

## Power Development Department for UT of Ladakh

**Subject:- Schedule of Rate (SOR) 2022-23 for Power Development Department for UT of Ladakh**

The Cost Data 2022-23 for Distribution and Sub-Transmission works has been finalizing on the preceding Cost Data 2019-2020 and kashmir 2021-22 which comprises schedule of rates for construction of 66/11Kv and 33/11Kv Substation, 11/.433 KV Substation 66kv Line 33kV Line, 11KV lines, HT and LT Distribution lines and related civil works.

The rates of the key material adopted in this revision of cost data are based on the issue rates/updated rates furnished by the Executive Engineer, Electric Centre Store Division Kashmir for the year 2021-22. The cost of the cable (Power and Control Cables) has been considered as per the lowest market rate. The material rates as well as labour rates are exclusive of Goods and Service Taxes (GST), however GST @18% has been added to the subtotals of material rates and labour rates.

Due to high altitude of Ladakh , hilly terrain, logistic issue altitude correction factor (ACF) of 10% has been considered on material cost, 200% escalation on labour charges and 15% escalation on key material if distance is more than 100km from central store Leh and Kargil. However, transportation charges as per latest STRC rate list for Kargil and Leh Districts has been considered.

A Turnkey factor of 25% on the overall cost on the index cost abstract has been retained which encompasses Establishment Charges, Contractors Profit and Audit and Accounts charges.

Depending upon the site conditions where reduction of spans is necessitated the number of poles may be enhanced subject to maximum of 30% increase.

The need for updating the Cost data was felt due to formulation of Ladakh Power Development Department (LPDD), Ladakh and change in rates for various electrical items to arrive at reasonable rates for execution of works in accordance with specifications and relevant Acts, Rules and Code of Practice.

The rates of the key material adopted in this revision of SOR are based on the Latest SOR issued by CE, P&P, Kashmir Power Development Corporation (KPDCL), besides considering lowest market rates for some material and for some sundry items 15 % appreciation has been given to approved Cost Data 2021-22. All the technical specifications like Span length/IS/BSS/REC standards of material has been retained in this revision. The methodology adopted in the formulation of Cost data 2021-22 is reproduced as under:

1. All technical Specification like span length/IS/BIS/REC standard of material has been retained in this revised version. However, certain imperative changes e.g. tensile strength of ST Poles of all Size has been revised to 410MPa and continues in this new proposed schedule of rates.
2. Working load of 250 Kg's, 300 Kg's and 360 Kg's has been considered in respect of 8m, 9m and 11 mtr PCC Poles Respectively.

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3. The turnkey factor of 25% on the overall cost on the index cost abstract has been retained.
4. However, for underground work turnkey factor has been restricted to 15% of cost index which encompasses establishment charges, contractors profit and Audit and Accounts Charges (Depend on Site in charge).
5. In case of works wherein key material is lifted from ECSD Leh the turnkey factor shall be restricted to 15% of the scope of work pertaining to the contractor.
6. The Cost of the cable (Power and Control Cables) has been considered as per the lowest market. Instead of PVC cable, XLPE cables has been taken in cost data 2022-23.
7. Certain rates of approved cost data 2021-22 has been retained for various items where there no appreciable change has been observed:
8. The material rates as well as labour rates are exclusive of goods & Service Taxes (GST), however GST @ of 18% has been added to the subtotals of material rates and labour.
9. In addition to estimates already envisaged in cost data 2019-2020 estimates for 66Kv, 33KV & 11 KV lines with additional poles, DG Sets, Smart Meters and Two Pole Structures for outgoing 11KV Feeders have been incorporated in this revision.
10. Further, over the last 2-3 years standards of the equipment have been upgraded and mandated to use by concerned govt. agencies and technological advancement which has been considered in cost data 2021-22, some of the items where modifications has been considered are mentioned below.
  - a. C&R panels were equipped with differential protection for PTR, higher number of BI & DI, Fuses were replaced with MCCBs, all contacts were made SACDA compatible, etc.
  - b. 11kV VCB panels were equipped with higher configuration of CT (5P20), Short circuit current rating has been increased to 26.3 kA, all contacts were made SACDA compatible, etc.
  - c. Power transformers were equipped with potential-free contacts so as to connect to SCADA/DMS, several changes were made viz. increase in size of bushing, use of mineral oil with higher pour point, lower values of guaranteed no-load and load losses has been considered as per CBIP, etc.
  - d. RMUs of various configuration has been considered (2 way/ 3 way/ 4 way/5 way), potential-free contacts were considered so as to connect to SCADA/DMS via FRTUs, etc.
  - e. Consideration SOR for smart meters in line with MoP guidelines.
11. In addition to the above, various modifications and up-gradation in design of the equipment's has been considered in cost data 2021-22 for satisfactory working at high altitude upto 3500 msl, low temperature (upto -25 deg C) and other adverse climatic conditions prevailing in the region.
12. The provision towards the cost of the land required for the construction of substations has not been envisaged in the proposed schedule of rates as the land rates vary from location to location. Preferably states Land shall be identified for construction of Receiving Stations as per standing Govt. Orders. However, if Government land is not available the cost of land shall be determined by the concerned revenue authorities as per standing land acquisition rules.

## Power Development Department for UT of Ladakh

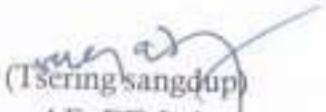
13. The breakup for the Overhead Charges considered in the proposed schedule of rates consists of:
  - i. 3% contingency and safety equipment's.
  - ii. 0.5% insurance.
  - iii. 0.5% storage and handling.
  - iv. 1.0% T&P.
14. Rates for the Civil items has been incorporated from J & K Civil Schedule SOR- 2021-22 without any appreciation.
15. The Schedule of rates has been prepared adopting specifications and physical parameters of REC construction standards and guidelines of Techno- Economic Committee keeping in view ROW constraints/issues.
16. In respect of 66KV Line the cost plan have been worked on the basic of JKPDD Cost data 2019-20 and present market survey. Quantities as per preliminary design of transmission Line (Civil & Electrical work)

**The Cost Data 2022 23 shall replace Cost data 2019-2020 with immediate effect subject to the following:**

- i. The Cost data shall be the guiding factor for formulation of schemes and not as a technical sanction for execution of works.
- ii. The provisions in the project report shall be the limiting factor for each unit of work and no overlapping shall be carried out.
- iii. The progress in respect of the financial achievements should be Monitored in accordance to the provisions in the project Report for each individual unit of work.

  
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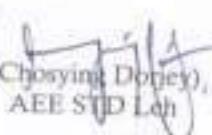
# Power Development Department for UT of Ladakh

  
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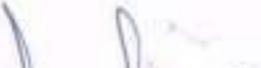
  
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Schedule of Rate  
(SOR) for Power  
Development  
Department  
UT of Ladakh

## Schedule of Rate (SOR) 2022-23 for Power Development Department for UT of Ladakh

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## Basic Rates for Cost Data 2022-23 ( Material Cost only without GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kashmir	10 % Increase for ACF	Basic Rates of Leh/Kargil
1	8 Mtr. Long Pole(PCC WL-300Kg )	Nos	3,899.00	389.90	4,288.90
2	9 Mtr. Long Pole(PCC WL-200Kg )	Nos	5,019.00	501.90	5,520.90
3	11 Mtr. Long Pole(PCC WL-360Kg )	Nos	6,504.00	650.40	7,154.40
4	8 Mtr. Long Pole (ST-410 SP15)	Nos	9,419.00	941.90	10,360.90
5	9 Mtr. Long Pole (ST-410 SP33)	Nos	13,662.00	1366.20	15,028.20
6	11 Mtr. Long Pole(ST-410 SP56)	Nos	20,214.00	2021.40	22,235.40
7	13 Mtr. Long Pole(ST-410 SP56)	Nos	25,930.00	2593.00	28,523.00
8	16 Mtr. Long Pole(ST-410 SP56)	Nos	34,548.00	3454.80	38,002.80
9	50 mm <sup>2</sup> ACSR Conductor	km	37,161.00	3716.10	40,877.10
10	cost of 20 mm <sup>2</sup> ACSR Conductor	km	13,125.00	1312.50	14,437.50
11	cost of 30 mm <sup>2</sup> ACSR Conductor	km	22,821.00	2282.10	25,103.10
12	cost of 100 mm <sup>2</sup> ACSR Conductor	km	72,679.00	7267.90	79,946.90
13	cost of 150 mm <sup>2</sup> ACSR Conductor	km	1,48,111.00	14811.10	1,62,922.10
14	cost of 200 mm <sup>2</sup> ACSR Conductor	km	1,92,717.00	19271.70	2,11,988.70
15	35 mm <sup>2</sup> AB (HT) Cable (3x35+1x70 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	5,40,450.00	54045.00	5,94,495.00
16	35 mm <sup>2</sup> AB (HT) Cable (3x35+1x35 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	4,80,102.00	48010.20	5,28,112.20
17	50 mm <sup>2</sup> AB (HT) Cable (3x50+ 1x70 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	6,14,407.00	61440.70	6,75,847.70
18	70 mm <sup>2</sup> AB (HT) Cable (3 x 70 + 95 mm <sup>2</sup> ) XLPE(11 KV, )	km	6,85,254.00	66525.40	7,31,779.40
19	70 mm <sup>2</sup> AB (HT) Cable (3 x 70 + 95 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	7,22,000.00	72200.00	7,94,200.00
20	120 mm <sup>2</sup> AB (HT) Cable (3x120 + 1x95 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	9,95,890.00	99589.00	10,95,479.00
21	Heat Shrinkable Outdoor Cable Termination Kit Upto 70 sqmm ( 3 core)	Nos	5,940.00	594.00	6,534.00
22	Heat Shrinkable Outdoor Cable Termination Kit above 70 to 120 sqmm ( 3 Core)	Nos	7,740.00	774.00	8,514.00
23	Mid Span Straight Through Jointing Kit for 11 KV ABC upto 120 sqmm	Nos	7,500.00	750.00	8,250.00
24	Mid Span Straight Through jointing Kit for 1.1 KV ABC upto 120 sqmm	Nos	2,500.00	250.00	2,750.00
25	35 mm <sup>2</sup> AB (LT) Cable ( 3 x 50 + 1 x 16 + 1 x 35 mm <sup>2</sup> ) XLPE (1.1KV, 3+1 C, Al)	km	2,28,814.00	22881.40	2,51,695.40
26	50 mm <sup>2</sup> AB (LT) Cable ( 3 x 50 + 1 x 16 + 1 x 35 mm <sup>2</sup> ) XLPE (1.1KV, 3+1 C, Al)	km	3,94,000.00	39400.00	4,33,400.00
27	70 mm <sup>2</sup> AB (LT) Cable ( 3 x 70 + 1 x 16 + 1 x 50 mm <sup>2</sup> ) XLPE (1.1KV, 3+1 C, Al)	km	5,27,000.00	52700.00	5,79,700.00
28	120 mm <sup>2</sup> AB (LT) Cable ( 3 x 120 + 1 x 16 + 1 x 70 mm <sup>2</sup> ) XLPE (1.1KV, 3+1 C, Al)	km	8,42,800.00	84280.00	9,27,080.00
29	Mid Span Straight Through Jointing Kit for 1.1 KV ABC	Nos	2,500.00	250.00	2,750.00
30	25 mm <sup>2</sup> Single-Core Cable, 1.1kV Grade, XLPE un armoured FRLS type	Mtr	91.00	9.10	100.10
31	35 mm <sup>2</sup> Single-Core Cable, 1.1kV Grade, XLPE un armoured FRLS type	Mtr	111.00	11.10	122.10
32	50 mm <sup>2</sup> (2C) Cable, 1.1kV Grade, XLPE un armoured FRLS type	Mtr	144.00	14.40	158.40
33	70 mm <sup>2</sup> (2C) Cable, 1.1kV Grade, XLPE un armoured FRLS type	Mtr	185.00	18.50	203.50
34	185 mm <sup>2</sup> (2C) Cable, 1.1kV Grade, XLPE un armoured FRLS type	Mtr	418.00	41.80	459.80
35	240mm <sup>2</sup> (2C) Single Phase Cable,1.1K V Grade, XLPE un armoured FRLS type	Mtr	507.00	50.70	557.70
36	400mm <sup>2</sup> (2C) Single Phase Cable,1.1K V Grade, XLPE un armoured FRLS type	Mtr	632.00	63.20	695.20
37	10 mm <sup>2</sup> Cable (4C) from LT Line to meter,1.1kV Grade, Armoured,XLPE armoured FRLS type	M	197.00	19.70	216.70
38	16 mm <sup>2</sup> Cable (4C) from LT Line to meter,1.1kV Grade, Armoured,XLPE armoured FRLS type	M	233.00	23.30	256.30
39	25 KVA,11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, Aluminium wound, and with LV Cable Box having detachable Aluminium Gland plate	No	46,037.00	4603.70	50,640.70
40	63 KVA ,11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, [Aluminium wound](Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings) , and with LV Cable Box having detachable Aluminium Gland plate	No	1,06,347.00	10634.70	1,16,981.70
41	100 KVA 11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound)(Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings) , and with LV Cable Box having detachable Aluminium Gland plate	No	1,38,660.00	13866.00	1,52,526.00
42	200 KVA 11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, {Aluminium wound}(Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings) , and with LV Cable Box having detachable Aluminium Gland plate	No	2,52,953.00	25295.30	2,78,248.30

## Basic Rates for Cost Data 2022-23 | Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % Increase for ACF	Basic Rates of Leh/Kargil
43	250 KVA 11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings), and with LV Cable Box having detachable Aluminium Gland plate	No	4,42,869.00	44286.90	4,87,155.90
44	400KVA ,11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Copper wound ), and with LV Cable Box having detachable Aluminium Gland plate	No	7,80,000.00	79000.00	8,69,000.00
45	630KVA ,11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Copper wound ), and with LV Cable Box having detachable Aluminium Gland plate	No	9,12,999.00	91299.90	10,04,298.90
46	765 KVA ,11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Copper wound ), and with LV Cable Box having detachable Aluminium Gland plate	No	14,25,000.00	142500.00	15,67,500.00
47	1000KVA / 1 MVA ,33/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Copper wound ), and with LV Cable Box having detachable Aluminium Gland plate	No	16,35,000.00	163500.00	17,98,500.00
48	LT Distribution Box for 63 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	19,128.00	1912.80	21,040.80
49	LT Distribution Box for 100 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	26,818.00	2681.80	29,499.80
50	LT Distribution Box for 200 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	71,950.00	7195.00	79,145.00
51	LT Distribution Box for 250 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	71,950.00	7195.00	79,145.00
52	LT Distribution Box for 400 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	71,950.00	7195.00	79,145.00
53	LT Distribution Box for 630 kVA DTR with MCCB for incomer & SFU's for Outgoing Circuits	No	81,598.00	8199.80	90,197.80
54	32 amps TPN Switch Disconnector Fuse Unit	No	1,198.00	119.80	1,317.80
55	63 amps TPN Switch Disconnector Fuse Unit	No	1,814.00	181.40	1,995.40
56	33kV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	429.00	42.90	471.90
57	33kV Polymeric composite Disc Insulator 36kV,min falling load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	720.00	72.00	792.00
58	11kV Polymeric composite Disc Insulator 12kV,min falling load 45kN, Lighting impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	229.00	22.90	251.90
59	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	166.00	16.60	182.60
60	16kN Polymer Shackle insulators	Nos	27.00	2.70	29.70
61	GI U-Clamps for Shackle Insulators	Kg	90.17	9.02	99.19
62	11kV GO, AB Switch 3-Phase, 3-Pole,200 Amp, Vertical Type	Set	7,747.00	774.70	8,521.70
63	11 kV Horn Gap Fuse Set 3 Phase 200A	Set	3,291.00	329.10	3,620.10
64	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	256.00	25.60	281.60
65	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	278.00	27.80	305.80
66	PG Clamps for 150 mm <sup>2</sup> ACSR Conductor	Nos	320.00	32.00	352.00
67	PG Clamps for 200 mm <sup>2</sup> ACSR Conductor	Nos	341.00	34.10	375.10
68	Suspension/Tension Clamp with eye hook	Nos	607.00	60.70	667.70
69	LT Line Spacers	No	60.00	6.00	66.00
70	Gapless Surge Arrestor,9 kV ,10 kA ,LA with polymer housing, Stn. Type	No.	5,121.00	512.10	5,633.10
71	Single Phase Smart Energy Meter 5-30 Amp/ 10-60 Amp, DLMS Complaint of accuracy class 1.0	No.	2,700.00	270.00	2,970.00
72	Polypropylene weather proof outdoor type Meter Box for Single Phase Meter along with Zinc plated clamps	No.	357.00	35.70	392.70
73	Polypropylene weather proof outdoor type Meter Box for Three Phase Meter along with Zinc plated clamps	No.	708.00	70.80	778.80
74	GI Barbed Wire for Anti Climbing	Kgs	90.00	9.00	99.00



## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
75	3-Ø, 4-Wire Trivector Meter with CT (200/1A)	No.	13,220.00	1322.00	14,542.00
76	Sundry items like aluminium lugs, jumpers, binding Tape,	LS	708.00	70.80	778.80
77	Danger Plates with Clamps	Nos	101.00	10.10	111.10
78	Anti-Climbing Device with Clamps	Nos	212.00	21.20	233.20
79	Earthing Complete by GI Pipe 40 mm : 3 mtr long through GI Strip 25x3 mm	Nos	1,639.00	163.90	1,802.90
80	Red Oxide	Ltr.	202.00	20.20	222.20
81	Aluminium Paint	Ltr.	337.00	33.70	370.70
82	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	156.00	15.60	171.60
83	Aluminium Jointing Sleeves	Nos	108.00	10.80	118.80
84	Stone Pad (300 mm x 300 mm x 60 mm)	Nos	148.35	14.84	163.19
85	Earthing of substation --Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body,G.O Set & lightning arrester as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	7,117.00	711.70	7,828.70
86	Galvanized Nuts and Bolts	Kg	94.40	9.44	103.84
87	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete (11 kV)	Nos	3,251.00	325.10	3,576.10
88	GI V cross-arm with top Bracket including clamp	Kg	84.00	8.40	92.40
89	GI Channel X-arm including clamps and braces	Kg	84.00	8.40	92.40
90	Cement bottoming 1:2:4 mix as per REC standards 0.4cum per pole for ( 8 Mtr)	Nos	2,327.29	232.73	2,560.02
91	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole ( 9 Mtr )	Nos	2,939.00	293.90	3,232.90
92	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole ( 11 Mtr Pole )	Nos	3,526.00	352.60	3,878.60
93	Cement bottoming 1:2:4 mix as per REC standards 0.7cum/pole ( 13 Mtr ST Pole)	Nos	4,114.00	411.40	4,525.40
94	Cement bottoming 1:2:4 mix as per REC standards 1cum/pole (16 Mtr ST Pole)	Nos	5,877.00	587.70	6,464.70
95	GI Wire 6 SWG & 8 SWG	Kgs	90.00	9.00	99.00
96	Eye Bolts	Nos.	122.00	12.20	134.20
97	Insulating Piercing Connectors	No	150.00	15.00	165.00
98	Guard netting	Span	6,249.00	624.90	6,873.90
99	Guard netting	Span	6,249.00	624.90	6,873.90
100	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long,20 mm diameter solid G5 stay rod & 7/4 mm dia GI stranded wire complete (33kV)	Nos	4,543.00	454.30	4,997.30
101	3.15 MVA 33/11 KV Power Transformer	No.	24,77,283.00	247778.30	27,25,561.30
102	6.3 MVA 33/11 KV Power Transformer	No.	42,28,482.00	422848.20	46,51,330.20
103	10 MVA 33/11 KV Power Transformer	No.	51,31,698.00	513169.80	56,44,867.80
104	Aluminium Jointing Sleeves 200 mm sq	No.	142.41	14.24	156.65
105	Aluminium Jointing Sleeves 150 mm sq	No.	118.34	11.83	130.17
106	Aluminium Jointing Sleeves 100 mm sq	No.	107.64	10.76	118.40
107	Aluminium Jointing Sleeves 50 mm sq	No.	100.21	10.02	110.23
108	Suspension Fitting	No.	1,013.00	101.30	1,114.30
109	Tension Fitting	No.	1,518.00	151.80	1,669.80
110	Suspension/Tension Clamp with eye hook	No.	607.20	60.72	667.92
111	Danger Plates with Clamps	No.	101.00	10.10	111.10
112	Earthing Electrode ( 3m long 40mm dia GI pipe) through GI Strip.	No.	3,116.00	311.60	3,427.60
113	Earth wire 7/4 mm sq.	Kg	90.00	9.00	99.00
114	33 KV 10 kN Polymer Post Insulator	No.	1,339.39	133.94	1,473.33
115	33KV Isolator with Earthing Blade (36kV,800A,Outdoor,3 poles,25kA)	Set	₹ 61,784.00	6178.40	67,962.40
116	33KV Isolator without Earthing Blade (36kV,800A,Outdoor,3 poles,25kA)	Set	₹ 57,438.00	5743.80	63,181.80
117	11KV Isolator Double Break, 3-pole, 600 amps, Horizontal Mounting Type , with earth switch set	Set	₹ 30,844.00	3084.40	33,928.40

## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasimir	10 % increase for ACK	Basic Rates of Leh/Kargil
118	33 kV Current Transformer oil cooled (33 kV, 1Φ, 2 Ratio 3 Core, Outdoor Type ) (1 No. per Φ) 30 VA	No.	₹ 54,096.00	5409.60	59,505.60
119	33 KV /110 V single Phase outdoor type Potential Transformers	No.	₹ 48,849.00	4884.90	53,733.90
120	Lightening Arrestor Stn. Type			0.00	0.00
121	33KV lighting Arrestor	No.	₹ 17,451.00	1745.10	19,195.10
122	150 MM GI pipe with required number of collars for road crossing incl. Termination points (6")	Mtr	₹ 2,640.00	264.00	2,904.00
123	40 MM GI pipe with required number of collars for road crossing incl. Termination points (1 1/2")	Mtr	₹ 512.00	51.20	563.20
124	Route Marker	No.	₹ 106.00	10.60	116.60
125	Warning Tape	Kms	₹ 3,899.00	389.90	4,288.90
126	Brick Masonary Chamber 900x900x1050 with RCC top Slab Cast Iron Cover   CI frame (38kg)	No.	₹ 35,476.00	3547.60	39,023.60
127	RCC Protective Cover 300x300x60mm for under ground cables	Mtr	₹ 148.00	14.80	162.80
128	RCC Protective Cover 300x300x75mm for under ground cables	Mtr	₹ 156.33	15.63	171.94
129	Reinstatement of roads (100M x0.7 M x0.2 M) =14CUM ( M-25)	Cum	₹ 8,859.00	885.90	9,744.90
130	Sand	Cum	₹ 3,000.00	300.00	3,300.00
131	Mech. Carriage sand 30 Kms	Cum	₹ 436.00	43.60	479.60
132	Head Load 100 Mtrs sand	Cum	₹ 222.26	22.23	244.49
133	Back Filling	Cum	₹ 198.70	19.87	218.57
134	Excavation in any type of soil incl. Hard laterite soil	Cum	₹ 539.35	53.94	593.29
135	1 phase 2 wire, 415V, 1nos of 100 Amps incoming SP MCCBs fitted with outgoing 04 No 32 Amps SP MCBs for Service Connections, Distribution Service Pillar suitable for outdoor installation , made out of CRCA sheet painted through 7-tank process with PU painted Busbars 2P, Aluminium with heat shrinkable sleeves and adequate capacities complete with all accessories 4 way Distribution Service Pillar,	Job	₹ 11,876.00	1187.60	13,063.60
136	3 phase, 415V, 1no of 250 Amps Incoming 3 TP MCCBs (Breaking 36KA) fitted with outgoing 03 No 100 Amps SP MCCBs, 1No.100Amps 3 pole MCCB for outgoing LT cables, Distribution feeder Pillar suitable for outdoor installation , made out of CRCA sheet painted through 7-tank process with PU painted Busbars 4P, Aluminium with heat shrinkable sleeves and adequate capacities complete with all accessories 4 way Distribution Feeder Pillar.	Job	₹ 33,784.00	3378.40	37,162.40
137	Rubber Mat 1mx2m 19mm thick	No.	₹ 3,998.00	389.80	4,287.80
138	Fire Extinguisher Co <sub>2</sub> Type of 4.5 kg capacity for control room	No.	₹ 4,386.00	438.60	4,824.60
139	3 Sand Bucket Fire Extinguisher	Set	₹ 5,848.00	584.80	6,432.80
140	Helmet	No.	₹ 341.00	34.10	375.10
141	Rubber Gloves for 33 kV level	Set	₹ 1,568.00	156.80	1,724.80
142	Rubber Gloves for 11kV level	Set	₹ 1,121.00	112.10	1,233.10
143	Safety Belt	No.	₹ 1,559.00	155.90	1,714.90
144	Safety Shoes	Set	₹ 1,462.00	146.20	1,608.20
145	Earthing Pipe of 40mm nominal bore & 4mm wall thickness & length 2.5m long along with GI nuts & bolts, refilled with earth enhancement material.	Set	₹ 7,817.00	781.70	8,598.70
146	HV Detectors all voltages	No.	₹ 46,780.00	4678.00	51,458.00
147	Aluminium Ladder 2*20' (Double Ladder) 3 mm Thick	No.	₹ 14,700.00	1470.00	16,170.00
148	Bamboo Ladder	No.	₹ 1,800.00	180.00	1,980.00
149	PipE strcture for 33/11 Kv Substation Sngle Transformer bay+ Sngle line Bay			0.00	0.00
150	Nominal Bore 200,5.9mm thick (4.337 MT)	Per MT	₹ 1,08,000.00	10800.00	1,18,800.00
151	Galvanized Steel Structures (3.8101 MT)	Per MT	₹ 86,886.00	8688.60	95,574.60
152	Galvanized Nuts & Bolts (0.491 MT)	Per MT	₹ 94,404.03	9440.40	1,03,844.43
153	Pipe Structures for 33/11kV Substations ( Double Transformer Bay+ Single Line Bay)				
154	Nominal Bore 200,5.9mm thick	Per MT	₹ 1,08,000.00	10800.00	1,18,800.00
155	Galvanized Steel Structures	Per MT	₹ 86,886.00	8688.60	95,574.60
156	Galvanized Nuts & Bolts	Per MT	₹ 94,404.03	9440.40	1,03,844.43

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## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
157	11 kV VCB Panel Board (12 kV, 1250A, 25 kA, Outdoor) with O/C, E/F relays (IEC61850), Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port				0.00
158	For 3.15 MVA (1+3)	Set	₹ 14,24,077.00	142407.70	15,66,484.70
159	For 6.3 MVA (1+6)	Set	₹ 17,88,136.00	178813.60	19,56,949.60
160	For 10 MVA (1+5)	Set	₹ 21,21,186.00	212118.60	23,33,304.60
161	For 20 MVA (1+7)	Set	₹ 27,59,576.00	279957.60	30,79,533.60
162	11 kV VCB Panel Board (12 kV, 1250A, 25 kA, Outdoor) with O/C, E/F relays (IEC61850), Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port				0.00
163	For 6.3 MVA (2+6)	set	₹ 28,43,220.00	284322.00	31,27,542.00
164	For 10 MVA (2+7)	set	₹ 31,87,712.00	318771.20	35,06,483.20
165	11 kV Bus Coupler with Adaptor Panel	set	₹ 2,28,873.00	22887.30	2,51,760.80
166	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	₹ 12,651.00	1265.10	13,916.10
167	Chainlink Fencing of 33 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height	RM	₹ 8,977.00	897.70	9,874.70
168	HDPE Pipe Outer Dia 180 mm inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	₹ 1,262.00	126.20	1,368.20
169	33/11 kV Power Transformer Foundation (1:2:4) as per approval drawing	Item	₹ 3,70,415.00	37941.50	4,17,356.50
170	33 kV Equipment Foundation & Gantry foundation (Single Transformer) Equipment Foundation	Job	₹ 12,84,038.00	128403.80	14,12,441.80
171	33 kV Equipment Foundation & Gantry foundation (Double Transformer) Equipment Foundation	Job	₹ 16,14,985.00	161498.50	19,96,483.50
172	Earthing Mat (GI Flat 50 mm x8 mm) ( Qty 2.4857MT)	Item	₹ 1,98,153.00	19815.30	2,17,968.30
173	Earthing Mat (GI Flat 50 mm x8 mm)/75 x30mm/75x8mm	Kg	₹ 80.00	8.00	88.00
174	33 kV Yard Concreting/Metalling (25mtrx15mtr) 150mm Thick (1:2:4)	Item	₹ 4,14,982.00	41498.20	4,56,480.20
175	Borewell with submersible pump( 1 HP)	No.	₹ 3,45,000.00	34500.00	3,79,500.00
176	Control Room Building	sqm	₹ 29,122.00	2912.20	32,034.20
177	Truss for Control Room Building ( 12M x10M )	sqm	₹ 7,225.00	722.50	7,947.50
178	Shift Quarters for JE and SBA	sqm	₹ 22,236.00	2223.60	24,459.60
179	Development of land by removing weeds, wild grass and eradication if any, ornamental land scaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	₹ 4,02,500.00	40250.00	4,42,750.00
180	Yard Lighting by way of Providing 2 No 16 Mtr motorised High Mast with 4 No.s of 200 W LED flood lights on each High Mast complete with earthing , and foundations	Item	₹ 4,39,761.00	43976.10	4,83,737.10
181	Battery Bank 30 V,100 AH , of 15 No. cells of 2 V No., sealed maintenance free VRLA type,High impact Polypropylene copolymer container,flame retardant. b) 30V,100 AH , Float-Cum-Boost Charger With Full wave rectification for 220 V, 1Phase, 50 HZ AC Input Supply .	No	₹ 1,17,765.00	11776.50	1,29,541.50
182	Distribution Panel (30 V, DC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43 for 2 No battery incoming supply with 2 No 63 Amps DP MCBs for incoming supply Double busbar of adequate size, 12 No DP DC MCB (0-32A) including indication lamps and cables and other accessories, DC volt Meter, DC A Meter	No	₹ 29,237.00	2923.70	32,160.70
183	Distribution Panel (415 V, AC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43. 200 Amps Switch Fuse disconnector for incoming supply and 5 No TPN MCB's (16-125 Amps ) and 5 No DP MCBs (0-32A), rectangular busbar suitable for 200 Amps continuous Supply including indication lamps and cables and other accessories	No	₹ 38,136.00	3813.60	41,949.60
184	TELECOMMUNICATION FACILITIES	Item	₹ 15,000.00	1500.00	16,500.00

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## Basic Rates for Cost Data 2022-23 ( Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
185	12 KV Capacitor Bank with VCB Panel with complete arrangement for connection with 11 KV Incomer panel , Series Reactor, Isolator, RVT, Surge Arrestors, HT Cable with termination Kits, Control Cables, CRCA Cubicle Panel etc with structure, foundation & accessories.			0.00	0.00
186	1.2 MVAR	Set	₹ 6,35,593.00	63559.30	6,99,152.30
187	2.4 MVAR	Set	₹ 11,01,695.00	110169.50	12,11,864.50
188	3.6 MVAR	Set	₹ 13,98,305.00	139830.50	15,38,135.50
189	Earthing of Power Transformer { Improvement/strengthening works only for augmentation works}	Item	₹ 10,123.00	1012.30	11,135.30
190	MCCB - 200 Amps,36KA,4P adjustable	No.	₹ 21,059.00	2105.90	23,164.90
191	MCCB - 100 Amps,36KA,4P adjustable	No.	₹ 7,931.00	793.10	8,724.10
192	MCCB - 160 Amps,36KA,4P adjustable	No.	₹ 10,994.00	1099.40	12,093.40
193	MCCB - 250 Amps,36KA,4P adjustable	No.	₹ 22,553.00	2255.30	24,808.30
194	MCCB - 400 Amps,36KA,4P adjustable	No.	₹ 25,077.00	2507.70	27,584.70
195	MCCB - 630 Amps,36KA,4P adjustable	No.	₹ 32,605.00	3260.50	35,865.50
196	MCCB - 200 Amps,36KA,3P adjustable	No.	₹ 16,656.00	1665.60	18,321.60
197	MCCB - 100 Amps,36KA,3P adjustable	No.	₹ 6,356.00	635.60	6,991.60
198	MCCB - 160 Amps,36KA,3P adjustable	No.	₹ 9,605.00	960.50	10,565.50
199	MCCB - 250 Amps,36KA,3P adjustable	No.	₹ 18,484.00	1848.40	20,332.40
200	MCCB - 400 Amps,36KA,3P adjustable	No.	₹ 21,606.00	2160.60	23,766.60
201	MCCB - 630 Amps,36KA,3P adjustable	No.	₹ 26,729.00	2672.90	29,401.90
202	Main Service Distribution Box for 25KVA DT's having 3 no. Of consumers)	No	₹ 13,559.00	1355.90	14,914.90
203	Single Phase Smart Energy Meter 5-30 Amp/10-60 Amp, DLMS Compliant of accuracy class 2.0	No.	₹ 2,700.00	270.00	2,970.00
204	Polypropylene weather proof outdoor type Meter Box for 4 Single Phase Meter along with Zinc plated clamps	No.	₹ 2,542.00	254.20	2,796.20
205	Misc Items such insulation tape, binding wire, screws, etc.	LS	₹ 101.00	10.10	111.10
206	Earthing by GI Rod 20mm 2.5 Mtr long with out GI strip	No	₹ 534.50	53.45	587.95
207	ACSR to Cable Connector / Piercing connector	No.	₹ 350.00	35.00	365.00
208	Main Service Distribution Box (ACSR/ABC to consumers)	No.	₹ 3,544.00	354.40	3,898.40
209		cum	₹ 5,877.00	587.70	6,464.70
210	Earthing 40 mm GI Pipe or 20 mm GI rod, 2.5 mtr for CT/FT combination unit. Earthing of metering cubicle through two No 25 x 5 mm flat iron.	No	₹ 6,399.00	639.90	7,038.90
211	Packaged Substation - 11kV Outdoor type Package Sub-Station consisting of 11/0.433kV, 400kVA Oil type transformer, MV panel, LT panel inside GI sheet steel /Metallised Epoxy enclosure with all interconnections, fully type tested as per the IEC-1330 complete in all respect consisting of following items & as per detailed technical specifications: A) 3 way Non - Extensible RMU (breaking capacity 25kA for on second) with 2no. 630 A load break switch and 1 no. 200 A tee off with SF6 circuit breaker / VCB self powered with O/C + E.F. Relay, M.V Metering arrangement with digital electronic meter, C.T's etc. to complete as required to entire satisfaction of Engineer-in- charge. B) 1 no. 11 KV / 433V, 400 KVA three phase, DYN11, +5% to -5% in steps of 2.5% at line end of HT side , off lead tap, oil cooled type transformer with Cu winding an standard fittings. C) 1 No. 433V, 800A LT devices with PVC sleeved Aluminium busbars. D) One no. 4pole 630A, 25kA MCCB with microprocessor Based Release. E) Adequate compartment to accommodate Five nos. Four Pole MCCBs of maximum capacities of 400Amp.No. including 3phase 4 wire energy meter F) The provision for solid connection with aluminium strips with heat shrinkable sleeves from Main LT Bus bar to No. compartment of MCCB.	No	₹ 30,82,500.00	308250.00	33,90,750.00
212	11 /0.433,100 KVA substation	No	₹ 11,03,123.00	110312.30	12,13,435.30
213	11 /0.433,200 KVA substation	No	₹ 12,17,885.00	121788.50	13,39,673.50
214	11 /0.433,250 KVA substation	No	₹ 29,58,750.00	295875.00	32,54,625.00
215	111 /0.433,630 KVA substation	No	₹ 34,47,000.00	344700.00	37,91,700.00

## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kashmir	10 % Increase for ACF	Basic Rates of Leh/Kargil
216	Reinforced cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic or basaltic stone aggregate 40 m nominal size for foundations) including plastering	Cu.mtr	₹ 7,846.50	784.65	8,631.15
217	wire mesh jali around the Packaged Sub-Station of size upto 8'x4' made out of wire mesh 1"x1"square including fixing in cement 1:2:4 including welding cutting etc. Complete in all respect	lumsum	₹ 58,475.00	5847.50	64,322.50
218	wire mesh fencing around the Packaged RMU of size upto 8'x4' made out of wire mesh 1"x1"square including fixing in cement 1:2:4 including welding cutting etc. Complete in all respect	lumsum	₹ 29,238.00	2923.80	32,161.80
219	11 kV, Ring Main Unit ,SF6 insulated, out-door type, Extensible type,breaking capacity 25 kA for one second with SF6 circuit breaker / VCB self powered with O/C + E/F Relay comprising of a) 11kV 630 Amp Motorised isolator including earthing Switches with making capacity 52kA, having mechanical ON/OFF, earth indications with fault current Indicator. b) 11kV ,200 Amp motorised Spring operated, Circuit breakers with earthing switches, connecting the RMU to Supply transformer. c)Copper Bus Bar of 630 Amp rating. d). 1 No Numerical Aux. Powered relay having non directional O/C and E/F protection (for No. circuit breaker). d), The Circuit Breaker enclosures shall be outfitted with a communicable-type numerical (feeder protection) relay, i.e., one for No. circuit breaker. The relay shall also interface via an RS 485 port in order to send, as a minimum, real-time phase current , readings using the MODBUS protocol. e) Incomming Isolator having FPI with electrical reset Contact /facility. f) All necessary Potential free contacts for indications relevant to RMU monitoring and control . g) Capacitor voltage dividers serving Live-Line Cable indicators in No. breaker and isolator.			0.00	0.00
220	3 way type,two isolators and one Circuit breaker	No	₹ 5,13,559.00	51355.90	5,64,914.90
221	4 way type,two isolators and two Circuit breakers	No	₹ 7,07,250.00	70725.00	7,77,975.00
222	5-way type,two isolators and three Circuit breakers	No	₹ 10,18,920.00	101892.00	11,20,812.00
223	11 kV, Ring Main Unit , out-door type, Non-Extensible type,breaking capacity 25 kA-3-way	No	₹ 4,19,492.00	41949.20	4,61,441.20
224	11 kV, Ring Main Unit , out-door type, Non-Extensible type,breaking capacity 25 kA-4-way	No	₹ 6,12,745.00	61274.50	6,74,019.50
225	11 kV, Ring Main Unit , out-door type, Non-Extensible type,breaking capacity 25 kA 5-way	No	₹ 8,06,243.00	80624.30	8,86,867.30
226	Cement Tiles of size 300mm length x250mm width x 37mm thick as a protective cover for underground cables.	No.	₹ 114.00	11.40	125.40
227	Earthing of RMU -Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 50 mmx6 mm for connection of rmu body as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab	set	₹ 7,117.00	711.70	7,828.70
228	Cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic or basaltic stone aggregate 40 m nominal size for foundations)	CUM	₹ 5,877.45	587.75	6,465.20
229	Centering and shuttering including strutttings, propping etc and removal of formwork.	Sq.mtr	₹ 573.85	57.39	631.24
230	15 mm cement plaster 1:4 (1 : cement: 4 -fine sand) for foundations.	Sq.mtr	₹ 300.45	30.05	330.50

## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No.	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
231	Constructing masonry chamber 600x600x900mm. inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse s&g) including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover & frame to be not less than 35 kg (weight of cover 23kg & weight of frame 15 kg) & RCC top slab 1:2:4 mix (1 cement : 2 coarse s&g : 4 graded stone aggregate 20 mm nominal size), I/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine s&g : 10 graded stone aggregate 40 mm nominal size) & inside plastering with cement mortar 1:3 (1 cement : 3 coarse s&g) 12 mm thick, finished with a floating coat of neat cement complete as per standard design with common burnt clay F.P.S. (non modular) bricks of class designation 7.5	No.	₹ 24,033.00	2403.30	26,436.30
232	33kV RING MAIN UNIT : 3 way Cut-poor type RMU,SF6 insulated, extensible type, at 33kV system voltage and breaking capacity 25kA for one second, with SF6 circuit breaker / VCB self powered with O/C + E/F Relay system comprising of a) One (1) No. 33kV, 630 Amp. motorized Isolators including earthing switches with making capacity 62.5kA, having mechanical ON/OFF b) Two (2) No. 33kV, 200Amp motorized, spring operated, Circuit Breakers (CB) with earthing switches c) Cu Bus - Bar of 630 Amp. rating d) One (1) No. Numerical Aux. self powered relay having non-directional O/C and E/F protection (for No. Circuit Breaker feeder). Relay should have minimum 7-DI & 8-DO. The relay shall also interface via an RS 232/485 port in order to send, as a minimum, real-time readings using the MODBUS protocol. e) Incoming isolators shall have FPI with electrical reset contact / facility. f) All necessary potential-free contacts for indications relevant to RMU monitoring and control. g) Capacitor Voltage Dividers serving live-line cable indicators in No. Breaker & Isolator.	No.	₹ 32,96,504.24	329650.42	36,26,154.66
233:	Trench 750 mm (For Double X-mer 55 mtr & for Single X-mer 40 mtrs)	RM	₹ 12,266.00	1226.60	13,492.60
234:	Trench 500 mm (For Double X-mer 30 mtr & for Single X-mer 15 mtrs)	RM	₹ 9,834.00	983.40	10,817.40
235:	33kV C&R Panel along with O/C, E/F relays, mimic diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port	No.	₹ 2,39,237.00	23923.70	2,63,160.70
236:	33kV C&R Panel along with O/C, E/F and Differential relays (IEC61850), mimic diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps/ Multi function meter, DLMS Compliant with RS-485 port	No.	₹ 3,08,562.00	30856.20	3,39,418.20
237:	2 Core 2.5 mm <sup>2</sup> multi strain Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	Mtrs	₹ 160.00	16.00	176.00
238:	4 Core 2.5 mm <sup>2</sup> multi strain Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	Mtrs	₹ 247.00	24.70	271.70
239:	6 Core 2.5 mm <sup>2</sup> multi strain Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	Mtrs	₹ 341.00	34.10	375.10
240:	12 Core 2.5 mm <sup>2</sup> multi strain Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	Mtrs	₹ 593.00	59.30	652.30
241:	250 KVA DG Set complete with AMF Panel	No.	1987223	198722.30	21,85,945.30
242:	PCC in 1:4:8	CUM	4908.20	490.82	5,399.02
243:	Single core 150 sq mm XLPE 1.1 KV, 2 Runs per phase (40 Mtr per phase per Run )	RM	382	38.20	420.20
244:	33 KV Single core indoor terminating kit to be used with cables - 185 sq.mm.	set	6056	606.60	6,672.60
245:	33 KV Single core outdoor terminating kit to be used with cables - 185 sq.mm.	set	8520	852.00	9,372.00
246:	11 KV, 1 core(4 runs) 185sq.mm, Al conductor,XLPE, insulated, armoured cable (from the RMU to the transformer)	Mtrs	734	73.40	807.40
247:	11KV 1 core indoor terminating kit to be used with cables - 185 sq.mm.	set	2490	249.00	2,739.00
248:	11kV 1 core indoor outdoor terminating kit to be used with cables - 185 sq.mm.	set	3561	356.10	3,917.10

