 45 cm x45 cm x7.5 mm thick, thimble, stay clamp,turn buckle,(20 mm x60 mm) /bow tightener, 7/4.00 mm dia. GI stay wire and strain insulator, clamps , hardware etc. as required in cement concrete 1:3:6(1 cement : 3 Coarse sand ; 6 Graded stone aggregate 40 mm nominal size) in foundation including excavation in all type of soil and refilling etc. as required..	20	sets.		
5	Erection of 11 KV pin type insulators(10KN) & fittings as per relevant IS :731 , IS: 3188, IS:2486(Part-I) as per specification ,complete with large steel head GI pins, nuts, washer etc. as required Make - BHEL Banglore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern Insulator Abu Road	300	Nos.		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
6	Erection of 11 KV disc insulators(70KN) for 11 KV overhead line as per relevant IS :731 , IS: 3188, IS:2486(Part-I) as per specification with galvanised insulator fitting, ball and socket type and complete with galvanised strain clamps, bolts, nuts, washers etc. as required Make BHEL Bangalore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern Insulator Abu Road	66	Nos.		
7	Erection of lightning arrester station type non-linear resistor as per IS :3070 type, suitable for 11 kv over head lines with rated voltage of 9 Kv (rms) with nominal discharge current rating of 10 KA and complete with galvanised bolts, nuts, washers ,fitting etc. as required.	12	Nos.		
8	Erection of 12 KV, rated current 100 Amps DO fuse assembly as per relevant IS complete with mounting base, hardware, clamps insulators, operating rod, terminal connector including fuse rating 30 AMPS etc.	4	Sets		
9	Erection of 11 KV outdoor type gang operated AB switch tripple pole 800 Amps rating, with 3 post pin insulators per phase, bimetallic connector mounted horizontal or vertical position on provided cross arm with adequate length of G.I. Pipe for operating handle erected on extended square shaft. The operating handle provided with lock & key at suitable height from ground level with necessary clamps, hardware etc.	4	Sets		
10	Erection of 15 mm G.I. Pipe 3 meter long for protection of earth wire	125	M		
11	Erection of GI strip size 50 x 6 mm for earthing	500	Mtrs		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
12	Erection of GI strip size 25 x 3 mm mm for earthing	500	Mtrs.		
13-a	Making the Earth Pit as per IS:3043 including earth/ massonary work, (size of electrode 50 mm dia. G.I. Pipe, 3 Meter long , class 'B'). Pit shall be filled with alternative layer of charcoal & salt. G.I.Pipe shall be with funnel with wire mesh for watering. Mansonry block C.I.cover coplete as per IS. All the earth pits are to be inter connectecd with GI strip of size 50x6 mm. Scope under this item covers all the civil works including supply of material like bricksd, cement etc. arranged by the contractor.(Internal size of Pit shall be 300 x 300 mm)	32	Nos.		
13-b	Installation of earth electrode of size 25 mm dia. G.I. Pipe, 3 Meter long , class 'B').	100	Nos.		
14	Erection earth wire size 6.09 mm. Dia.GI wire including clamps, hardware etc.	2000	Mtrs.		
15	Stringing ACSR conductor of size"DOG" conductor for over head line with stringing binding with proper size of aluminium conductor, jumpering and suitable size of P.G. clamps for jumpering, jumpering from O/H line to Lighting arrestor/AB switches/ DO fuse assembly and transformer as per aarangement of sub-station drgs. etc. as required.	6000	Mtrs.		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
16	Supply & installation of Cradle type Cage gauard (along /across the road for 11 KV single circuit), which shall run along the line made out of 6 SWG GI wire confirming to IS 2633 including netting, stretching and joining of cage including lacing by 10/12 SWG GI wire, binding by 14/16 SWG GI wire, & earthing of all metal supports / fittings by 6 sqmm copper flexible wire.	100	M		
17-a	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Making outdoor cable end termination with heat shrinkable jointing kit complete with accessories including lugs suitable for cable size three core x 185 sqmm. Aluminium conductor(Terminal arrangement at transformer HT either cable box or out door bushing etc.	1	sets		
17-b	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Making outdoor cable end termination with heat shrinkable jointing kit complete with accessories including lugs suitable for cable size three core x 185 sqmm. Aluminium conductor(Terminal arrangement at transformer HT either cable box or out door bushing etc.	4	sets		
18	<u>11 KV Heat shrinkable XLPE cable Joint:-</u> Making out door straight through cable jointing with heat shrinkable jointing kit complete with accessories including ferrules suitable for cable size three core x 185 sqmm Aluminium conductor.	2	sets		
19	Laying of 3 core x 185sqmm .11 kv grade XLPE HT cable which includes excavation of trench in all kind of soil , laying below ground providing sand layer below/ above the cable, brick lining both side and above the cable and back filling as per specification .(For 11 KV ring main - cable section.)	500	Mtrs		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
20	Laying / termination (including supply of lugs / glands wherever required) of 3.5 core x 300 sqmm 1.1 kv grade LT cable which includes excavation of trench in all kind of soil , laying below ground providing sand layer below/ above the cable, brick lining both side and above the cable and back filling as per specification .(For 11 KV ring main - cable section.)	1000	M		
21	Laying / termination (including supply of lugs / glands wherever required) of 1 core x 630 sqmm 1.1 kv grade LT cable (for connection between) (For 11 KV Substation between transformer & LT Distribution board, 2 runs per phase are envisaged for 4 substations)	500	M		
22	<i>11 KV Heat shrinkable XLPE cable Joint:</i> - Making out door straight through cable jointing with heat shrinkable jointing kit complete with accessories including ferrules suitable for cable size three core x 185 sqmm Aluminium conductor.	2	sets		
23	Laying below ground in excavated trench (as per specification) , of CC spun pipe of 300 mm dia. Wherever cable laid through pipe for road crossing purpose.	75	Mtrs.		
24	Erection of GI WIRE 12 SWG including clamps, hardware etc.	1500	Mtrs.		
25	Erection of GI WIRE 18 SWG including clamps, hardware etc.	1500	Mtrs.		
26	GI pipe 100 mm(Class -B) dia including clamps, hardware etc.	50	Mtrs.		
27	GI pipe 75 mm dia(Class -B) including clamps, hardware etc.	50	Mtrs.		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
28	Supply, Fabrication, installation of variuos structural members such as Vee cross arms for straight line, DP structure/ sub-station DP structure/ four pole structure , Line Tap-Offs, bracings member , clamps(suitable for the 12M tubular poles) , bracket for gaurd wire or any other fabrication if required and not specified elsewhere in the tender specification etc; including painting of one coat of red oxide and two coats of aluminium paint. This also includes the fabrication of other items as required for completion of work. Supply of necessary hardware for fixing these structural members is also included in scope. ISMC 75x40x6mm (6.8 Kg/M) ISA 50x50x6 mm (3.8 Kg/M) ISP 50x6 mm (2.1 Kg/Sq. M)	10	MT		
29	Providing MS Flat 50 x 6 and Misc Hardware of required sizes meeting the technical requirement(Nuts, Bolts, Washers) required for installation of fabricated structural steel members, VEE cross arms, etc. or required any elsewhere for completion of the entire system and also any other material is essential for the work.	2	MT		
30	Development of Transformer Yard (appx 10 m X 5m) including excavation , backfilling , and providing of 20 mm Shingle / gravel 100 mm deep	200	SQ MTR		
31	Installation of barbed Wire fencing by grouting steel posts and fixing of (3 rows of) barbed Wire , incuding provision of gates (2 nos per transformer yard)	120	RM		