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## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No.	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
249	ACSR Jumpers with hardware fittings like ACSR to CT/PT unit bush clamp, other hardwares as per site requirement	Lot	731	73.10	804.10
250	33kV CT/PT Combined Unit, 3-phase, 50 Hz, ONAN cooled, outdoor type. The combined unit, CT's and PT's shall be as per below specifications. The CT ratio shall be as under: I. 20/5 for 500kVA and 1 MVA, 33/11kV Transformers II. 60/5 for 1.5, 2 and 3.15 MVA, 33/11kV Transformers III. 125/5 for 4 MVA, 5 MVA, 6.3 MVA, 33/11kV Transformers IV. 200/5 for 10MVA, 33/11 KV Transformers The rated burden of CT shall be 7VA The PT shall be 33 kv/110 volts / v3, Three phase PT with rated burden 20VA per phase with proper colour coded identification. PTs shall be of uniform insulating and One minute power frequency dry withstand voltage 70KV		141949	14194.90	1,56,143.90
251	Cable termination kits suitable for 3 x 35 mm <sup>2</sup> XLPE Cable (indoor/outdoor)		4761	476.10	5,237.10
252	3 Core 11 kV Aluminium cable XLPE armoured 35 mm <sup>2</sup> including cost of clamp for its fixing where ever required.	mtr	762	76.20	838.20
253	95mm <sup>2</sup> 2 Core, 1P2W Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(1-Φ, 1N) (one cable spare)	KMs	529000	52900.00	5,81,900.00
254	Straight Through Joints for cables	Kits	2192	219.20	2,411.20
255	Cable Termination Kits (indoor/outdoor)	Kits	1967	196.70	2,163.70
256	Back filling of available excavated earth	cums	198.70	19.87	218.57
257	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	296.75	29.68	326.44
258	630mm <sup>2</sup> 3% Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(3-Φ, 1N) (One Spare Cable)	KMs	4985000	498500.00	54,83,500.00
259	Straight Through Joints for cables	Kits	7166	716.60	7,882.60
260	Cable Termination Kits (indoor/outdoor)	Kits	6591	659.10	7,250.10
261	Straight Through Joints for cables	Kits	2047	204.70	2,251.70
262	Cable Termination Kits (indoor/outdoor)	Kits	1883	188.30	2,071.30
263	630mm <sup>2</sup> Single Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(3-Φ, 1N, 1 spare)	KMs	1422461	142246.10	15,64,707.10
264	Cable Termination Kits (indoor/outdoor)	Kits	13867	1386.70	15,253.70
265	Straight Through Joints for cables	Kits	28781	2878.10	31,659.10
266	11kV, Three core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS ( one spare cable)	KMs	1880175	188017.50	20,68,192.50
267	11 kV, Single core, 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS (One spare cable)	KMs	733688	73368.80	8,07,056.80
268	Straight Through Joints for cables	Kits	10805	1080.50	11,885.50
269	33kV, Three core 185 mm <sup>2</sup> Aluminium Armoured XLPE Cable , FRLS (Double Circuit + one spare cable)	KMs	3060525	306052.50	33,66,577.50
270	Straight Through Joints for cables	Kits	75358	7535.80	82,893.80
271	Cable Termination Kits (indoor/outdoor)	Kits	30023	3002.30	33,025.30
272	33kV, Single core 185 mm <sup>2</sup> Aluminium, round wire Armoured XLPE Cable , FRLS (one spare cable)	KMs	1135200	113520.00	12,48,720.00
273	Straight Through Joints for cables	Kits	28247	2824.70	31,071.70
274	RCC protective cover of size 600 mm (width) x 250mm (Length) x 60 mm (Thickness) for underground cables	mtr	297	29.70	326.70
275	33kV, Single core 185 mm <sup>2</sup> Aluminium, round wire Armoured XLPE Cable , FRLS (One spare cable)	KMs	2457450	245745.00	27,03,195.00
276	Straight Through Joints for cables 4 No's for 4 single cores	Kits	41643	4164.30	45,807.30
277	Cable Termination Kits (indoor/outdoor)	Kits	9713	971.30	10,684.30
278	4 core 35 mm <sup>2</sup> PVC Cable from AB Cable taping point through Piercing connector to MSDB	Mtr	360	36.00	395.00
279	16 mm <sup>2</sup> PVC service cable armoured 20 mtr per consumer	Meter	174	17.40	191.40
280	11 kV ,630 mm <sup>2</sup> Single Core ,XLPE armoured Cable FRLS. (with one spare length) for 10 MVA Power Transformer	Meter	1779	177.90	1,956.90
281	33 kV Equipment Foundation & Gantry foundation (for additional equipments )	Job	530947	53094.70	5,84,041.70

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## Basic Rates for Cost Data 2022-23 ( Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
282	Earthing Electrode   3m long 40mm dia GI pipe) through GI Strip.	Nos.	3,116.00	311.60	3,427.60
283	Yard Lighting by way of Providing 16 Mtr motorised High Mast with 4 Nos. of 200 W LED flood lights on each High Mast complete with earthing , and foundations	Item	219883	21988.10	2,41,869.10
284	11 kV 3- Core XLPE 400 mm <sup>2</sup> armoured, FRLS	Mtr	3278	327.80	3,605.80
285	11 kV 3-Core XLPE 120 mm <sup>2</sup> armoured, FRLS	Mtr	1436	143.60	1,579.60
286	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	11900	1190.00	13,090.00
287	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	11900	1190.00	13,090.00
288	11 kV Outdoor Heat Shrinkable Cable Termination Kits	Set	16279	1627.90	17,906.90
289	120 mm <sup>2</sup> PVC LT Cable 4 Core, armoured, FRLS	Mtr	1072	107.20	1,179.20
290	Lugs, Ferrules etc.	Item	810	81.00	891.00
291	3 phase Smart Energy Meter 20-80 Amp, DLMS Compliant of accuracy class 2.0	No.	3800	380.00	4,180.00
292	10 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (2C/4C) ,1.1kV Grade, Armoured, PVC Insulated Stranded Conductor FRLS type Single Phase	M	153	15.30	168.30
293	11 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (2C/4C) ,1.1kV Grade, Armoured, PVC Insulated Stranded Conductor FRLS type Three Phase	M	233	23.30	256.30
294	Cross Arm: Channel Iron (100x50x6 m), (Length 2400+200 m)	No.	1,409.00	140.90	1,549.90
295	Knee Bracing: Angle Iron (50x50x6 m), (Length 2x750 m)	m	207.00	20.70	227.70
296	Channel Iron (100x50x6 m), (Length 2x 980 m)	m	531.00	53.10	584.10
297	11 kV Strain insulators complete with fittings	No.	1,386.00	138.60	1,524.60
298	Stay set complete with guy trip	Set	851.00	85.10	936.10
299	Earthing Set complete	Set	2,728.00	272.80	3,000.80
300	Danger plate	No.	127.00	12.70	139.70
301	Barbed wire	Kg	71.00	7.10	78.10
302	MS Half clamps with nuts & bolts	No.	151.00	15.10	166.10
303	MS Full clamps with nuts & bolts	No.	261.00	26.10	287.10
304	Set of jumpers with PG clamps( each set of 3 no.)	Set	413.00	41.30	454.30
305	66/11kV, ONAN, Copper wound, Out-door Type, conventional Power Transformer, Oil Filled with OLTC and all accessories including HT and LT Terminal connections (Rates in Lakhs)				
306	3.15 MVA	No.	33.89	3.39	37.28
307	5 MVA	No.	48.19	4.82	53.01
308	6.3 MVA	No.	57.92	5.79	63.72
309	10 MVA	No.	79.49	7.95	87.44
310	20 MVA	No.	113.10	11.31	146.41
311	12 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS.	m	0.0023	0.00023	0.0025
312	4 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS.	m	0.0009	0.00009	0.0010
313	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS,	m	0.0006	0.00006	0.0007
314	11 kV VCB Panel Board (12 kV, 1250A, 25 kA, Outdoor) with O/C, E/F relays (IEC61850), Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port(multi function meter)				
315	3.15 MVA/5 MVA	m	1424068	142406.80	1566474.80
316	6.3 MVA	m	1788136	178813.60	1966949.60
317	10 MVA	m	2121186	212118.60	2333304.60
318	20 MVA	m	2799576	279957.60	3079533.60
319	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	7923	792.30	8715.30
320	11 kV outdoor Heat Shrinkable Cable Termination Kits	Set	10564	1056.40	11620.40
321	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	7923	792.30	8715.30
322	11 kV outdoor Heat Shrinkable Cable Termination Kits	Set	10564	1056.40	11620.40
323	11 kV Isolator, double break 3-pole, 600Amp, horizontal mounting Type, with Earth Switch	Nos.	10564	1056.40	11620.40
324	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp	Nos	5856	585.60	6441.60
325	9 Mtr. Long Pole(ST-410 SP33)	Nos	10942	1094.20	12036.20
326	GI of sorts	Kg	70	7.00	77.00
327	100 kVA, 11/D.4 kV,3 phase ,50 Hz,ONAN ,AI, Wound ,outdoor Str. Transformer along with X-mier Oil (EE Level-II)	No	119986	11998.60	131984.60
328	120 mm <sup>2</sup> PVC LT Cable 4 Core, armoured, FRLS	Mtr	400	40.00	440.00
329	Cement bottoming 1:2:4 mix as per REC standards 0.5cum per Pole	Nos	1936	193.60	2129.60

## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No.	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
330	Earthing of substation -Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as per IS 1239.GI Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body,G.O Set & lightening arrestor as per IS 2629/BS, GI-nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	2287	228.70	2515.70
331	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI strip	Nos	676	67.60	743.60
332	MCCB - 200 Amps	No	4047	404.70	4451.70
333	11 kV Bus Coupler with Adaptor Panel	No	228873	22887.30	251760.30
334	11kV, Gapless Surge Arrestor, 9 KV ,10 KA ,LA with Polymer housing, Stn. Type (3/4/5/10 Sets)	No	4490	449.00	4939.00
335	11 KV 3- Core 185 mm <sup>2</sup> armoured, FRLS	No	763	76.30	839.30
336	11 KV 3-Core 120 mm <sup>2</sup> armoured, FRLS	No	587	58.70	645.70
337	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	9945	994.50	10939.50
338	Chainlink Fencing of 66 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height	RM	7216	721.60	7937.60
339	HDPE Pipe Outer Dia 180 mm Inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	1194	119.40	1313.40
340	66/11 kV Power Transformer Foundation	Item	175000	17500.00	192500.00
341	66 kV Equipment Foundation & Gantry foundation	Job	526850	52685.00	579535.00
342	Earthing Mat (GI Flat 50x8)	Item	174000	17400.00	191400.00
343	Earthing Electrode ( 3m long 40mm dia GI pipe) through GI wire 8/6 SWG	No.	1200	120.00	1320.00
344	66 kV Yard Concreting/Metalling	Item	78266	7826.60	86092.60
345	Borewell with submersible pump	No.	300000	30000.00	330000.00
346	Control Room Building	sqm	₹ 29,122.00	2912.20	32034.20
347	Truss of Control Room Building	sqm	4000	400.00	4400.00
348	Shift Quarters for JE and SBA	sqm	₹ 22,236.00	2223.60	24459.60
349	Development of land by removing weeds, wild grass and endulation if any, ornamental land scaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	400000	40000.00	440000.00
350	Yard Lighting	Item	100000	10000.00	110000.00
351	a). Battery Bank 30 V,100 AH , of 15 No. cells of 2 V each, sealed maintenance free VRLA type,High impact Polypropelene copolymer container,flame retardant. b). 30V,100 AH , Float-Cum-Boost Charger With Full wave rectification for 220 V, 1Phase, 50 HZ AC Input Supply .	No.	102404	10240.40	112644.40
352	Distribution Panel (30 V, DC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43 for 2 No battery incoming supply with 2 No 63 Amps DP MCBs for incoming supply Double busbar of adequate size, 12 No DP DC MCB (0-32A) including indication lamps and cables and other accessories	No.	25424	2542.40	27966.40
353	Distribution Panel (415 V, AC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43. 200 Amps Switch Fuse disconnector for incoming supply and 5 No TPN MCB's (16-125 Amps ) and 5 No DP MCBs (0-32A), rectangular busbar suitable for 200 Amps continuous Supply including indication lamps and cables and other accessories	No.	33898	3389.80	37287.80
354	TELECOMMUNICATION FACILITIES	Item	₹ 15,000.00	1500.00	16500.00
355	Rubber Mat 1m x 2m 19mm thick	No	₹ 3,898.00	389.80	4287.80
356	Fire Extinguisher- Co <sub>2</sub> Type of 4.5 kg capacity for control room	No	₹ 4,386.00	438.60	4824.60
357	3 Sand Bucket Fire Extinguisher	Set	₹ 5,848.00	584.80	6432.80
358	Helmet	No	₹ 341.00	34.10	375.10
359	Rubber Gloves for 66 kV level	Set	1525	152.50	1677.50
360	Rubber Gloves for 11kV level	Set	₹ 1,121.00	112.10	1233.10
361	Safety Belt	No	₹ 1,559.00	155.90	1714.90
362	Safety Shoes	No	₹ 1,462.00	146.20	1608.20

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## Basic Rates for Cost Data 2022-23 (Material Cost only with out GST or other Taxes)

S.No	PARTICULARS	Unit	Basic Rates of Kasmir	10 % increase for ACF	Basic Rates of Leh/Kargil
363	Earthing rod (set of 3 rods)	set	₹ 7,417.00	741.70	8158.70
364	HV Detectors all voltages	No	₹ 46,780.00	4678.00	51458.00
365	12 kV Capacitor Bank with VCB Panel with complete arrangement for connection with 11 kV incoming panel, Series Reactor, Isolator, RVT, Surge Arrestors, HT Cable with termination Kits, Control Cables, CRCA Cubicle Panel etc with structure, foundation & accessories.				
366	3.15 MVA	No	606147	60614.70	666761.70
367	5 MVA	No	909220	90922.00	1000142.00
368	6.3 MVA	No	1212294	121229.40	1333523.40
369	10 MVA	No	1818441	181844.10	2000285.10
370	11 kV 3-Core 300 mm <sup>2</sup> , armoured, FRLS	Mtr	0.01065	0.00	0.012
371	11 kV 3- Core 400 mm <sup>2</sup> for 6.3 MVA Power Transformer armoured, FRLS	Mtr	0.01338	0.00	0.015
372	11 kV Feeder Gantry and Accessories	Item	0.1322	0.01	0.145
373	11 kV Capacitor Banks				
374	2.4 MVAR	Set	12.11864	1.21	13.331
375	3.6MVAR	Set	13.11864	1.31	14.431
376	1 X 7.2MVAR	Set	36.36441	3.64	40.001
377	Lugs, Ferrules etc.	Item	810	81	891

## Abstract of Schedule of Rates for Draft COST-DATA 2022-23 for Distribution and Sub Transmission works

S. No.	Type of Line	Pole Height	No. of Poles	Span	Size of Conductor	Prop Cost in Rs. (A)	Prop Cost in Rs. Lacs (A)	Turnkey Factor @ 25%	Total Estimated Cost inclusive of turnkey factor in Rs. Lacs 2021-2022	Total Estimate as per Cost Data 2019-20( with Turn Key)	percentage change
1	11 KV Line	9 Mtr. ST	12	104	50 Sq. mm ACSR	747556.66	7.47557	1.8683	9.34446	6.07425	35.00%
2	11 KV Line	9 Mtr. PCC	12	104	50 Sq. mm ACSR	569208.55	5.69209	1.4230	7.11511	4.58290	35.59%
3	11 KV Line	9 Mtr. ST	28	35	50 Sq. mm ACSR	1355414.42	13.55414	3.3885	16.94268	8.75395	New estimates
4	11 KV Line	9 Mtr. PCC	28	35	50 Sq. mm ACSR	893846.32	8.93846	2.2346	11.17308	5.96261	New estimates
5	11 KV Line	9 Mtr. ST	21	50	50 Sq. mm ACSR	1287605.02	12.87605	3.2190	16.09506	8.75395	45.61%
6	11 KV Line	9 Mtr. PCC	21	50	50 Sq. mm ACSR	767245.88	7.67246	1.9181	9.59057	5.96261	37.83%
7	11 KV Line	9 Mtr. ST	24	45	50 Sq. mm ACSR	872713.40	8.72713	2.1818	10.90892		New estimates
8	11 KV Line	8 Mtr. ST	12	104	50 Sq. mm ACSR	1295614.81	12.95615	3.2390	16.19519		New estimates
9	11 KV Line	8 Mtr. PCC	12	104	50 Sq. mm ACSR	670232.57	6.70233	1.6756	8.37791	5.48899	34.48%
10	11 KV Line	8 Mtr. ST	21	52	50 Sq. mm ACSR	952841.10	9.52841	2.3821	11.91051	7.64596	35.80%
11	11 KV AB Cable	8 Mtr. ST	20	50	35 Sq. mm ABC	1323272.97	13.23273	3.3082	16.54091	9.36110	43.41%
12	11 KV AB Cable	8 Mtr. ST	20	50	50 Sq. mm ABC	1323272.97	13.23273	3.3082	16.54091	9.95914	39.79%
13	11 KV AB Cable	8 Mtr. ST	20	50	70 Sq. mm ABC	1471353.00	14.71353	3.6784	18.39191	11.87030	35.66%
14	11 KV AB Cable	8 Mtr. ST	20	50	120 Sq. mm ABC	1855385.37	18.55385	4.6385	23.19232	14.03339	39.49%
15	11 KV AB Cable	8 Mtr. PCC	20	50	35 Sq. mm ABC	1096918.16	10.96918	2.7423	13.71148	7.40060	46.03%
16	11 KV AB Cable	8 Mtr. PCC	20	50	50 Sq. mm ABC	1163036.52	11.63037	2.9076	14.53796	8.02381	44.81%
17	11 KV AB Cable	8 Mtr. PCC	20	50	70 Sq. mm ABC	1322847.63	13.22848	3.3071	16.53560	10.05460	39.19%
18	11 KV AB Cable	8 Mtr. PCC	20	50	120 Sq. mm ABC	1737303.50	17.37304	4.3433	21.71629	12.04231	44.55%
19	11 KV AB Cable	9 Mtr. PCC	20	50	120 Sq. mm ABC	2083669.77	20.83670	5.2092	26.04587		New Estimate

## Abstract of Schedule of Rates for Draft COST-DATA 2022-23 for Distribution and Sub Transmission works

S. No.	Type of Line	Pole Height	No. of Poles	Span	Size of Conductor	Prop Cost in Rs. (A)	Prop Cost in Rs. Lacs (A)	Turnkey Factor @ 25%/15% of A	Total Estimated Cost inclusive of turnkey factor in Rs. Lacs 2021-2022	Total Estimate as per Cost Data 2019-20 (with Turn Key)	percentage change
20	11 kV AB Cable	9 Mtr. PCC	20	50	120 Sq. mm ABC	2334902.39	23.34902	5.8373	29.18628		New Estimate
21	LT 3 phase 4 Wire	8 Mtr. ST	11	93	50 Sq. mm ACSR	1132741.28	11.32741	2.8319	14.15927	5.55969	60.73%
22	LT 3 phase 4 Wire	8 Mtr. PCC	11	93	50 Sq. mm ACSR	471579.65	4.71580	1.1789	5.89475	4.66169	20.92%
23	LT 3 phase 4 Wire	8 Mtr. ST	21	47	50 Sq. mm ACSR	887678.37	8.87678	2.2192	11.09598	7.83935	29.35%
24	LT 3 phase 4 Wire	8 Mtr. PCC	21	47	50 Sq. mm ACSR	741844.00	7.41844	1.8546	9.27305	5.82594	37.17%
25	LT 2 phase 3 Wire	8 Mtr. ST	11	93	50 Sq. mm ACSR	589595.22	5.89595	1.4740	7.36994	4.83737	34.36%
26	LT 2 phase 3 Wire	8 Mtr. PCC	11	93	50 Sq. mm ACSR	483908.79	4.83909	1.2098	6.04886	3.83996	36.52%
27	LT 2 phase 3 Wire	8 Mtr. ST	21	47	50 Sq. mm ACSR	896782.51	8.96783	2.2420	11.20978	7.15259	36.19%
28	LT 2 phase 3 Wire	8 Mtr. PCC	21	47	50 Sq. mm ACSR	658334.15	6.58334	1.6458	8.22918	4.81116	41.54%
29	LT 1 phase 2 Wire	8 Mtr. ST	15	67	50 Sq. mm ACSR	615271.52	6.15272	1.5382	7.69089	4.93432	35.84%
30	LT 1 phase 2 Wire	8 Mtr. PCC	15	67	50 Sq. mm ACSR	452061.41	4.52061	1.1302	5.65077	3.46973	38.60%
31	LT 1 phase 2 Wire	8 Mtr. ST	25	40	50 Sq. mm ACSR	913721.46	9.13721	2.2843	11.42152	7.16126	37.30%
32	LT 1 phase 2 Wire	8 Mtr. PCC	25	40	50 Sq. mm ACSR	615717.22	6.15717	1.5393	7.69647	4.57398	40.57%
33	LT AB Cable	8 Mtr. ST	20	50	50 Sq. mm ABC	1203703.64	12.03704	3.0093	15.04630	6.67415	55.64%
34	LT AB Cable	8 Mtr. ST	20	50	70 Sq. mm ABC	1428245.65	14.28246	3.5706	17.85307	7.30990	59.06%
35	LT AB Cable	8 Mtr. ST	20	50	120 Sq. mm ABC	1962806.67	19.62807	4.9070	24.53508	8.95985	63.48%
36	LT AB Cable	8 Mtr. PCC	20	50	50 Sq. mm ABC	1044948.97	10.44949	2.6124	13.06186	4.53761	65.26%

## Abstract of Schedule of Rates for Draft COST-DATA 2021-22 for Distribution and Sub Transmission works

S. No.	Type of Line	Pole Height	No. of Poles	Span	Size of Conductor	Prop Cost in Rs. (A)	Prop Cost in Rs. Lacs (A)	Turnkey Factor @ 25% / 15% of A	Total Estimated Cost inclusive of turnkey factor in Rs. Lacs 2021-2022	Total Estimate as per Cost Data 2019-20 (with Turn Key)	percentage change
37	LT AB Cable	8 Mtr. PCC	20	50	70 Sq. mm ABC	1299434.75	12.99435	3.24859	16.24293	5.15561	68.26%
38	LT AB Cable	8 Mtr. PCC	20	50	120 Sq. mm ABC	1903721.71	19.03722	4.75930	23.79652	6.93876	70.84%
39	33 kV Line	11 Mtr. ST	11	116	100 Sq. mm ACSR	1071581.48	10.71581	2.67895	13.39477	8.91529	33.44%
40	33 kV Line	11 Mtr. PCC	11	116	100 Sq. mm ACSR	887540.96	8.87541	2.21885	11.09426	7.61406	31.37%
41	33 kV Line	11 Mtr. ST	19	58	100 Sq. mm ACSR	5043928.33	50.43928	12.60982	63.04910	12.14740	80.73%
42	33 kV Line	11 Mtr. PCC	19	58	100 Sq. mm ACSR	5540675.83	55.40676	13.85169	69.25845	9.52457	86.25%
43	33 kV Line	9 Mtr. ST	11	116	100 Sq. mm ACSR	953012.10	9.53012	2.38253	11.91265	8.44944	29.07%
44	33 kV Line	9 Mtr. PCC	11	116	100 Sq. mm ACSR	850795.19	8.50795	2.12699	10.63494	7.30446	31.32%
45	33 kV Line	9 Mtr. ST	19	58	100 Sq. mm ACSR	1389121.02	13.89121	3.47280	17.36401	11.80016	32.04%
46	33 kV Line	9 Mtr. PCC	19	58	100 Sq. mm ACSR	1130386.27	11.30386	2.82597	14.12983	9.36032	33.75%
52	33 kV Line	11 Mtr. ST Pole	24	42	Single Circuit 200 Sq. mm A	2554448.69	25.54449	6.38612	31.93061		New estimates
53	33 kV Line	11 Mtr. ST Pole( H Frame)	38	58	Double Circuit 200 Sq. mm A	3408821.55	34.08822	8.52205	42.61027		New estimates
54	33 kV Line	13 Mtr. ST Pole	22	45	Single Circuit 200 Sq. mm A	2665615.20	26.65615	6.66404	33.32019		New estimates
55	33 kV Line	13 Mtr. ST Pole( H Frame)	38	58	Double Circuit 200 Sq. mm A	4889864.56	48.89865	12.22466	61.12331		New estimates
56	Installation of 25 kVA, 11/0.4 kV Distribution Substation					230115.35	2.30115	0.57529	2.87644	2.22831	22.53%
57	Installation of 63 kVA, 11/0.4 kV Distribution Substation					407530.30	4.07530	1.01883	5.09413	3.55377	30.24%

## Abstract of Schedule of Rates for Draft COST-DATA 2022-23 for Distribution and Sub Transmission works

S. No.	Type of Line	Prop Cost in Rs. (A)	Prop Cost in Rs. Lacs (A)	Turnkey Factor @ 25% / 15% of A	Total Estimated Cost inclusive of turnkey factor in Rs. Lacs 2021- 2022	Total Estimate as per Cost Data 2019-20( with Turn Key)	percentage change
58	Installation of 100 kVA, 11/0.4 kV Distribution Substation	477882.85	4.77883	1.19471	5.97354	4.20715	29.57%
59	Installation of 200 kVA, 11/0.4 kV Distribution Substation	749474.73	7.49475	1.87369	9.36843	6.78772	27.55%
60	Installation of 250 kVA, 11/0.4 kV Distribution Substation	1049106.27	10.49106	2.62277	13.11383	9.01872	31.23%
61	Installation of 400 kVA, 11/0.4 kV Distribution Substation	1782831.04	17.82831	4.45708	22.28539	11.41694	48.77%
62	Installation of 630 kVA, 11/0.4 kV Distribution Substation	2007941.21	20.07941	5.01985	25.09927	14.39412	42.65%
62A	Installation of 765 Kva, 11/0.4 kV Distribution Substation	2815535.54	28.15536	7.03884	35.19419	15.39412	New Estimate
62B	Installation of 1 MVA, 11/0.4 kV Distribution Substation	3146774.76	31.46775	7.86694	39.33468	16.39412	New Estimate
65	Augmentation of 11/0.4 kV Substation from 25 kVA to 63 kVA	325876.36	3.25876	0.81469	4.07345	2.74931	32.51%
66	Augmentation of 11/0.4 kV Substation from 63 kVA to 100	396228.92	3.96229	0.99057	4.95286	3.41390	31.07%
67	Augmentation of 11/0.4 kV Substation from 100 kVA to 250	1003587.52	10.03588	2.50897	12.54484	8.29596	33.87%
68	Augmentation of 11/0.4 kV Substation from 250 kVA to 400	1615741.29	16.15741	4.03935	20.19677	10.46950	48.16%
69	Construction of 3.15 MVA, 33/11 kV Substation	271.40	271.39733	67.84933	339.24666	228.49830	32.65%
70	Construction of 6.3 MVA, 33/11 kV Substation	314.06	314.06258	78.51564	392.57822	260.41579	33.67%
71	Construction of 10 MVA, 33/11 kV Substation	338.36	338.36413	84.59103	422.95517	317.99771	24.82%
72	Construction of 2 x 6.3 MVA, 33/11 kV Substation	465.03	465.03175	116.25794	581.28969	377.33070	35.09%
73	Construction of 2 x 10 MVA, 33/11 kV Substation	521.18	521.17774	130.29443	651.47217	486.17866	25.37%
74	Addition of Transformer of 3.15 MVA in 33/11 kV Substation	112.56	112.56066	28.14016	140.70082	96.85064	31.17%
75	Addition of Transformer of 6.3 MVA in 33/11 kV Substation	149.20	149.20447	37.30112	186.50558	128.76811	30.96%
76	Addition of Transformer of 10 MVA in 33/11 kV Substation	176.53	176.52746	44.13187	220.65933	186.35005	15.55%
77	Augmentation of 33/11 kV Substation from 3.15 MVA to 6.3	10524266.83	105.24267	26.31067	131.55334	100.08955	23.92%
78	Augmentation of 33/11 kV Substation from 6.3 MVA to 10	12462422.36	124.62422	31.15606	155.78028	154.98100	0.51%
92	Replacement of Pole by 13 Meter ST Pole	53909.55	0.53910	0.13477	0.67387	0.34674	48.54%
93	Installation of 11 kV Tapping Point	1132741.28	11.32741	2.83185	14.15927	0.94145	93.35%

## Abstract of Schedule of Rates for Draft COST-DATA 2022-23 for Distribution and Sub Transmission works

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94	Replacement of Pole by 16 Meter ST Pole	71586.84585	0.71587	0.17897	0.89484	0.50430	43.64%
95	Thickening of 1 KM Conductor from 20 mm <sup>2</sup> to 30 mm <sup>2</sup>						
96	On 9 Mtr ST Pole	278766.53010	2.78767	0.69692	3.48458	2.71693	22.03%
97	On 9 Mtr PCC Pole	278766.53010	2.78767	0.69692	3.48458	2.29880	34.03%
98	Thickening of Conductor from 30 mm <sup>2</sup> to 50 mm <sup>2</sup>						
99	On 9 Mtr ST Pole	401081.14166	4.01081	1.00270	5.01351	3.58374	28.52%
100	On 9 Mtr PCC Pole	375803.71695	3.75804	0.93951	4.69755	3.28210	30.13%
101	Thickening of 1 KM Conductor from 50mm <sup>2</sup> to 100 mm <sup>2</sup>						
102	On 11 Mtr ST Pole	555602.43509	5.55602	1.38901	6.94503	5.30539	23.61%
103	On 11 Mtr PCC Pole	587524.48735	5.87524	1.45881	7.34406	5.54075	24.55%
104	Thickening of 1 KM Conductor from 100mm <sup>2</sup> to 150mm <sup>2</sup>						
105	On 9 Mtr ST Pole	566108.55613	5.66109	1.41527	7.07636		New Estimate
106	On 9 Mtr PCC Pole	576699.47887	5.76699	1.44175	7.20874		New Estimate
107	Thickening of 1 KM Conductor from 100mm <sup>2</sup> to 150mm <sup>2</sup>						
108	On 11 Mtr ST Pole	902067.21516	9.02067	2.25517	11.27584	8.57616	23.94%
109	On 11 Mtr PCC Pole	1012296.50798	10.12297	2.53074	12.65371	8.97675	29.06%
110	Thickening of 1 KM Conductor from 150 mm <sup>2</sup> to 200 mm <sup>2</sup>						
111	On 11 Mtr ST Pole	1275973.50262	12.75974	3.18993	15.94967	11.29834	29.16%
112	On 11 Mtr PCC Pole	1263481.42622	12.63481	3.15870	15.79352	11.10944	29.66%

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113	Thickening of 1 KM Conductor from 100 mm <sup>2</sup> to 200 mm <sup>2</sup>						
114	On 9 Mtr ST Pole	1275973.50	12.75974	3.18993	15.94967	11.29834	29.16%
115	On 9 Mtr PCC Pole	1263481.43	12.63481	3.15870	15.79352	11.10944	29.66%
116	Thickening of 1 KM Conductor from 100 mm <sup>2</sup> to 150/ 200 mm <sup>2</sup>						
117	On 11 Mtr ST Pole from existing to 150 mm <sup>2</sup>	1282464.35	12.82464	3.20616	16.03080		New Estimates
118	On 11 Mtr ST Pole from existing to 200 mm <sup>2</sup>	1403821.39	14.03821	3.50955	17.54777		New Estimates
119	Thickening of 1 KM Conductor from ACSR to 50 Sq mm HV-ABC						
120	On 9 Mtr ST Pole	1091422.38	10.91422	2.72856	13.64278	7.13134	47.73%
121	On 9 Mtr ST Pole	1794142.15	17.94142	4.48536	22.42678		New Estimates
122	On 9 Mtr PCC Pole	1214743.87	12.14744	3.03686	15.18430	6.82126	55.08%
123	On 9 Mtr PCC Pole	1909134.62	19.09135	4.77284	23.86418		New Estimates
124	Thickening of 1 KM Conductor from ACSR to 50 Sq mm LT-ABC						
125	On 8 Mtr ST Pole	826943.17	8.26943	2.06736	10.33679	3.56428	65.52%
126	On 8 Mtr PCC Pole	881059.10	8.81059	2.20265	11.01324	3.35270	69.56%
127	Laying of Conductor for the purpose of Street Lighting	44276.47	0.44276	0.11069	0.55346	0.45928	17.02%
128	Laying of Guard Netting on Distribution Lines	9844.59	0.09845	0.02461	0.12306	0.07220	41.33%
129	Laying of Guard Netting on HV/EHV Lines	11957.08	0.11957	0.02989	0.14946	0.09223	38.29%
130	Service Connection of Single Phase Line upto 4 kW Load	11998.41	0.11998	0.03000	0.14958	0.06278	58.14%
131	Service Connection of Single Phase Line above 4 kW to 8 kW Load	12944.86	0.12945	0.03236	0.16181	0.06673	58.76%

## Abstract of Schedule of Rates for Draft COST-DATA 2021-22 for Distribution and Sub Transmission works

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132	Service Connection of Three Phase Line upto 8 kW Load	11412.51	0.11413	0.02853	0.14266	0.09299	34.82%
133	Service Connection of Three Phase Line above 8 kW to 20 kW Load	13035.00	0.13035	0.03259	0.16294	0.10047	38.34%
134	Shifting of Single Phase Meters	4425.00	0.04425	0.01106	0.05531	0.03676	33.54%
135	Shifting of Three Phase Meters	4619.00	0.04619	0.01155	0.05774	0.05333	7.63%
136	Single Phase Service Connection for 25 KVA DTs	52995.78	0.52996	0.13249	0.66245	0.22969	65.33%
140	Single Phase Service Connection for ACSH	52260.53	0.52261	0.13065	0.65326	0.30266	53.67%
141	Estimate for laying of 1 KM of 33kV XLPE, (Single Circuit, Single Core ) Direct Burial	12918091.26	129.18091	32.29523	161.47614	63.43627	60.71%
142	Estimate for laying of 1 KM of 33kV XLPE, (Single Circuit, Single Core ) in HDPE Pipe	22983497.69	229.83498	57.45874	287.29372		New estimate
143	Estimate for laying of 1 KM of 33kV XLPE, (Double Circuit, Single Core )	17883360.31	178.83360	44.70840	223.54200	108.77309	51.34%
144	Estimate for laying of 1 KM of 33kV XLPE, (Single Circuit, Three Core )	11958255.82	119.58256	29.89564	149.47820	77.19317	48.36%
145	Estimate for laying of 1 KM of 33kV XLPE, (Double Circuit, Three Core )	17618715.29	176.18715	44.04679	220.23394	117.26928	46.75%
146	Estimate for laying of 1 KM of 11kV XLPE, (Single Circuit, Single Core )	6379078.96	63.79079	15.94770	79.73849	44.27509	44.47%
147	Estimate for laying of 1 KM of 11kV XLPE, (Double Circuit, Single Core )	10432384.19	104.32384	26.08096	130.40480	74.03822	43.22%
148	Estimate for laying of 1 KM of 11kV XLPE, (Single Circuit, Three Core )	7750061.29	77.50061	19.37515	96.87577	51.04054	47.31%
149	Estimate for laying of 1 KM of 11kV XLPE, (Double Circuit, Three Core )	11410185.92	114.10186	28.52546	142.62732	77.66724	45.55%
150	Estimate for laying of Single Core 3P4W LT underground cable	12673261.16	126.73261	31.68315	158.41576	66.59696	57.96%
151	Estimate for laying of 3% Core 3P4W LT underground cable	17113426.99	171.13427	42.78357	213.91784	98.48395	53.96%
152	Estimate for laying of 2Core 1P2W LT underground cable	3379991.35	33.79991	8.44998	42.24989	26.33506	37.67%

Abstract of Schedule of Rates for Draft COST-DATA 2022-23 for Distribution and Sub Transmission works

S. No.	Type of Line	Prop Cost in Rs. (A)	Prop Cost in Rs. Lacs (A)	Turnkey Factor @ 25% / 15% of A	Total Estimated Cost inclusive of turnkey factor in Rs. Lacs 2021- 2022	Total Estimate as per Cost Data 2019-20 (with Turn Key)	percentage change
153	Standard Estimate for Sub Distribution Pillar Feeder	66238.47	0.66238	0.16560	0.83798	0.51740	37.51%
154	Estimate for Service Pillar Feeder for LT underground Cable	29442.50	0.29442	0.07861	0.36803	0.21647	41.18%
155	Standard Estimate 11kV HT metering CT and PT operated	223868.15	2.23868	0.53967	2.79835	1.16443	58.39%
156	Standard Estimate 33kV HT metering CT and PT operated	254651.98	2.54652	0.63663	3.18315	2.13803	32.83%
157	Estimate for Compact Packaged substation	5282730.41	52.82730	13.20683	66.03413	33.35035	49.50%
158	Estimate for providing RMU at 11kV level 3 way type,two isolators and one Circuit breaker	954049.41	9.54049	1.38517	11.92562	9.60973	19.42%
159	Estimate for providing RMU at 11kV level 4 way type,two isolators and two Circuit breakers	1281366.92	12.81367	1.20342	16.01709	12.04724	24.79%
160	Estimate for providing RMU at 11kV level 5 way type,two isolators and three Circuit breakers	1821169.23	18.21169	4.55292	22.76462	17.22594	24.33%
161	Estimate for providing RMU at 33 kV level 3 way type,two isolators and one Circuit breaker	5519844.41	55.19844	13.79961	68.99806	51.32225	25.62%
162	Estimate for 250 KVA DU Set	3899434.44	38.99434	9.74609	48.73043		New estimate
163	Double Pole Structure on 11 kV line Sectionalizer	183959.65	1.83960	0.45990	2.29950		New estimate
164	66 kV LINE ON 1.3 METER ST POLES, SPAN OF 150 METERS	1559133.95	15.59134	1.89783	19.48917	11.62755	40.34%
165	66 kV LINE ON 1.3 METER ST POLES, SPAN OF 75 METERS	2499718.20	24.99718	6.24930	31.24468	18.03809	42.27%
166	66 kV LINE ON 1.3 METER ST POLES, SPAN OF 150 METERS	1397458.85	13.97459	1.49365	17.46824	10.89726	37.62%
167	66 kV LINE ON 1.3 METER ST POLES, SPAN OF 75 METERS	2030397.35	20.30397	5.09509	25.47997	16.51605	34.79%
168	Construction of 3.15 MVA, 66/11 kV Substation	266.02	266.01525	66.50381	332.51906	222.09600	32.97%
169	Construction of 5 MVA, 66/11 kV Substation	292.24	292.24152	73.06038	365.30190	245.94600	32.67%
170	Construction of 6.3 MVA, 66/11 kV Substation	318.73	318.72612	79.68153	398.40765	269.59600	32.33%
171	Construction of 10 MVA, 66/11 kV Substation	318.73	318.72612	79.68153	398.40765	313.69600	21.29%
172	Construction of 20 MVA, 66/11 kV Substation	368.59	368.59377	92.14844	460.74231	426.54600	7.86%
173	Addition of Transformer of 3.15 MVA in 66/11 kV Substation	122.20	122.20384	30.55096	152.75480	107.79600	29.70%
174	Addition of Transformer of 5 MVA in 66/11 kV Substation	148.43	148.43011	37.10753	185.53763	130.44600	29.70%
175	Addition of Transformer of 6.3 MVA in 66/11 kV Substation	174.91	174.91471	43.72868	216.64338	154.09600	29.52%
176	Addition of Transformer of 10 MVA in 66/11 kV Substation	224.78	224.78236	56.19559	280.97795	196.10600	29.50%
177	Addition of Transformer of 20 MVA in 66/11 kV Substation	350.69	350.68939	87.67235	438.36173	399.04600	29.50%
178	Augmentation of 66/11 kV Substation from 3.15/5 MVA to 6.3 MVA	133.39	133.38957	33.34739	166.73697	116.29600	30.25%
179	Augmentation of 66/11 kV Substation from 6.3 MVA to 10 MVA	171.39	171.38769	42.84692	214.23461	155.48776	27.33%
180	Augmentation of 66/11 kV Substation from 10 MVA to 20 MVA	297.46	297.39720	74.34932	371.74660	298.18888	30.56%

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 kV LINE ON 9 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 104 METERS**

S.No	PARTICULARS	For LEH, Ladakh & Kargil	
		PCC Pole Amount	ST Pole Amount
1	Net cost of Material	337369	532448
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	182179	159734
3	GST @18% on Labour charges for Normal Terrain	32792	28752
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)	236469	207335
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling, 3% Contingency and safety equipments, 0.5% Insurance)	16868	26622
6	Total Amount for Normal Terrain	569209	747557
7	Total Amount for Hilly Terrain /Congested areas	590706	766405

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

COST OF MATERIAL FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM <sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 104 METERS							
S.No.	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	9 Mtr. Long Pole(PCC WL-300Kg, ST-410 SP33)	Nos	10	5520.90	55209	15028.20	150282
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	KG	136	92.40	12566	92.40	12566
4	GI Channel X-arm including clamps and braces	KG	160	92.40	14784	92.40	14784
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	281.60	3379
7	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	30	182.60	5478	182.60	5478
8	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	251.90	3023	251.90	3023
9	Galvanized Nuts and Bolts	KG	12	103.84	1246	103.84	1246
10	Danger Plates with Clamps	Nos	12	111.10	1333	111.10	1333
11	Anti-Climbing Device with Clamps	Nos	12	233.20	2798	233.20	2798
12	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	12	1802.90	21635	1802.90	21635
13	Red Oxide	Ltr.	12	222.20	2666	222.20	2666
14	Aluminium Paint	Ltr.	12	370.70	4448	370.70	4448
15	Cement bottoming 1:2:4 mix as per REC standards 0.5cum per pole	Nos	10		0	3232.90	32329
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos	2		0	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	12	171.60	2059	171.60	2059
18	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 12/12 I.C. ....	Nos	4	3576.10	14304	3576.10	14304
Total Material cost					285906		451227
GST @18% on account of Material cost			0.18		51463	0	81221
Total Material Cost					337369		532448
cost of 20 mm <sup>2</sup> ACSR Conductor				14438			
cost of 30 mm <sup>2</sup> ACSR Conductor				25103			
cost of 100 mm <sup>2</sup> ACSR Conductor				79947			
Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.							