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Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
32	Providing Brick Masonary Foundation in (stepped formation , appx 6 cu mtr each) for Transformer with PCC Base	25	CUM		
33	Installation and commissioning of LT Switch Board Outdoor Type of Appx size 2000 mm x 1800 mm x 2100 mm	4	Nos.		
34	Installation and commissioning of 630kVA Oil Filled Transformer including filtration , if required . Scope of supply includes supply of three numbers connectors (per transformer) for connection of ACSR "DOG" conductor at HV busing of transformer.	4	Nos.		
35	Supply / installation of Fire fighting arrangment consisting of four nos sand filled earth buckets (duly painted) & nessary stand for installation of these buckets	4	sets		
TOTAL					

RATE SCHEDULE CUM BILL OF MATERIAL
(SECTION : C :- OPERATION AND MAINTENANCE OF 11 KV SYSTEM

Sl. No	ITEM DESCRIPTION	QTY	UNIT	UNIT RATE (IN Rs.)	AMOUNT
1	OPERATION & MAINTENANCE OF 11 KV TRANSMISSION LINES AND 500 KVA, 11/.433 KV TRANSFORMER SUB-STATIONS AND MAINTENANCE OF ELECTRICAL INSTALLATIONS OF BHEL OFFICE SHEDS, STORES SHEDS (CLOSED AND SEMI CLOSED), STORAGE YARD ETC.	30	MONTHS		
				TOTAL	
GRAND TOTAL OF (SECTION A + SECTION B + SECTION C)					

Note:

1. The rate shall be entered in figures as well as in words. In case of difference in rates between words and figures, the lesser of the two will be treated as valid rate.
2. Only 'Unit Rate' shall be considered for evaluation and award
3. Bidders are requested to quote for each and every item of SECTION A, SECTION B & SECTION C as indicated above.

(SIGNATURE AND SEAL OF AUTHORISED REPRESENTATIVE OF THE BIDDER)