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR WITH SPAN OF 35METERS**

S.No.	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	454745	785125
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)	245562	392563
3	GST @18% on account of Labour charges	44201	70661
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	318740	509546
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% insurance)	22737	39256
6	Total Amount for Normal Terrain	767246	1287605
7	Total Amount for Hilly Terrain /Congested areas	796222	1333927

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

COST OF MATERIAL FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM <sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 52 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	19	5520.90	104897	15028.20	285536-
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	Kg	289	92.40	26704	92.40	26704
4	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	281.60	3379
7	11KV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 220mm	Nos	57	182.60	10408	182.60	10408
8	11KV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting impulse 75kV Positive and 80kV Negative, creepage distance 230mm	Nos	12	251.90	3023	251.90	3023
9	Galvanized Nuts and Bolts	Kg	21	103.84	2181	103.84	2181
10	Danger Plates with Clamps	Nos	21	111.10	2333	111.10	2333
11	Anti-Climbing Device with Clamps	Nos	21	233.20	4897	233.20	4897
12	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip 25x3 mm	Nos.	21	1802.90	37861	1802.90	37861
13	Red Oxide	Ltr.	21	222.20	4666	222.20	4666
14	Aluminium Paint	Ltr.	21	370.70	7785	370.70	7785
15	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	19		0	3232.90	61425
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos	2		0	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	21	171.60	3604	171.60	3604
18	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
Total Material Cost					385377		665360
GST @18% on Material cost					69368		119765
<b>Total Material Cost</b>					<b>454745</b>		<b>785125</b>
cost of 20 mm <sup>2</sup> ACSR Conductor				14438			
cost of 30 mm <sup>2</sup> ACSR Conductor				25103			
cost of 100 mm <sup>2</sup> ACSR Conductor				79947			
Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.							

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**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR WITH SPAN OF 35METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1.	Net cost of Material	529781	965395
2.	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)	286082	289618
3.	GST @18% on account of Labour charges	51495	52131
4.	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	371334	375925
5.	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	26489	48270
6.	Total Amount for Normal Terrain	893846	1355414
7.	Total Amount for Hilly Terrain /Congested areas	927604	1389589

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

COST OF MATERIAL FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM <sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 35 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	26	5520.90	143543	15028.20	390733
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	Kg	289	92.40	26704	92.40	26704
4	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	281.60	3379
7	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	78	182.60	14243	182.60	14243
8	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	251.90	3023	251.90	3023
9	Galvanized Nuts and Bolts	Kg	28	103.84	2908	103.84	2908
10	Danger Plates with Clamps	Nos	28	111.10	3111	111.10	3111
11	Anti-Climbing Device with Clamps	Nos	28	233.20	6530	233.20	6530
12	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip 25x3 mm	Nos	28	1802.90	50481	1802.90	50481
13	Red Oxide	Ltr.	28	222.20	6222	222.20	6222
14	Aluminium Paint	Ltr.	28	370.70	10380	370.70	10380
15	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	26		0	3232.90	84055
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos	2		0	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	28	171.60	4805	171.60	4805
18	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
Total Material Cost					448967		818131
GST @18% on Material cost					80814		147264
<b>Total Material Cost</b>					<b>529781</b>		<b>965395</b>
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						
	Cost of 20 mm <sup>2</sup> ACSR Conductor			14438			
	Cost of 30 mm <sup>2</sup> ACSR Conductor			25103			
	Cost of 100 mm <sup>2</sup> ACSR Conductor			79947			

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 52 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	517255	922803
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)	279318	276841
3	GST @18% on account of Labour charges	50277	49831
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	362555	359339
5	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	25863	46140
6	Total Amount for Normal Terrain	872713	1295615
7	Total Amount for Hilly Terrain /Congested areas	905673	1328282

Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

COST OF MATERIAL FOR ERECTION OF 1 KM OF 11 KV LINE ON 9 METER ST/PCC POLES, 20/30/50/100/ MM <sup>2</sup> ACSR CONDUCTOR							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	24	5520.90	132502	15028.70	360677
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	Kg	365	92.40	33726	92.40	33726
4	GI Channel X-arm including clamps and braces	Kg	202	92.40	18665	92.40	18665
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	281.60	3379
7	11KV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 330mm	Nos	72	182.60	13147	182.60	13147
8	11KV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 330mm	Nos	15	251.90	3779	251.90	3779
9	Galvanized Nuts and Bolts	Kg	26	103.84	2700	103.84	2700
10	Danger Plates with Clamps	Nos	26	111.10	2889	111.10	2889
11	Anti-Climbing Device with Clamps	Nos	26	233.20	6063	233.20	6063
12	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip 25x3 mm	Nos	26	1802.90	46875	1802.90	46875
13	Red Oxide	Ltr.	26	222.20	5777	222.20	5777
14	Aluminium Paint	Ltr.	26	370.70	9638	370.70	9638
15	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	24		0	3232.90	77590
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos	2		0	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	0	171.60	0	171.60	0
18	Aluminium Jointing Sleeves	Nos	6	118.80	713	118.80	713
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
Total Material Cost					438352		782036
GST @18% on Material cost					78903		140766
<b>Total Material Cost</b>					<b>517255</b>		<b>922803</b>
cost of 20 mm <sup>2</sup> ACSR Conductor				14438			
cost of 30 mm <sup>2</sup> ACSR Conductor				25103			
cost of 100 mm <sup>2</sup> ACSR Conductor				79947			
Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.							

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV LINE ON 8 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR  
WITH STANDARD SPAN OF 104 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	322831	477374
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	174329	143212
3	GST @18% for Labour Charges for Normal Terrain	31379	25778
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	226279	185889
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	16142	23869
6	Total Amount for Normal Terrain	544681	670233
7	Total Amount for Hilly Terrain /Congested areas	565252	687132

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles		
				Rate	Amount	Rate	Amount	
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	10	4288.90	42889	10360.90	103609	
2	11 Mtr. Long Pole(PCC WL-350Kg ,ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471	
3	GI V cross-arm with top Bracket including clamp	Kg	136	92.40	12566	92.40	12566	
4	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784	
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310	
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	281.60	3379	
7	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	30		182.60	5478	182.60	5478
8	11kV Polymeric composite Disc Insulator 12kV, min falling load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	251.90	3023	251.90	3023	
9	Galvanized Nuts and Bolts	kg	12	103.84	1246	103.84	1246	
10	Danger Plates with Clamps	Nos	12	111.10	1333	111.10	1333	
11	Anti-Climbing Device with Clamps	Nos	12	233.20	2798	233.20	2798	
12	Farthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	12	1802.90	21635	1802.90	21635	
13	Red Oxide	Ltr.	12	222.20	2666	222.20	2666	
14	Aluminium Paint	Ltr.	12	370.70	4448	370.70	4448	
15	Cement bottoming 1:2:4 mix as per REC standards .45cum/pole	Nos	10		0	3232.90	32329	
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos	2		0	3878.60	7757	
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	12	171.60	2059	171.60	2059	
18	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356	
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	4	3576.10	14304	3576.10	14304	
	Total Material Cost				273586		404554	
	GST @ 18% on material cost				49245		72820	
	Total Material Cost				322831		477374	
	Cost of 20-mm <sup>2</sup> ACSR Conductor			14438				
	Cost of 30 mm <sup>2</sup> ACSR Conductor			25103				
	Cost of 100 mm <sup>2</sup> ACSR Conductor			79947				
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be							

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV LINE ON 8 METER ST/PCC POLES, 50 MM<sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 52 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	425301	678662
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	229663	203599
3	GST @18% on Labour Charges for Normal Terrain	41339	36648
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation	298102	264271
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	21265	33933
6	Total Amount for Normal Terrain	717568	952841
7	Total Amount for Hilly Terrain /Congested areas	744668	976866

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos.	19	4288.90	81489	10360.90	196857
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos.	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	Kg	289	92.40	26704	92.40	26704
4	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784
5	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos.	12	281.60	3379	281.60	3379
7	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos.	57	182.60	10408	182.60	10408
8	11kV Polymeric composite Disc Insulator 12kV, min falling load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos.	12	251.90	3023	251.90	3023
9	Galvanized Nuts and Bolts	kg	21	103.84	2181	103.84	2181
10	Danger Plates with Clamps	Nos.	21	111.10	2333	111.10	2333
11	Anti-Climbing Device with Clamps	Nos.	21	233.20	4897	233.20	4897
12	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos.	21	1802.90	37861	1802.90	37861
13	Red Oxide	Ltr.	21	222.20	4666	222.20	4666
14	Aluminium Paint	Ltr.	21	370.70	7785	370.70	7785
15	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos.	19		0	3232.90	61425
16	Cement bottoming 1:2:4 mix as per REC standards 0.6 cum per pole	Nos.	2		0	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos.	12	171.60	2059	171.60	2059
18	Aluminium Jointing Sleeves	Nos.	3	118.80	356	118.80	356
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos.	5	3576.10	17881	3576.10	17881
<b>Total Material Cost</b>					360425		575137
<b>GST @ 18% on material cost</b>					64876		103525
<b>Total Material Cost</b>					425301		678662
Cost of 20 mm <sup>2</sup> ACSR Conductor				14438			
Cost of 30 mm <sup>2</sup> ACSR Conductor				25103			
Cost of 100 mm <sup>2</sup> ACSR Conductor				79947			
Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced							

\* Labour charges 200% extra on Normal Terrain @ 27% for PCCP & 15% for STP (GST included @18%)

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV ABC ON 8 MTRS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS**  
**Amount in Rs.**

S.NO	PARTICULARS	PCC Pole				ST Pole			
		35 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>	120 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>	120 mm <sup>2</sup>
1	Net cost of Material	852969	904383	1028653	1350936	1110501	1110501	1234771	1557054
2	Labour charges for Normal Terrain @ 10% for PCC & 6% for STP	170594	180877	205731	270187	133260	133260	148173	186846
3	GST @18% on Labour Charges for Normal Terrain	30707	32558	37032	48634	23987	23987	26671	33632
4	Labour charges for Hilly Terrain/Congested areas	221431	234778	267038	350703	172972	172972	192328	242527
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety	42648	45219	51433	67547	55525	55525	61739	77853
6	Total Amount for Normal Terrain	1096918	1163037	1322848	1737304	1323273	1323273	1471353	1855385
7	Total Amount for Hilly Terrain /Congested areas	1117048	1184380	1347124	1769186	1338998	1338998	1488837	1877433

COST OF MATERIAL FOR ERECTION OF 1 KM OF 35MM <sup>2</sup> , 11 KV ABC ON 8 MTS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS.							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole[PCC WL-200Kg , ST-410 SP15]	Nos	18	4288.90	77200	10360.90	186496
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	35 mm <sup>2</sup> AB (HT) Cable (3x35+1x70 mm <sup>2</sup> ) XLPE(11 kV, 3C + Earth)	km	1	528112.20	528112	528112.20	528112
4	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	6534.00	19602	6534.00	19602
5	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
6	Galvanized Nuts and Bolts	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	ltr	20		0	222.20	4444
11	Aluminium Paint	ltr	20		0	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	20		0	3232.90	64658
13	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	19		0	3878.60	73693
14	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	20	171.60	3432	171.60	3432
15	Mid Span Straight Through Jointing Kit for 11 kV ABC	Nos	1	8250.00	8250	8250.00	8250
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
Total Material Cost					722855.1		1001375.1
GST @ 18% on material cost					130113.92		180247.52
Total Amount for material Cost					852969.02		1181622.62
Cost of 50 mm <sup>2</sup> AB (HT) Cable (3x35+1x70 mm <sup>2</sup> ) XLPE(11 kV, 3C + Earth)				614607			
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1X95)				665254			
Cost of 120 mm <sup>2</sup> AB Cable (3X120+1X95) XLPE(11 kV, 3C + Earth)				995890			

Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.

COST OF MATERIAL FOR ERECTION OF 1 KM OF 50MM <sup>2</sup> , 11 KV ABC ON 8 MTS PCC / ST POLE WITH MINIMUM SPAN OF 50 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8-Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	18	4288.90	77200	10360.90	186496
2	9-Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	50 mm <sup>2</sup> AB (HT) Cable (3x50 + 1x70 mm <sup>2</sup> ) XLPE(11 kV, 3C + Earth)	km	1.05	675847.70	709640	675847.70	709640
4	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	6534.00	19602	6534.00	19602
5	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20		0	222.20	4444
11	Aluminium Paint	Ltr.	20		0	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards 45cum /pole	Nos	18		0	3232.90	58192
13	Cement bottoming 1:2:4 mix as per REC standards Scum /pole	Nos	2		0	3878.60	7757
14	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	20	171.60	3432	171.60	3432
15	Mid Span Straight Throgh Jointing Kit for 11 KV ABC	Nos	1	8250.00	8250	8250.00	8250
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate [300x300 x 8 mm], nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
<b>Total Material Cost</b>					<b>904383</b>		<b>1110501</b>
GST @ 18% on material cost					162789		199890
<b>Total amount for Material Cost</b>					<b>1067172</b>		<b>1310391</b>
Cost of 35 mm <sup>2</sup> AB Cable (3X35+1X35)					528112		
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1X95)					731779		
Cost of 120 mm <sup>2</sup> AB Cable (3X120+1X95)					1095479		
<b>Note:-</b>	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	18	4288.90	77200	10360.90	186496
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	70 mm <sup>2</sup> AB (HT) Cable (3 x 70 + 95 mm <sup>2</sup> ) XLPE(11 kV, 3C +	km	1.05	794200.00	833910	794200.00	833910
4	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	6534.00	19602	6534.00	19602
5	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20		0	222.20	4444
11	Aluminium Paint	Ltr.	20		0	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum	Nos	18		0	3232.90	58192
13	Cement bottoming 1:2:4 mix as per REC standards .5cum	Nos	2		0	3878.60	7757
14	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	20	171.60	3432	171.60	3432
15	Mid Span Straight Throgh Jointing Kit for 11 kV ABC	Nos	1	8250.00	8250	8250.00	8250
16	Galvanised Stay Set with 50x8mm stay clamp, guy	Nos	5	3576.10	17881	3576.10	17881
<b>Total Material Cost</b>					<b>1028653</b>		<b>1234771</b>
GST @18% on material cost					185158		222259
<b>Total Material Cost</b>					<b>1213810</b>		<b>1457030</b>
Cost of 35 mm <sup>2</sup> AB Cable (3X35+1X35)					528112		
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1X95)					731779		
Cost of 120 mm <sup>2</sup> AB Cable (3X120+1X95) XLPE(11 kV, 3C +					1095479		

Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be

COST OF MATERIAL FOR ERECTION OF 1 KM OF 120 mm <sup>2</sup> , 11 KV ABC ON 8 MTS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg ; ST-410 SP15)	Nos	18	4288.90	77200	10360.90	186496
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	120 mm <sup>2</sup> AB (HT) Cable (3x120 + 1x95 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	km	1.05	1095479.00	1150253	1095479.00	1150253
4	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	8514.00	25542	8514.00	25542
5	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm: 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20		0	222.20	4444
11	Aluminium Paint	Ltr.	20		0	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards 45cum /pole	Nos	18		0	3232.90	58192
13	Cement bottoming 1:2:4 mix as per REC standards 5cum /pole	Nos	2		0	3878.60	7757
14	Stone Pad (300 mm x 300 mm x 75-mm)	Nos	20	171.60	3432	171.60	3432
15	Mid Span Straight Through Jointing Kit for 11 KV ABC	Nos	1	8250.00	8250	8250.00	8250
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts; 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	3576.10	17881
<b>Total Material Cost</b>					<b>1350936</b>		<b>1557054</b>
GST @18% on material cost					243168		280270
<b>Total Material Cost</b>					<b>1594104</b>		<b>1837324</b>
Cost of 35 mm <sup>2</sup> AB Cable (3X35+1X35)					5,28,112.20		
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1X50)					594495		
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1X50+1C earth)					675848		
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1X95)					731779		
<b>Note:-</b>	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 11 KV ABC ON 8 MTRS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS**  
**Amount in Rs.**

S.NO	PARTICULARS	9 Mtr PCC Pole	9 Mtr ST Pole
		120 mm <sup>2</sup>	120 mm <sup>2</sup>
1	Net cost of Material	1620272	1936457
2	Labour charges for Normal Terrain @ 10% for PCC & 6% for STP	324054	232375
3	GST @18% on Labour Charges for Normal Terrain	58330	41827
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	420623	301623
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments , 0.5% Insurance)	81014	96823
6	Total Amount for Normal Terrain	2083670	2307482
7	Total Amount for Hilly Terrain /Congested areas	2121908	2334902

COST OF MATERIAL FOR ERECTION OF 1 KM OF 120 mm <sup>2</sup> , 11 kV ABC ON 8 MTS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS on 9 Mtr poles							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	0	4288.90	0	10360.90	0
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	20	5520.90	110418	15028.20	300564
3	120 mm <sup>2</sup> AB (HT) Cable (3x120 + 1x95 mm <sup>2</sup> ) XLPE(11 kV, 3C + Earth)	km	1.05	1095479.00	1150253	1095479.00	1150253
4	Heat Shrinkable Outdoor Cable Termination Kit	Nos.	3	8514.00	25542	8514.00	25542
5	Suspension/Tension Clamp with eye hook	Nos.	20	667.70	13354	667.70	13354
6	Galvanized Nuts-and-Bolts:-	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos.	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos.	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm .3 mtr long through GI Strip 25x3 mm	Nos.	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20		0	222.20	4444
11	Aluminium Paint	Ltr.	20		0	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos.	18		0	3232.90	58192
13	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos.	2		0	3878.60	7757
14	Stone Pad (300 mm x 300 mm x 75 mm)	Nos.	20	171.60	3432	171.60	3432
15	Mid Span-Straight Through Jointing Kit for 11 kV ABC	Nos.	1	8250.00	8250	8250.00	8250
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos.	5	3576.10	17881	3576.10	17881
<b>Total Material Cost</b>					<b>1373112</b>		<b>1641065</b>
GST @18% on material cost					247160		295392
<b>Total Material Cost</b>					<b>1620272</b>		<b>1936457</b>
Cost of 35 mm <sup>2</sup> AB Cable (3X35+1X35)					528112		
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1X50)					643221		
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1X50+1C earth)					675848		
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1X95)					731779		
<b>Note:-</b>	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

## ABSTRACT OF COST FOR ERECTION OF 11 KV TAPPING POINT AT MID SPAN

S.No	PARTICULARS	ST Pole
		Amount
1	Net cost of Material	806796
2	Labour charges for Normal Terrain @15%	242039
3	GST @18% on Labour Charges for Normal Terrain	43567
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	314166
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	40340
6	<b>Total Amount for Normal Terrain</b>	<b>1132741</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>1161302</b>

COST OF MATERIAL FOR ERECTION OF 11 KV TAPPING POINT AT MID SPAN					
5.No	PARTICULARS	Unit	Qty	ST Poles	
1	9 Mtr. ST-410 SP33	Nos.	2	15028.20	30056
2	GI V cross-arm with top Bracket including clamp	Kg	34	92.40	3142
3	GI Channel/Angle Iron including clamps	Kg	52	92.40	4805
4	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp, Vertical Type	Set	1	8521.70	8522
5	50 mm <sup>2</sup> ACSR Conductor	M	15	40877.10	613157
6	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	3	281.60	845
7	11KV Polymeric composite Pin Insulator 12kV, 5kN, Lighting impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	6	182.60	1096
8	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	3	251.90	756
9	Galvanized Nuts and Bolts	kg	1	103.84	104
10	Danger Plates with Clamps	Nos	2	111.10	222
11	Anti-Climbing Device with Clamps	Nos	2	233.20	466
12	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm (for 2 No ST poles and 1 No GO Switch)	Nos	3	1802.90	5409
13	Red Oxide	Ltr.	2	222.20	444
14	Aluminium Paint	Ltr.	2	370.70	741
15	Cement bottoming 1:2:4 mix as per REC standards Scum /pole	Nos	2	3232.90	6466
16	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	2	171.60	343
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	2	3576.10	7152
18	Total Amount				683725
19	GST @18% on material cost				123071
20	Total amount for material cost with GST				806796
	Cost of 20 mm <sup>2</sup> ACSR Conductor	Km	15028		
	Cost of 30 mm <sup>2</sup> ACSR Conductor	Km	22235		
	Cost of 100 mm <sup>2</sup> ACSR Conductor	Km	28523		

## ABSTRACT OF COST FOR GUARD NETTING OF SINGLE SPAN FOR DISTRIBUTION LINES

Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	GI Channel X-arm including clamps and braces	Kgs	33	92.40	3049
2	Galvanized Nuts and Bolts	Kgs	3	103.84	312
3	GI Wire 6 SWG & 8 SWG	Kgs	16	99.00	1584
4	Eye Bolts	Nos.	4	134.20	537
5	<b>Total Material Cost</b>	---	---		<b>5482</b>
6	GST @18% on account of Material Cost				987
7	<b>Total Material Cost with GST</b>				<b>6468</b>
8	Labour charges for Normal Terrain @ 20%	---	---		2587
9	GST @18% on Labour Charges for Normal Terrain				466
10	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	---	---		3358
11	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	---	---		323
12	<b>Total Amount for Normal Terrain</b>				<b>9845</b>
13	<b>Total Amount for Hilly Terrain /Congested areas</b>				<b>10150</b>

## ABSTRACT OF COST FOR SINGLE GUY FOR DISTRIBUTION LINES

Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Item	1	3576.10	3576
2	GST @18% on S No 1				644
3	Labour charges for Normal Terrain @ 20%	---	---	---	257
4	GST @18% on Labour Charges for Normal Terrain				46
5	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	---	---	---	334
6	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	---	---	---	179
7	<b>Total Amount for Normal Terrain</b>				<b>4702</b>
8	<b>Total Amount for Hilly Terrain /Congested areas</b>				<b>4733</b>

ABSTRACT OF COST FOR THICKENING OF 11kV 1 CIRCUIT KM ACSR CONDUCTOR FROM 20MM <sup>2</sup> (SQUIRREL) TO 30MM <sup>2</sup> (WEASEL)								
S.NO	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	
							Amount	
1	30 mm <sup>2</sup> ACSR Conductor - Weasel	kM	3.09	25103.10	77569	3.09	22235.40	68707
2	9 Mtr. Long Pole[PCC WL-300kg, ST-410 SP33]	Nos	4	5520.90	22084	4	15028.20	60113
3	GI V cross-arm with top Bracket including clamp	kg	58	92.40	5359	56	92.40	5359
4	PG Clamps for 30 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	12	281.60	3379
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	182.60	2191	12	182.60	2191
6	11kV Polymeric composite Disc insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm.	Nos	6	251.90	1511	6	251.90	1511
7	Galvanised Nuts and Bolts	kg	4	103.84	415	4	103.84	415
8	Earthing Complete by GI Pipe 40 mm. 3 mtr long through GI Strip 25x3 mm	Nos	4	1802.90	7212	4	1802.90	7212
9	Danger Plates with clamps	Nos	4	111.10	444	4	111.10	444
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11	Aluminium Jointing Sleeves	Nos	3	118.80	356	3	118.80	356
12	Red Oxide	Ltr.		0	4	222.20	889	
13	Aluminium Paint	Ltr.		0	4	370.70	1483	
14	Cement buttoning 1:2:4 mix as per REC standards .5cum/pole	Nos		0	4	3232.90	12932	
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	171.60	0	
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	Nos	5	3576.10	17881	5	3576.10	17881
17	Total Material Cost				140021			183805
18	GST @18% on Material Cost				25204			31537
19	Total Material Cost with GST				165224			215332
20	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP (GST@ 18% for labour charges)	---	---	---	89221	---	---	64600
21	GST @18% on Labour Charges for Normal Terrain				16060			11628
22	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges	---	---	---	115809	---	---	83850
23	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	---	---	---	8261	---	---	10767
24	Total Amount for Normal Terrain	---	---	---	278767	---	---	302327
25	Total Amount for Hilly Terrain / Congested areas	---	---	---	289295	---	---	309950
	Write back to credit material for 20 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher	---	---	---	---	---	---	---
Note : Length of Pole, its unit rate and amount may vary as per the Poles of existing Line.								

S.NO	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1.	50 mm <sup>2</sup> ACSR Conductor - Rabbit	KM	3.09	40877.10	126310	3.09	40877.10	126310
2.	9 Mtr. Long Pole PCC WL-300Kg , ST-410 5P33	Nos	4	5520.90	22084	4	15028.20	60113
3.	GI V cross-arm with top Bracket including clamp	Kg	58	92.40	5359	58	92.40	5359
4.	PG Clamps for 50 mm <sup>2</sup> ACSR Conductor	Nos	12	281.60	3379	12	281.60	3379
5.	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	182.60	2191	12	182.60	2191
6.	11kV Polymeric composite Disc Insulator 12kV,min falling load 45kN, Lightning Impulse 75kV Positive and 80kV Negative	Nos	6	251.90	1511	6	251.90	1511
7.	Galvanized Nuts and Bolts	Kg	4	103.84	415	4	103.84	415
8.	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip	Nos	4	1802.90	7212	4	1802.90	7212
9.	Danger Plates with clamps	Nos	4	111.10	444	4	111.10	444
10.	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11.	Aluminium Jointing Sleeves	Nos	3	118.40	355	3	118.40	355
12.	Red Oxide	Ltr.		0.00	0	4	222.20	889
13.	Aluminium Paint	Ltr.		0.00	0	4	370.70	1483
14.	Cement bottoming 1:2:4 mix as per REC standards	Nos		0.00	0	4	3232.90	12932
15.	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	686
16.	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded	Nos	5	3576.10	17881	5	3576.10	17881
Total Material Cost					188761			242093
GST @ 18% on Material Cost					33977			43577
Total Material Cost with GST					222738			285670
Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP			---	---	120279	---	---	85701
GST @ 18% on Labour Charges for Normal Terrain					21650			15426
Labour charges for Hilly Terrain/Congested areas with 10%			---	---	156122	---	---	111240
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling ,3%)			---	---	11137	---	---	14284
Total Amount for Normal Terrain			---	---	375804	---	---	401081
Total Amount for Hilly Terrain /Congested areas			---	---	389997	---	---	411194
26.	Write back to credit material for 30 mm <sup>2</sup> ACSR Conductor- Depreciation shall be calculated as per useful life of the conductor or the actual scrap value	---	---	---	---	---	---	---
Note : Length of Pole, its unit rate and amount may vary as per the Poles of existing Line.								

**COST FOR REPLACEMENT OF 11KV 1 CIRCUIT KM ACSR 30MM<sup>2</sup> CONDUCTOR BY 50MM<sup>2</sup> 11 KV AB CABLE**  
Amount in Rs.

S.NO	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	50 mm <sup>2</sup> AB (HT) Cable (3x50 + 1x70 mm <sup>2</sup> ) XLPE(11 KV, 3C + Earth)	Km	1.05	675847.70	709640	1.05	675847.70	645127
2	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	6534.00	19602	3	6534.00	17820
3	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	20	667.70	12140
4	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	4	5520.90	22084	4	15028.20	54648
5	Mid Span Straight Throgh Jointing Kit for 11 KV ABC	Set	1	8250.00	8250	1	8250.00	7500
6	Danger Plates with clamps	Nos	4	111.10	444	4	111.10	404
7	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	848
8	Red Oxide	Ltr.				4	222.20	808
9	Aluminium Paint	Ltr.				4	370.70	1348
10	Cement bottoming 1:2:4 mix as per REC standards. Scum	Nos				4	3232.90	11756
11	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	624
12	Galvanized Nuts and Bolts	Kg	4	103.84	415	4	103.84	378
13	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3mm	Nos	4	1802.90	7212	4	1802.90	6556
14	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded	Nos	5	3576.10	17881	5	3576.10	16255
<b>Total Material Cost</b>					800501			775212
<b>GST @ 18% on Material Cost:</b>					144090			139718
<b>Total Material Cost with GST</b>					944591			915930
Labour charges for Normal Terrain @ 10% for PCC & 6% for STP (GST included @18%)			---	---	188918	---	---	109912
GST @ 18% on Labour Charges for Normal Terrain					34005			19784
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)			---	---	245216	---	---	142665
Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% insurance)			---	---	47230	---	---	45797
<b>Total Amount for Normal Terrain</b>			---	---	1214744	---	---	1091422
<b>Total Amount for Hilly Terrain /Congested areas</b>			---	---	1237036	---	---	1104392
Write back to credit material for 30 mm <sup>2</sup> ACSR Conductor and Cross Arms -Depreciation shall be calculated as per useful life of the conductor or the actual scrap value			---	---	---	---	---	---

\* 200 % extra on Labour charges for Normal Terrain @ 10% for PCC & 6% for STP (GST included @18%)

COST FOR REPLACEMENT OF 11KV 1 CIRCUIT KM ACSR 30/50/100MM<sup>2</sup> CONDUCTOR BY 120MM<sup>2</sup> 11 KV AB CABLE

Amount in Rs.

S.NO	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	120 mm <sup>2</sup> AB Cable [3X120+1X95+ 1C Earth]	km	1.05	1095479.00	1150253	1.05	1095479	1150253
2	Heat Shrinkable Outdoor Cable Termination Kit	Nos	3	8514.00	25542	3	8514	25542
3	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	20	667.7	13354
4	9 Mtr. Long Pole[PCC WL-300Kg , ST-410 SP33]	Nos	6	5520.90	33125	6	5520.90	33125
5	Mid Span Straight Through Jointing Kit for 11 kV ABC	Set	1	8250.00	8250	1	8250.00	8250
6	Danger Plates with clamps	Nos	4	111.10	444	4	111.10	444
7	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
8	Red Oxide	Ltr.			0	4	222.20	889
9	Aluminium Paint	Ltr.			0	4	370.70	1483
10	Cement bottoming 1:2:4 mix as per REC standards, 5cum /pole	Nos			0	4	3878.60	15514
11	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	686
12	Galvanized Nuts and Bolts	kg	4	103.84	415	4	103.84	415
13	Earthing Complete by GI Pipe 40 mm, 3 mtr long, through GI Strip, 25x3mm	Nos	4	1802.90	7212	4	1802.90	7212
14	Galvanized Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded	Nos	5	3576.10	17881	5	3576.10	17881
Total Material Cost					1258095			1275981
GST @ 18% on Material Cost					226457			229677
Total Material Cost with GST					1484553			1505658
Labour charges for Normal Terrain @ 10% for PCC & 6% for STP (GST included @18%)			---	---	296911	---	---	180679
GST @ 18% on Labour Charges for Normal Terrain					53444			32522
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)			---	---	385390	---	---	234521
Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			---	---	74228	---	---	75283
Total Amount for Normal Terrain			---	---	1909135	---	---	1794142
Total Amount for Hilly Terrain /Congested areas			---	---	1944170	---	---	1815462
Write back to credit material for 30/50/100 mm <sup>2</sup> ACSR Conductor and Cross Arms -Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher			---	---	---	---	---	---

\* 200 % extra on Labour charges for Normal Terrain @ 10% for PCC &amp; 6% for STP (GST included @18%)

142270/2023/PDD SECTION

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 3P4W 50MM<sup>2</sup> LT LINE ON 8 METER ST/PCC POLES WITH  
STANDARD SPAN OF 93.5 METERS**

Amount in Rs.

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	333475	471580
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP	233433	188632
3	GST @18% for Normal Terrain	42018	33954
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	302995	244844
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	16674	23579
6	<b>Total Amount for Normal Terrain</b>	<b>625599</b>	<b>717744</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>653144</b>	<b>740003</b>

\* 200 % extra on Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP

COST OF MATERIAL FOR ERECTION OF 1 KM OF 3 PHASE 4 WIRE 50MM <sup>2</sup> LT LINE ON 8 METER PCC/ST POLES WITH STANDARD SPAN OF 93.5 METERS						
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST. Poles
1.	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	9	4288.90	38600	10360.90 93248
2.	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20 30056
3.	GI U-Clamps for Shackle Insulators	Kg	44	99.19	4364	99.19 4364
4.	50 mm <sup>2</sup> ACSR Conductor	km	4.12	40877.10	168414	40877.10 168414
5.	16kN Polymer Shackle Insulators	Nos	44	99.19	4364	99.19 4364
6.	Galvanized Nuts and Bolts.	kg	11	103.84	1142	103.84 1142
7.	Danger Plates	Nos	11	111.10	1222	111.10 1222
8.	Anti-Climbing Device with Clamps	Nos	11	233.20	2565	233.20 2565
9.	Earthing Complete by GI Pipe 40 mm- 3 mtr long through GI Strip 25x3 mm	Nos	11	1802.90	19832	1802.90 19832
10.	Red Oxide	Ltr.	11	---	---	222.20 2444
11.	Aluminium Paint	Ltr.	11	---	---	370.70 4078
12.	Cement bottoming 1:2:4 mix as per REC standards .45cum-/pole	Nos	9	---	---	3232.90 29096
13.	Cement bottoming 1:2:4 mix as per REC standards .5cum-/pole	Nos	2	---	---	3878.60 7757
14.	Stone Pad (300 mm x 300 mm x 75 mm)	No	11	171.60	1888	171.60 1888
15.	Aluminium Jointing Sleeve	No	4	103.84	415	103.84 415
16.	LT Line Spacers	No	10	1802.90	18029	1802.90 18029
17.	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	No	3	3576.10	10728	3576.10 10728
	Total Material Cost:				282605	399644
	GST @ 18% On Material Cost				50859	71936
	Total Material Cost with GST				333475	471580
	Cost of 20 mm <sup>2</sup> ACSR Conductor			14438		
	Cost of 30 mm <sup>2</sup> ACSR Conductor			25103		
	Cost of 100 mm <sup>2</sup> ACSR Conductor			79947		
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.					

ABSTRACT OF COST FOR ERECTION OF 1 KM OF 3P4W 50MM<sup>2</sup> LT LINE ON 8 METER ST/PCC POLES WITH HALF SPAN OF 47 METERS

Amount in Rs.

S.NO	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	395439	583232
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP	276807	233293
3	GST @18% on Labour Charges for Normal Terrain	49825	41993
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	359296	302814
5	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	19772	29162
6	Total Amount for Normal Terrain	741844	887678
7	Total Amount for Hilly Terrain /Congested areas	774507	915207

200% extra on Labour charges for Normal Terrain @ 35% for PCCP &amp; 20% for STP.

COST OF MATERIAL FOR ERECTION OF 1 KM OF 3 PHASE 4 WIRE 50MM <sup>2</sup> LT LINE ON 8 METER PCC/ST POLES WITH HALF SPAN OF 47 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
1	8 Mtr. Long Pole(PCC WL-200Kg , ST- 410 SP15)	Nos	19	4288.90	81489	10360.90	196857
2	9 Mtr. Long Pole(PCC WL-300Kg , ST- 410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	GI U-Clamps for Shackle Insulators	Kg	84	99.19	8332	99.19	8332
4	50 mm <sup>2</sup> ACSR Conductor	km	4.12	40877.10	168414	40877.10	168414
5	16kN Polymer Shackle Insulators	Nos	84	29.70	2495	29.70	2495
6	Galvanized Nuts and Bolts.	kg	21	103.84	2181	103.84	2181
7	Danger Plates	Nos	21	111.10	2333	111.10	2333
8	Anti-Climbing Device with Clamps	kg	21	233.20	4897	233.20	4897
9	Earthing Complete by GI Pipe 40 mm - 3 mtr long through GI Strip 25x3 mm	Nos	17	1802.90	30649	1802.90	30649
10	Red Oxide	Ltr.	21	---	---	222.20	4666
11	Aluminium Paint	Ltr.	21	---	---	370.70	7785
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	19	---	---	2560.02	48640
13	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	---	---	3232.90	6466
14	Stone Pad (300 mm x 300 mm x 75	No	21	171.94	3611	171.94	3611
15	Aluminium Jointing Sleeve	No	4	118.80	475	118.80	475
16	LT Line Spacers	No	20	66.00	1320	66.00	1320
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3:15 mm dia GI stranded wire complete-	No	5	3576.10	17881	3576.10	17881
Total Material Cost				335118		494264	
GST @ 18% on Material Cost				60321		88968	
Total Material Cost with GST				395439		583232	
Cost of 20 mm <sup>2</sup> ACSR Conductor				14438			
Cost of 30 mm <sup>2</sup> ACSR Conductor				25103			
Cost of 100 mm <sup>2</sup> ACSR Conductor				79947			
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 2P3W 50MM<sup>2</sup> LT LINE ON 8 METER ST/PCC POLES WITH STANDARD SPAN OF 93.5 METERS**

Amount in Rs.

S.NO	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	257947	387382
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP (GST included @18%)	180563	154953
3	GST @18% on Labour Charges for Normal Terrain	32501	27891
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	234371	201129
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	12897	19369
6	<b>Total Amount for Normal Terrain</b>	<b>483909</b>	<b>589595</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>505215</b>	<b>607880</b>

**COST OF MATERIAL FOR ERECTION OF 1 KM OF 2 PHASE 3 WIRE 50MM<sup>2</sup> LT LINE ON 8 METER PCC/ST POLES WITH STANDARD SPAN OF 93.5 METERS**

S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	9	4288.90	38600	10360.90	93248
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	GI U-Clamps for Shackle Insulators	Kg	33	99.19	3273	99.19	3273
4	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10	126310
5	16kN Polymer Shackle Insulators	Nos	33	29.70	980	29.70	980
6	Galvanized Nuts and Bolts	kg	11	103.84	1142	103.84	1142
7	Danger Plates	Nos	11	111.10	1222	111.10	1222
8	Anti-Climbing Device with Clamps	Nos	11	233.20	2565	233.20	2565
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	11	1802.90	19832	1802.90	19832
10	Red Oxide	Ltr.	11	—	—	222.20	2444
11	Aluminium Paint	Ltr.	11	—	—	370.70	4078
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	9	—	—	2560.02	23040
	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	—	—	3232.90	6466
13	Stone Pad (300 mm x 300 mm x 75 mm)	No	11	171.60	1888	171.60	1888
14	Aluminium Jointing Sleeve	No	3	118.80	356	118.80	356
15	LT Line Spacers	No	10	66.00	660	66.00	660
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod &	No	3	3576.10	10728	3576.10	10728
	Total Material Cost				218599		328290
	GST @ 18% on material cost				39348		59092
	<b>Total Material Cost with GST</b>				<b>257947.11</b>		<b>387381.88</b>
	Cost of 20 mm <sup>2</sup> ACSR Conductor			14438			
	Cost of 30 mm <sup>2</sup> ACSR Conductor			25103			
	Cost of 100 mm <sup>2</sup> ACSR Conductor			79947			
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 2P3W 50MM<sup>2</sup> LT LINE ON 8 METER ST/PCC POLES WITH HALF SPAN OF 47 METERS**

Amount in Rs.

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	350924	589213
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP (GST)	245647	235685
3	GST @18% on Labour Charges for Normal Terrain	44216	42423
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation	318850	305919
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency	17546	29461
6	Total Amount for Normal Terrain	658334	896783
7	Total Amount for Hilly Terrain /Congested areas	687321	924593

200% extra on Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP (GST included @18%)

COST OF MATERIAL FOR ERECTION OF 1 KM OF 2 PHASE 3 WIRE 50MM <sup>2</sup> LT LINE ON 8 METER PCC/ST POLES WITH HALF SPAN OF 47 METERS						
S.NO	PARTICULARS	Unit	Qty	PCC Poles		ST Poles
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	19	4288.90	81489.	10360.90
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2.	5520.90	11042	15028.20
3	GI U-Clamps for Shackle Insulators	Kg	63	99.19	6249	99.19
4	50 mm <sup>2</sup> ACSR Conductor	km	3.09	40877.10	126310	40877.10
5	16kN Polymer Shackle Insulators	Nos	63	29.70	1871	29.70
6	Galvanized Nuts and Bolts.	kg	21	103.84	2181	103.84
7	Danger Plates	Nos	21	111.10	2333	111.10
8	Anti-Climbing Device with Clamps	Nos	21	233.20	4897	233.20
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	21	1802.90	37861	1802.90
10	Red Oxide	Ltr.	21	—	—	222.20
11	Aluminium Paint	Ltr.	21	—	—	370.70
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	19	—	—	2560.02
13	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	—	—	3232.90
14	Stone Pad (300 mm x 300 mm x 75 mm)	No	21	171.60	3604	171.60
15	Aluminium Jointing Sleeve	No	3	118.80	356	118.80
16	LT Line Spacers	No	20	66.00	1320	66.00
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x300 x 8-mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	No	5	3576.10	17881	3576.10
Total Material Cost:				297394		499333
GST @ 18% on Material Cost				53531		89880
Total Material Cost with GST				350924		589213
Cost of 20 mm <sup>2</sup> ACSR Conductor				14438		
Cost of 30 mm <sup>2</sup> ACSR Conductor				25103		
Cost of 100 mm <sup>2</sup> ACSR Conductor				79947		
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.					

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 1P2W 50MM<sup>2</sup> LT LINE ON 8 METER  
ST/PCC POLES WITH STANDARD SPAN OF 67 METERS**  
Amount in Rs.

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	240971	404252
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP	168680	161701
3	GST @18% on Labour Charges for Normal Terrain	30362	29106
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included)	218946	209888
5	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	12049	20213
6	Total Amount for Normal Terrain	452061	615272
7	Total Amount for Hilly Terrain /Congested areas	471966	634352

COST OF MATERIAL FOR ERECTION OF 1 KM OF 1 PHASE 2 WIRE 50MM <sup>2</sup> LT LINE ON 8 METER PCC/ST POLES WITH STANDARD SPAN OF 67 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	B Mtr. Long Pole PCC WL-200Kg , ST-410 SP15)	Nos	15	4288.90	64334	10360.90	155414
2	GI U-Clamps for Shackle Insulators	KG	30	99.19	2976	99.19	2976
3	50-mm <sup>2</sup> ACSR Conductor	km	2.06	40877.10	84207	40877.10	84207
4	16kN Polymer Shackle Insulators	Nos	30	29.70	891	29.70	891
5	Galvanized Nuts and Bolts	KG	15	103.84	1558	103.84	1558
6	Danger Plates	Nos	15	111.10	1667	111.10	1667
7	Anti-Climbing Device with Clamps	Nos	15	233.20	3498	233.20	3498
8	Earthing Complete by GI Pipe 40 mm. 3 mtr long through GI Strip 25x3 mm	Nos	15	1802.90	27044	1802.90	27044
9	Red Oxide	Ltr.	15		0	222.20	3333
10	Aluminium Paint	Ltr.	15	---		370.70	5561
11	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	15	---		2560.02	38400
12	Stone Pad (300 mm x 300 mm x 75 mm)	No	15	171.60	2574	171.60	2574
13	Aluminum Jointing Sleeve	No	2	118.80	238	118.80	238
14	LT Line Spacers	No	14	66.00	924	66.00	924
15	Galvanized Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	No	4	3576.10	14304	3576.10	14304
Total Material Cost					204213		342586
GST @ 18% on Material Cost					36758		61666
Total Material Cost with GST					240971		404252
Cost of 20 mm <sup>2</sup> ACSR Conductor					14438		
Cost of 30 mm <sup>2</sup> ACSR Conductor					25103		
Cost of 100 mm <sup>2</sup> ACSR Conductor					79947		

Note: Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 1P2W 50MM<sup>2</sup> LT LINE ON 8 METER ST/PCC POLES WITH  
MINIMUM SPAN OF 40 METERS**

Amount in Rs.

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	328207	600343
2	Labour charges for Normal Terrain @ 35% for PCCP & 20% for STP	229745	240137
3	GST @18% on Labour Charges for Normal Terrain	41354	43225
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	298209	311698
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	16410	30017
6	Total Amount for Normal Terrain	615717	913721
7	Total Amount for Hilly Terrain /Congested areas	642827	942058

COST OF MATERIAL FOR ERECTION OF 1 KM OF 1 PHASE 2 WIRE LT 50MM <sup>2</sup> LINE ON 8 METER PCC/ST POLES WITH MINIMUM SPAN OF 40 METERS						
S.No	PARTICULARS	Unit	PCC Poles		ST Poles	
			Qty	Rate	Amount	Rate
1	8 mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	25	4288.90	107223	10360.90
2	GI U-Clamps for Shackle Insulators	Kg	50	99.19	4960	99.19
3	50 mm <sup>2</sup> ACSR Conductor	Km	2.05	40877.10	84207	40877.10
4	16kN Polymer Shackle Insulators	Nos	50	29.70	1485	29.70
5	Galvanized Nuts and Bolts,	Kg	25	103.84	2596	103.84
6	Danger Plates	Nos	25	111.10	2778	111.10
7	Anti-Climbing Device with Clamps	Nos	25	233.20	5830	233.20
8	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	25	1802.90	45073	1802.90
9	Red Oxide	Ltr.	25	—	222.20	5555
10	Aluminium Paint	Ltr.	25	—	370.70	9268
11	Cement bottoming 1:2:4 mix as per REC standards 45cum /pole	Nos	25	—	2560.02	64001
12	Stone Pad (300 mm x 300 mm x 75 mm)	No.	25	171.60	4290	171.60
13	Aluminium Jointing Sleeve	No.	2	118.80	238	118.80
14	LT Line Spacers	No.	24	66.00	1584	66.00
15	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	No	5	3576.10	17881	3576.10
Total Material Cost				278142		508765
GST @ 18% on Material Cost				50066		91578
Total Material Cost with GST				328207		600343
Cost of 20 mm <sup>2</sup> ACSR Conductor				14438		
Cost of 30 mm <sup>2</sup> ACSR Conductor				25103		
Cost of 100 mm <sup>2</sup> ACSR Conductor				79947		
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.					

ABSTRACT OF COST FOR LAYING OF 1 KM OF 30MM <sup>2</sup> ACSR CONDUCTOR FOR STREET LIGHTING ON DISTRIBUTION LINES					Amount in Rs.
S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	30 mm <sup>2</sup> ACSR Conductor	KM	1.03	25103.10	25856
2	GI U-Clamps for Shackle Insulators	Kgs.	26	99.19	2579
3	16kN Polymer Shackle Insulators	Nos	25	29.70	743
4	Total Material Cost	---	---	---	29178
5	GST @18% on Material Cost				5252
6	Total Material Cost with GST				34430
7	Labour charges for Normal Terrain @ 20%	---	---	---	6886
8	GST @18% on Labour Charges for Normal Terrain				1239
9	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	---	---	---	8125
10	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	---	---	---	1721
11	Total Amount for Normal Terrain				44276
12	Total Amount for Hilly Terrain /Congested areas				44276

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF LT ABC ON 8 METERS PCC/ ST POLE WITH AN AVERAGE SPAN OF 50 METERS**

Amount in Rs.

S.No	PARTICULARS	PCC Pole			ST Pole		
		50 mm <sup>2</sup>	70 mm <sup>2</sup>	120 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>	120 mm <sup>2</sup>
1	Net cost of Material	744266	925523	1355927	971669	1152927	1584442
2	Labour charges for Normal Terrain @ 15% for PCCP & 8% for STP	223280	277657	406778	155467	184468	253511
3	GST @18% on Labour Charges for Normal Terrain	40190	49978	73220	27984	33204	45632
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	289817	360399	527998	201796	239440	329057
5	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	37213	46276	67796	48583	57646	79222
6	<b>Total Amount for Normal Terrain</b>	<b>1044949</b>	<b>1299435</b>	<b>1903722</b>	<b>1203704</b>	<b>1428246</b>	<b>1962807</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>1071296</b>	<b>1332198</b>	<b>1951722</b>	<b>1222049</b>	<b>1450013</b>	<b>1992721</b>

COST OF MATERIAL FOR ERECTION OF 1 KM OF 50 MM <sup>2</sup> , LT ABC ON 8 METERS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200kg , ST-410 SP15)	Nos	18	4288.90	77200	10360.90	186496
2	9 Mtr. Long Pole(PCC WL-300kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	50 mm <sup>2</sup> AB (LT) Cable (3x50 + 1x16 + 1x35 mm <sup>2</sup> ) XLPE (1.1kV, 3+1 C, Al)	km	1.05	433400.00	455070	433400.00	455070
4	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
5	Straight Through Cable Jointing Kit	Set	1	2750.00	2750	2750.00	2750
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20	—	—	222.20	4444
11	Aluminium Paint	Ltr.	20	—	—	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	18	—	—	2560.02	46080
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	2	—	—	3232.90	6466
13	Stone Pad (300 mm x 300 mm x 75 mm)	No	20	171.94	3439	171.94	3439
14	Insulating Piercing Connectors	No	40	165.00	6600	165.00	6600
15	PG Clamps	No	10	281.60	2816	281.60	2816
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	No	4	3620.10	14480	3620.10	14480
Total Material Cost				—	630734	—	823448
GST @ 18% on Material Cost				—	113532	—	148221
Total Material Cost with GST				—	744265.65	—	971669.06
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1x16+1X50) XLPE (1.1kV, 3+1 C, Al)				—	579700	—	—
Cost of 120 mm <sup>2</sup> AB Cable (3X120+1x16+1X70) XLPE (1.1kV, 3+1 C, Al)				—	927080	—	—
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

COST OF MATERIAL FOR ERECTION OF 1 KM OF 70 MM <sup>2</sup> , LT ABC ON 8 METERS PCC/ ST POLE WITH MINIMUM SPAN OF 50 METERS							
S.NO.	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	18	4288.90	77200	10360.90	186496
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20	30056
3	70 mm <sup>2</sup> AB (LT) Cable ( 3 x 70 + 1 x 16 + 1 x 50 mm <sup>2</sup> ) XLPE (1.1kV, 3+1 C, Al)	km	1.05	579700.00	508685	579700.00	508685
4	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70	13354
5	Straight Through Cable Jointing Kit	Set	1	2750.00	2750	2750.00	2750
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84	1038
7	Danger Plates	Nos	20	111.10	2222	111.10	2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20	4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90	36058
10	Red Oxide	Ltr.	20	—	—	222.20	4444
11	Aluminium Paint	Ltr.	20	—	—	370.70	7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	18	—	—	2560.02	46080
12	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	—	—	3232.90	6466
13	Stone Pad (300 mm x 300 mm x 75 mm)	No	20	171.60	3432	171.60	3432
14	Insulating Piercing Connectors	No	40	165.00	6600	165.00	6600
15	PG Clamps	No	10	281.60	2816	281.60	2816
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	No	4	3620.10	14480	3620.10	14480
Total Material Cost				784342		977057	
GST @ 18% on Material Cost				141182		175870	
<b>Total Material Cost with GST</b>				<b>925523</b>		<b>1152927</b>	
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1x16+1X35) XLPE (1.1kV, 3+1 C, Al)				433400			
Cost of 120 mm <sup>2</sup> AB Cable (3X120+1x16+1X70) XLPE (1.1kV, 3+1 C, Al)				927080			
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

COST OF MATERIAL FOR ERECTION OF 1 KM OF 120 MM <sup>2</sup> , LT ABC ON 8 METERS PCC/ ST POLE						
S.NO	PARTICULARS	Unit	Qty	PCC Poles		ST Poles
				Rate	Amount	
1	8 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	18	4288.90	77200	10360.90 186496
2	9 Mtr. Long Pole(PCC WL-300Kg , ST-410 SP33)	Nos	2	5520.90	11042	15028.20 30056
3	120 mm <sup>2</sup> AB (LT) Cable { 3 x 120 + 1 x 16 + 1 x 70 mm <sup>2</sup> } XLPE {1.1kV, 3+1 C, Al}	km	1.05	927080.00	973434	927080.00 973434
4	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	667.70 13354
5	Straight Through Cable Jointing Kit	Set	1	2750.00	2750	2750.00 2750
6	Galvanized Nuts and Bolts.	kg	10	103.84	1038	103.84 1038
7	Danger Plates	Nos	20	111.10	2222	111.10 2222
8	Anti-Climbing Device with Clamps	Nos	20	233.20	4664	233.20 4664
9	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	20	1802.90	36058	1802.90 36058
10	Red Oxide	Ltr.	20	222.20		222.20 4444
11	Aluminium Paint	Ltr.	20	370.70		370.70 7414
12	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos	18	2560.02		2645.00 47610
12	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	3232.90		2939.00 5878
13	Stone Pad (300 mm x 300 mm x 75 mm)	No	20	171.60	3432	171.60 3432
14	Insulating Piercing Connectors	No	40	165.00	6600	165.00 6600
15	PG Clamps	No	10	281.60	2816	281.60 2816
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator[2Nos.], anchor plate [300x 300 x 8 mm], nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	No	4	3620.10	14480	3620.10 14480
Total Material Cost					1149091	1342747
GST @ 18% on Material Cost					206836	241695
Total Material Cost					1355927	1584442
Cost of 50 mm <sup>2</sup> AB Cable (3X50+1x16+1X35) XLPE {1.1kV, 3+1 C, Al}				433400		
Cost of 70 mm <sup>2</sup> AB Cable (3X70+1x16+1X50) XLPE {1.1kV, 3+1 C, Al}				579700		
Note:- Depending upon the site conditions where reduction of spans is necessitated, the						

S.No	PARTICULARS	Unit	PCC Pole			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	50 mm <sup>2</sup> AB (LT) Cable ( 3x50 + 1 x 16 + 1 x 35 mm <sup>2</sup> ) XLPE (1.1kV, 3+1 C, A)	KM	1.05	433400.00	455070	1	433400.00	433400
2	Straight Through Cable Jointing Kit	Set	1	2750.00	2750	1	2750.00	2750
3	Suspension/Tension Clamp with eye hook	Nos	20	667.70	13354	20	667.70	13354
4	9 Mtr. Long Pole(PCC WL-200Kg , ST-410 SP15)	Nos	4	4288.90	17156	4	15028.20	60113
5	Stone Pad (300 mm x 300 mm x 75 mm)	No	4	171.60	686	4	171.60	686
6	Cement bottoming 1:2:4 mix as per REC standards .45cum /pole	Nos			0	4	2560.02	10240
7	Galvanized Nuts and Bolts.	Kg	10	103.84	1038	10	103.84	1038
8	Danger Plates with clamps	Nos	4	111.10	444	4	111.10	444
9	Anti-Climbing Device with Clamps.	Nos	4	233.20	933	4	233.20	933
10	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	4	1802.90	7212	4	1802.90	7212
11	Rod Oxide	Ltr.	0	222.20	0	4	222.20	889
12	Aluminium Paint	Ltr.	0	370.70	0	4	370.70	1483
13	Insulating Piercing Connectors	No	64	165.00	10560	64	165.00	10560
14	PG Clamps	No	16	281.60	4506	16	281.60	4506
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	No	5	3620.10	18101	5	3620.10	18101
Total Material Cost					531809			565708
GST @ 18% on Material Cost					95725.7			101827.5
Total Material Cost with GST					627535			667536
Labour charges for Normal Terrain @ 15% for PCC & 8% for STP			---	---	188260			106806
GST @ 18% on Labour Charges for Normal Terrain					33887			39225
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)			---	---	244362			138634
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			---	---	31377			33377
Total Amount for Normal Terrain			---	---	881059			826943
Total Amount for Hilly Terrain /Congested areas			---	---	903274			839546
Write back to credit material for 30 mm <sup>2</sup> , ACSR Conductor and Cross Arms - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher			---	---	---			---

142274/2023/PDD SECTION

**ABSTRACT OF COST FOR ERECTION OF POLE MOUNTED  
25 kVA, 63kVA, 100kVA, 200kVA, 250kVA DISTRIBUTION SUBSTATION**  
Amount in Rs.

S.No	PARTICULARS	25 kVA	63 kVA	100 kVA	200 kVA	250 kVA
		Amount	Amount	Amount	Amount	Amount
1	Net cost of Material	189364	335361	393254	616750	863320
2	Labour charges for Normal Terrain @ 7% (GST included @18%)	26511	46950	55056	86345	120865
3	GST @18% on Labour Charges for Normal Terrain	4772	8451	9910	15542	21756
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	34411	60942	71462	112076	156882
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	9468	16768	19663	30838	43166
6	Total Amount for Normal Terrain	230115	407530	477883	749475	1049106
7	Total Amount for Hilly Terrain /Congested areas	233244	413070	484379	759663	1063368

TYPICAL ESTIMATE OF MATERIAL COST FOR ERECTION OF POLE MOUNTED 25 kVA DISTRIBUTION SUBSTATION IN RURAL / URBAN					
S. No	Particulars	Unit	Qty	Rate	Amount
1	11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, Aluminium wound, and with LV Cable Box having detachable Aluminium Gland plate. Transformer should have arrangement for vertical Take off	No	1	50640.70	50641
2	Gapless Surge Arrestor, 9 kV ,10 kA ,LA with polymer housing, Stn. Type	Set	1	5633.10	5633
3	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp, Vertical Type	Set	1	8521.70	8522
4	11 kV Horn Gap Fuse Set 3 Phase 200A	Set	1	3620.10	3620
5	35 mm <sup>2</sup> Single-Core Cable, 1.1kV Grade XLPE Insulated Stranded Conductor FRLS type	Mtr	44	122.10	5372
6	9 Mtr. Long Pole( ST-410 SP33)	Nos	2	15028.20	30056
7	11kV Polymeric composite Disc Insulator 12kV,min failing load 45kN, Lightening Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	3	251.90	756
8	GI Channel/Angle/Flat of sizes including clamps	Kgs	250	92.40	23100
9	Galvanized Nuts and Bolts.	Kgs	8	103.84	831
10	63 amps TPN Switch Disconnector Fuse Unit	No	1	1995.40	1995
11	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	2	3232.90	6466
12	Earthing of substation -Excavation of earth pit of dia 650 mm & depth 3000 mm, Installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body,G.O Set & lightening arrestor as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	3	7828.70	23486
Total Material Cost					
GST @ 18% on Material Cost					
Total Material Cost with GST					

## TYPICAL ESTIMATE OF MATERIAL COST FOR ERECTION OF POLE MOUNTED

S. No	Particulars	Unit	Qty	63 kVA		100 kVA		200 kVA		250 kVA	
				Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
1	11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings), and with LV Cable Box having detachable Aluminium Gland plate, Transformer should have arrangement for vertical Take off	No	1	116982	116982	152526	152526	278248	278248	487156	487156
2	11 kV Gapless Surge Arrestor, 9 kV, 10 kA, LA with polymer housing, Sta. Type	Set	1	5633	5633	5633	5633	5633	5633	5633	5633
3	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp, Vertical Type	Set	1	8522	8522	8522	8522	8522	8522	8522	8522
4	11 kV Horn Gap Fuse Set 3 Phase 200A	Set	1	3620	3620	3620	3620	3620	3620	3620	3620
5	95 mm <sup>2</sup> or 70 mm <sup>2</sup> (2Ckt)/ 150 mm <sup>2</sup> or 95 mm <sup>2</sup> (2Ckt)/300mm <sup>2</sup> or 185 mm <sup>2</sup> (2Ckt) Cable, 1.1kV Grade, XLPE Insulated Stranded Conductor FRLS type	Mtr	48	260.33	11454	375.31	16514	695.43	30599	695.43	30599
6	9 Mtr. Long Pole ST-410 SP33	Nos	2	15028	30056	15028	30056	15028	30056	15028	30056
7	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	3	252	756	252	756	252	756	252	756
8	GI Channel/Angle/Flat of sizes including clamps	Kgs	300	92	27720	92	27720	92	27720	92	27720
9	Galvanized Nuts and Bolts.	Kgs	8	104	831	104	831	104	831	104	831
10	Earthing of substation -Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body,G.O Set & lightning arrester as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	3	7829	23486	7829	23486	7829	23486	7829	23486
11	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	No.	3	183	548	183	548	166	498	183	548
12	LT Distribution Box for 63/100/200/250 kVA DTR with MCCB for Incomer & SFU's for Outgoing Circuits	No.	1	21041	21041	29500	29500	79145	79145	79145	79145
13	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid G5 stay rod & 7/3.15 mm dia GI stranded wire complete	set	2	3576	7152	3576	7152	3576	7152	3576	7152
14	Vedge Connectors / PG Clamps	Nos	6	306	1835	306	1835	306	1835	306	1835
15	Danger Plates with Clamps	Nos	1	111	111	111	111	111	111	111	111
16	GI Sacred Wire for Anti Climbing	Kgs	15	99	1485	99	1485	99	1485	99	1485
17	3-Ø, 4-Wire Trivector Meter with suitable ring type CT	No	1	14542	14542	14542	14542	14542	14542	14542	14542
18	Cement bottoming 1:2:4 mix as per REC standards .Scum/pole	Nos	2	3233	6466	3233	6466	3233	6466	3233	6466
19	Painting of Poles Red Oxide	ltr	2	222	444	222	444	222	444	222	444
20	Painting of Poles Aluminium Paint	ltr	2	371	741	371	741	371	741	371	741
21	Sundry Items like aluminium lugs, jumpers, binding Tape,	LS	1	779	779	779	779	779	779	779	779
<b>Total Material Cost</b>					284204		333267		522670		731677
GST @ 18% on Material Cost					51357		59988		94081		131693
<b>Total Material Cost with GST</b>					335360.7		393254.5		616750.1		863319.8

35 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	122389.30
50 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	158400.00
70 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	203292.10
95mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	260324.90
120 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	311837.90
150 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	375309.00
185 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	459937.50
240 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	557444.80

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## M/1159/2023-PD SECTION

142274/2023/PDD SECTION

300 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	695425.50
400 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	872041.50
500 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	1141564.60
600mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	1433165.80
800mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM	1433165.80

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## ABSTRACT OF COST FOR ERECTION OF BED MOUNTED 400 kVA / 630 kVA DISTRIBUTION SUBSTATION

Amount in Rs.

S.No	PARTICULARS	400 kVA	630 kVA	765 kVA	1 MVA
		Amount	Amount	Amount	Amount
1	Net cost of Material	1467109	1652354.5	2316931.8	2589511.8
2	Labour charges for Normal Terrain @ 7% (GST included @ 18%)	205395	231330	324370	362532
3	GST @18% for Labour Charges for Normal Terrain	36971	41639	58387	65256
4	Labour charges for Congested areas with 10% appreciation on labour charges (GST included @ 18%)	266603	300266	421033	470566
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety requirements & 5% insurance)	73355	82618	115847	129476
6	Total Amount for Normal Terrain	1782831	2007941	2815536	3146775
7	Total Amount for Congested areas	1807068	2035238	2853811	3189553

S. No	Particulars	TYPICAL ESTIMATE OF MATERIAL COST FOR ERECTION OF POLE/PAD MOUNTED 400 kVA / 630 kVA							765 kVA			1 MVA		
		Unit	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Copper wound), and with LV Cable Box having detachable Aluminium Gland plate. Transformer should have arrangement for vertical Take off	No	1	869000.00	869000	1	1004258.90	1004258	1	1567500.00	1567500	1	1798500.00	1798500
2	Gapless Surge Arrestor, 9 kV ,10 kA ,LA with polymer housing, Stn. Type	Set	1	5633.10	5633	1	5633.10	5633	1	5633.10	5633	1	5633.10	5633
3	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp, Vertical Type	Set	1	8521.70	8522	1	8521.70	8522	1	8521.70	8522	1	8521.70	8522
4	11 kV Horn Gap Fuse Set 3 Phase 200A	Set	1	3620.10	3620	1	3620.10	3620	1	3620.10	3620	1	3620.10	3620
5	300 mm <sup>2</sup> (2Ckt)/630mm <sup>2</sup> (2Ckt) Single Phase Cable, 1.1K V Grade, XLPE Insulated Stranded Conductor FRILS type	Mtr	88	695.20	61178	88.00	695.20	61178	88.00	695.20	61178	88.00	695.20	61178
6	9 Mtr. Long Pole(ST-410 SP33)	Nos	2	15028.20	30056	2	15028.20	30056	2	15028.20	30056	2	15028.20	30056
7	11kV Polymeric composite Disc Insulator 12kV, min failing load 45KN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	3	251.90	756	3	251.90	756	3	251.90	756	3	251.90	756
8	GI Channel/Angle/Flat of sizes including clamps for L/A set/G.O set/Horn Gap	Kgs	150	92.40	13860	150	92.40	13860	150	92.40	13860	150	92.40	13860
9	Galvanized Nuts and Bolts.	Kgs	6	103.84	623	6	103.84	623	6	103.84	623	6	103.84	623
10	Earthing of substation -Excavation of earth pit of dia. 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as per IS 1239, GI Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body, G.O Set & lightening arrestor as per IS 2629/85, GI nuts & bolts, refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover,	Nos	3	7828.70	23486	4	7828.70	31315	4	7828.70	31315	4	7828.70	31315
11	Transformer Pad/G.I Channel Bedding(300kg/450kg)	Kgs	300	92.40	27720	450	92.40	41580	450	92.40	41580	450	92.40	41580
12	11kV Polymeric composite Pin insulator 12kV, 5kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	No.	3	182.60	548	3	182.60	548	3	182.60	548	3	182.60	548
13	LT Distribution Box for 400/630 kVA DTR with MCCB for incomer &	Itr	2	79145.00	158290	2	79145.00	158290	2	79145.00	158290	2	79145.00	158290
14	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete	set	2	3576.10	7152	2	3576.10	7152	2	3576.10	7152	2	3576.10	7152
15	Wedge Connectors / PG Clamps	Nos	6	305.80	1835	6	305.80	1835	6	305.80	1835	6	305.80	1835
16	Danger Plates with Clamps	Nos	1	111.10	111	1	111.10	111	1	111.10	111	1	111.10	111
17	GI Barbed Wire for Anti Climbing	Kgs	15	99.00	1485	15	99.00	1485	15	99.00	1485	15	99.00	1485
18	3-Ø, 4-Wire Trivector Meter with suitable ring type CT	No.	1	14542.00	14542	1	14542.00	14542	1	14542.00	14542	1	14542.00	14542
19	Cement bottoming 1:2:4 mix as per REC standards .5cum /pole	Nos	4	3232.90	12932	4	3232.90	12932	4	3232.90	12932	4	3232.90	12932
20	Painting of Poles Red Oxide	Itr	2	222.20	444	2	222.20	444	2	222.20	444	2	222.20	444
21	Painting of Poles Aluminium Paint	Itr	2	370.70	741	2	370.70	741	2	370.70	741	2	370.70	741
22	Sundry items like aluminum lugs, jumpers, binding Tape.	Itr	1	778.80	779	1	778.80	779	1	778.80	779	1	778.80	779
Total Material Cost					1243313				1400300			1963507		2194502
GST @ 18% on Material Cost					223796				252054			353430		395010
Total Material Cost with GST					1467109				1652355			2316932		2589512

COST FOR AUGMENTATION OF DISTRIBUTION SUBSTATION											
No.	Particulars	Unit	Qty	(25 - 63) kVA	(63 - 100) kVA		(100 - 250) kVA		(250 - 400) kVA		
				Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
1	11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound upto 200kVA, Copper wound for 250kVA or higher kVA ratings), and with LV Cable Box having detachable Aluminium Gland plate. Transformer should have arrangement for vertical Take off	No.	1	116981.70	116982	152526.00	152526	487155.90	487156	869000.00	869000
2	95 mm <sup>2</sup> / or 70 mm <sup>2</sup> (2Ckt)/ 150 mm <sup>2</sup> / or 95 mm <sup>2</sup> (2Ckt)/300mm <sup>2</sup> / or 185 mm <sup>2</sup> (2Ckt)/630mm <sup>2</sup> / or 400 mm <sup>2</sup> (2Ckt) Cable, 1.1kV Grade, XLPE Insulated Stranded Conductor FRL5 type	Mt <sup>t</sup>	44	260.33	11454	375.31	16514	695.43	30599	1433.17	63059
3	Transformer Bed ( 300 KG /450 KG)	Kg	300/450	0.00		0.00		84.00	25200	84.00	37800
4	LT Distribution Box for 63/100/250/400 kVA DTR with MCCB for incomer & Switch Fuse Units for Outgoing Circuits	No.	1	21040.80	21041	29499.80	29500	79145.00	79145	79145.00	79145
5	Earthing of substation -Excavation of earth pit of dia: 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as per IS 1239:Gl Strip for neutral earthing of size 25 mm x 3 mm for connection of transformer body,G.O Set & lightening arrestor as per IS 2629/85, Gl nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	No.	3	7828.70	23486	7828.70	23486	7828.70	23486	7828.70	23486
6	11KV GO, AB Switch 3-Phase, 3-Pole, 200 Amp., Vertical Type	Set	1	8521.70	8522	8521.70	8522	8521.70	8522	8521.70	8522
7	11 KV Horn Gap Fuse Set 3 Phase 700A		1	3620.10	3620	3620.10	3620	3620.10	3620	3620.10	3620
8	9 Mtr. Long Pole(ST-410 SP33)	No.	2	15028.20	30056	15028.20	30056	15028.20	30056	15028.20	30056
9	Gapless Surge Arrestor, 9 kV ,10 kA ,LA with polymer housing, Stn. Type	set	1	5633.10	5633	5633.10	5633	5633.10	5633	5633.10	5633
10	Cement bottoming 1:2.4 mix as per REC standards Scum /pole	No	2	3232.90	6466	3232.90	6466	3232.90	6466	3232.90	6466
Total Material Cost				227260		276323		699883		1126788	
GST @ 18% on Material Cost					40907		49738		125979		202872
Total Material Cost with GST				268167		326061		825862		1329609	
Labour charges for Normal Terrain @ 7%				37543		45548		115621		186145	
GST @ 18% on Labour Charges for Normal Terrain					6758		8217		20812		33506
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges {GST included @18%}				48731		59252		150076		241617	
Overheads @ 5% [1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance]				13408		16303		41293		66480	
Total Amount for Normal Terrain				325876		396229		1003588		1615741	
Total Amount for Hilly Terrain /Congested areas				330306		401615		1017231		1637706	
Write back to credit material for Distribution Transformers - Depreciation shall be calculated as per useful life of the Distribution Transformer or the actual scrap value whichever is higher											

35 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				122388.75			
70 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				203292.375			
95mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				260324.625			
120 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				311837.625			
150 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				375309			
185 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				459937.5			
240 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				557444.25			
300 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				695425.5			
400 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				872041.5			
500 mm <sup>2</sup> XLPE LT Cable Single Core, un-armoured, FRLS	KM				1141564.875			
630mm <sup>2</sup> XLPE-LT Cable Single Core, un-armoured, FRLS	KM				1433165.25			

SERVICE CONNECTION OF SINGLE PHASE CONSUMER INSTALLATION ( POLE MOUNTED ENERGY METER)								
S No	PARTICULAR	Unit	Single Phase upto 4 kW Load (10 mm <sup>2</sup> , 2C)			S.Phase above 4 kW to 8 kW (16 mm <sup>2</sup> , 2C)		
			Qty	Rate	Amount	Qty	Rate	Amount
1	10 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (2C) from LT Line to meter ,1.1k V Grade, Armoured, PVC Insulated Stranded Conductor FRLS type	M	7	168.30	1178	7	191.40	1340
2	10mm <sup>2</sup> /16 mm <sup>2</sup> Cable (2C) from meter to consumer cutout ,1.1k V Grade, Armoured,PVC Insulated Stranded Conductor FRLS type	M	20	168.30	3366	20	191.40	3828
3	Single Phase Smart Energy Meter 5-30 Amp/ 10-60 Amp, DLMS Complaint of accuracy class 1.0	No.	1	2970.00	2970	1	2970.00	2970
4	Polypropylene weather proof outdoor type Meter Box for Single Phase Meter along with Zinc plated clamps	No.	1	392.70	393	1	392.70	393
<b>Total Material Cost</b>					7907			8531
GST @18% on Material Cost					1423			1535
<b>Total Material Cost with GST</b>					9330			10066
Labour Charges @ 10%			--	--	1866	--	--	2013
GST @18% on Labour Charges					336			362
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling ,3% Contingency and safety equipments, 0.5% Insurance)			--	--	467	--	--	503
<b>Total Amount</b>			--	--	11998	--	--	12945

## SERVICE CONNECTION OF THREE PHASE CONSUMER INSTALLATION ( POLE MOUNTED ENERGY METER)

Amount in Rs.

S No	PARTICULAR	Unit	Three Phase upto 8 kW Load (10 mm <sup>2</sup> , 4C)			Three Phase upto 20 kW Load (16 mm <sup>2</sup> , 4C)		
			Qty	Rate	Amount	Qty	Rate	Amount
1	10 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (4C) from LT Line to meter, 1.1kV Grade, Armoured, PVC Insulated Stranded Conductor FRLS type	M	7	216.70	1517	7	256.30	1794
2	10 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (4C) from meter to consumer cutout, 1.1kV Grade, Armoured, PVC Insulated Stranded Conductor FRLS type	M	20	216.70	4334	20	256.30	5126
3	3 phase Smart Energy Meter 20-80 Amp, DLMS Compliant of accuracy class 1.0	No.	1	891.00	891	1	891.00	891
4	Polypropylene weather proof outdoor type Meter Box for Three Phase Meter along with Zinc plated clamps	No.	1	778.80	779	1	778.80	779
<b>Total Material Cost</b>					7521			8590
GST @ 18% on Material Cost					1354			1546
<b>Total Material Cost with GST</b>			---	---	8874	---	---	10136
Labour Charges @ 10%			---	---	1775	---	---	2027
GST @ 18% on Labour Charges					319			365
Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling, 3% Contingency and safety equipments, 0.5% Insurance)			---	---	444	---	---	507
<b>Total Amount</b>			---	---	11413	---	---	13035

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## REPLACEMENT OF CONVENTIONAL ENERGY METER WITH SMART/PREPARED METER

Amount in Rs.

S No	PARTICULAR	Unit	Single Phase Meter			Three Phase Meter		
			Qty	Rate	Amount	Qty	Rate	Amount
1	10 mm <sup>2</sup> /16 mm <sup>2</sup> Cable (2C/4C) ,1.1kV Grade; Armoured, PVC Insulated Stranded Conductor FRLS type	M	7	168.30	1178	7	256.30	1631
2	Single Phase Smart Energy Meter 5-30 Amp/10-60 Amp ;Three Phase Energy Smart Meter 20-80 Amp DLMS Complaint of accuracy class 1.0 (Whole Current Meters)	No.	1	2970.00	2970	1	4180.00	3800
3	Polypropylene weather proof outdoor type Meter Box for Single/Three Phase Meter along with Zinc plated clamps		1	392.70	393	1	778.80	708
Total Material Cost					4541			6139
GST @18% on Material Cost					817			1105
<b>Total Material Cost with GST</b>			---	---	5358	---	---	7244
Labour Charges @ 10%			---	---	1072	---	---	1449
GST @ 18% on Labour Charges					193			130
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			---	---	268	---	---	362
Write back to credit material (to be deposited to JKPDD Store by Contractor)			No.	1	1265	1265	1	3841
<b>Total Amount</b>			---	---	4425	---	---	4619

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 33 KV LINE ON 11 METER ST/PCC POLES, 100 MM<sup>2</sup>  
ACSR CONDUCTOR WITH STANDARD SPAN OF 116 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	526044	779835
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	284064	233951
3	GST @18% on Labour Charges for Normal Terrain	51131	18804
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	368715	135598
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	26302	38992
6	Total Amount for Normal Terrain	887541	1071581
7	Total Amount for Hilly Terrain /Congested areas	921060	954425

S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	11	7154.40	78698	22235.40	244589
2	GI V cross-arm with top Bracket including clamp	Kg	225	92.40	20790	92.40	20790
3	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784
4	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036	79946.90	247036
5	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	305.80	3670	305.80	3670
6	33kV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	33	471.90	15573	471.90	15573
7	33kV Polymeric composite Disc Insulator 36KV,min failing load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	12	792.00	9504	792.00	9504
8	Galvanized Nuts and Bolts	kg	11	103.84	1142	103.84	1142
9	Danger Plates with Clamps	Nos	11	111.10	1222	111.10	1222
10	Anti-Climbing Device with Clamps	Nos	11	233.20	2565	233.20	2565
11	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	11	1802.90	19832	1802.90	19832
12	Red Oxide	Ltr.	11	—	—	222.20	2444
13	Aluminium Paint	Ltr.	11	—	—	370.70	4078
14	Cement bottoming 1:2:4 mix as per REC standards cum/pole	Nos	11	---	—	3878.60	42665
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	11	171.60	1888	171.60	1888
16	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete (33kV)	Nos	3	4997.30	14992	4997.30	14992
18	Guard netting complete	Span	2	6873.90	13748	6873.90	13748
<b>Total Material Cost</b>				—	445800	—	660877
<b>GST @ 18% on Material Cost</b>				—	80244	—	118958
<b>Total Material Cost with GST</b>				—	526044	—	779835
Cost of 150 mm <sup>2</sup> ACSR Conductor				162922	—	—	—
Cost of 200 mm <sup>2</sup> ACSR Conductor				211989	—	—	—
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						—

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 33 KV LINE ON 11 METER ST/PCC POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 58 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	3283947	3722314
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	1773332	1116694
3	GST @18% on Labour Charges for Normal Terrain	319200	18804
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	2301784	135598
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	164197	186116
6	Total Amount for Normal Terrain	5540676	5043928
7	Total Amount for Hilly Terrain /Congested areas	5749929	4044028

COST OF MATERIAL FOR ERECTION OF 1 KM OF 33 KV LINE ON 11 METER ST/PCC POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 58 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	19	7154.40	135934	22235.40	422473
2	GI V cross-arm with top Bracket including clamp	Kg	425	92.40	39270	92.40	39270
3	GI Channel X-arm including clamps and braces	Kg	160	92.40	14784	92.40	14784
4	100 mm <sup>2</sup> ACSR Conductor	km	3.09	794200.00	2454078	794200.00	2454078
5	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	305.80	3670	305.80	3670
6	33KV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	57	471.90	26898	471.90	26898
7	33KV Polymeric composite Disc Insulator 36kV, min failing load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	12	792.00	9504	792.00	9504
8	Galvanized Nuts and Bolts	Kg	19	103.84	1973	103.84	1973
9	Danger Plates with Clamps	Nos	19	111.10	2111	111.10	2111
10	Anti-Climbing Device with Clamps	Nos.	19	233.20	4431	233.20	4431
11	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3mm	Nos	19	1802.90	34255	1802.90	34255
12	Red Oxide	Ltr.	19	—	—	222.20	4222
13	Aluminium Paint	Ltr.	19	—	—	370.70	7043
14	Cement bottoming 1:2:4 mix as per REC standards 6cum /pole	Nos	19	—	—	3878.60	73693
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	19	171.60	3260	171.60	3260
16	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete (33KV)	Nos.	5	4997.30	24987	4997.30	24987
18	Guard netting	Span	4	6873.90	27496	6873.90	27496
	Total Material Cost				2783006		3154504
	GST @18% on Material Cost				500941		567811
	Total Material Cost with GST				3283947		3722314
	Cost of 150 mm <sup>2</sup> ACSR Conductor			362922			
	Cost of 200 mm <sup>2</sup> ACSR Conductor			211989			
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						

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ABSTRACT OF COST FOR ERECTION OF 1 KM OF 33 KV LINE ON 11/13 METER ST POLES, 200 MM <sup>2</sup> ACSR CONDUCTOR Single/Double Circuit					
S.No	PARTICULARS	11 Mtr ST Poles (Single CKT)	11 Mtr PSC Poles (Double CKT)	13 Mtr ST Poles (Single CKT)	13 Mtr PSC Poles (Double CKT)
		Amount	Amount	Amount	Amount
1	Net cost of Material	1819408	2427936	1898586	3482810
2	Labour charges for Normal Terrain @ 15% for STP	545822	728381	569576	1044843
3	GST @18% on Labour Charges for Normal Terrain	98248	131109	102524	188072
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	708477	945438	739310	1356206
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	90970	121397	94929	174140
6	Total Amount for Normal Terrain	2554449	3408822	2665615	4889865
7	Total Amount for Hilly Terrain /Congested areas	2618856	3494770	2732825	5013156

COST OF MATERIAL FOR ERECTION OF ± KM OF 33 KV LINE ON 11 METER ST/PCC POLES, 200 MM<sup>2</sup> ACSR CONDUCTOR.

S.No	PARTICULARS	Unit	Qty	ST Poles ( Single CKT)		ST Poles ( double CKT)		
				Rate	Amount		Rate	Amount
1	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	24	22235.40	533650	38	22235.40	844945
2	GI V cross-arm with top Bracket including clamp	Kg	537	92.40	49619	850	92.40	78540
3	GI Channel X-arm including clamps and braces	Kg	245	92.40	22638	320	92.40	29568
4	200 mm <sup>2</sup> ACSR Conductor	km	3.09	211988.70	655045	3.09	211988.70	655045
5	PG Clamps for 200 mm <sup>2</sup> ACSR Conductor	Nos	15	375.10	5627	24	375.10	9002
6	33kV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	72	471.90	33977	114	471.90	53797
7	33kV Polymeric composite Disc Insulator 36kV, min failing load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	15	792.00	11880	24	792.00	19008
8	Galvanized Nuts and Bolts.	kg	24	103.84	2492	38	103.84	3946
9	Danger Plates with Clamps	Nos	24	111.10	2666	38	111.10	4222
10	Anti-Climbing Device with Clamps	Nos	24	233.20	5597	38	233.20	8862
11	Earthing Complete by GI Pipe 40 mm: 3 mtr long through GI Strip 25x3mm	Nos	24	1802.90	43270	38	1802.90	68510
12	Red Oxide	ltr.	24	222.20	5333	38	222.20	8444
13	Aluminium Paint	Ltr.	24	370.70	8897	38	370.70	14087
14	Cement bottoming 1:2:4 mix as per REC standards -6cum /pole	Nos	24	3878.60	93086	38	3878.60	147387
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	19	171.94	3267	38	171.94	6534
16	Aluminium Jointing Sleeves	Nos	4	118.80	475	6	118.80	713
17	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x450 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete (33kV)	Nos	6	4997.30	29984	10	4997.30	49973
18	Guard netting	Span	5	6873.90	34370	8	6873.90	54991
	Total Material Cost				1541871			2057573
	GST @18% on Material Cost				277537			370363
	<b>Total Material Cost with GST</b>				<b>1819408</b>			<b>2427936</b>
	Cost of 150 mm <sup>2</sup> ACSR Conductor				162922			
	Cost of 200 mm <sup>2</sup> ACSR Conductor				211989			
	Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.							

COST OF MATERIAL FOR ERECTION OF 1 KM OF 33 KV LINE ON 13 METER ST/PCC POLES, 200 MM <sup>2</sup> ACSR CONDUCTOR								
S.No	PARTICULARS	Unit	Qty	ST Poles ( Single CKT)		ST Poles ( double CKT)		
				Rate	Amount		Rate	Amount
1	13 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos.	22	28523.00	627506	38	28523.00	1083874
2	GI V cross-arm with top Bracket including clamp	Kg	492	92.40	45461	850	92.40	78540
3	GI Channel X-arm including clamps and braces	Kg	185	92.40	17094	320	92.40	29568
4	200 mm <sup>2</sup> ACSR Conductor	km	3.09	211988.70	655045	6.18	211988.70	1310090
5	PG Clamps for 200 mm <sup>2</sup> ACSR Conductor	Nos.	14	375.10	5251	24	375.10	9002
6	33kV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos.	66	471.90	31145	114	471.90	53797
7	33kV Polymeric composite Disc Insulator 36kV, min falling load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos.	14	792.00	11088	24	792.00	19008
8	Galvanized Nuts and Bolts	Kg	22	103.84	2284	38	103.84	3946
9	Danger Plates with Clamps	Nos.	22	111.10	2444	38	111.10	4222
10	Anti-Climbing Device with Clamps	Nos.	22	233.20	5130	38	233.20	8862
11	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3mm	Nos.	22	1802.90	39664	38	1802.90	68510
12	Red Oxide	Ltr.	22	222.20	4888	38	222.20	8444
13	Aluminum Paint	Ltr.	22	370.70	8155	38	370.70	14087
14	Cement bottoming 1:2:4 mix as per IEC standards .6cum /pole	Nos.	22	3878.60	85329	38	3878.60	147387
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos.	22	171.60	3775	38	171.60	6521
16	Aluminium Jointing Sleeves	Nos.	3	118.80	356	6	118.80	713
17	Galvanized Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long,20 mm diameter solid G5 stay rod & 7/4 mm dia GI stranded wire complete (33kV)	Nos.	6	4997.30	29984	10	4997.30	49973
18	Guard netting	Span	5	6873.90	34370	8	6873.90	54991
Total Material Cost					1608971			2951533
GST @18% on Material Cost					289615			531276
Total Material Cost with GST					1898586			3482810
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.							

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 33 KV LINE ON 9 METER ST/PCC POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 116 METERS**

S.NO	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	504265	692006
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	272303	207602
3	GST @18% on Labour charges for Normal Terrain	49015	18804
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	353449	135598
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	25213	34600
6	Total Amount for Normal Terrain	850795	953012
7	Total Amount for Hilly Terrain /Congested areas	882927	862204

COST OF MATERIAL FOR ERECTION OF 1 KM OF 33 KV LINE ON 9 METER ST/PCC POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 116 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1.	9 Mtr. Long Pole[PCC WL-300Kg , ST-410 SP33]	Nos	9	5520.90	49688	15028.20	135254
2.	11 Mtr. Long Pole[PCC WL-360Kg, ST-410 SP56]	Nos	2	7154.40	14309	22235.40	44471
3.	GI V cross-arm with top Bracket including clamp	Kg	175	92.40	16170	92.40	16170
4.	GI Channel X-arm including clamps and braces	Kg	200	92.40	18480	92.40	18480
5.	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036	79946.90	247036
6.	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	305.80	3670	305.80	3670
7.	33KV Polymeric composite Pin Insulator 36kV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	27	471.90	12741	471.90	12741
8.	33KV Polymeric composite Disc Insulator 36kV, min failing load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	12	792.00	9504	792.00	9504
9.	Galvanized Nuts and Bolts	kg	11	103.84	1142	103.84	1142
10.	Danger Plates with Clamps	Nos	11	111.10	1222	111.10	1222
11.	Anti-Climbing Device with Clamps	Nos	11	233.20	2565	233.20	2565
12.	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	11	1802.90	19832	1802.90	19832
13.	Red Oxide	Ltr.	11	—	—	222.20	2444
14.	Aluminum Paint	Ltr.	11	—	—	370.70	4078
15.	Cement bottoming 1:2:4 mix as per REC standards .5 cum/pole	Nos	9	—	—	3232.90	29096
16.	Cement bottoming 1:2:4 mix as per REC standards .6 cum/pole	Nos	2	—	—	3878.60	7757
17.	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	11	171.60	1888	171.60	1888
18.	Aluminum Jointing Sleeves	Nos	3	118.80	356	118.80	356
19.	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete	Nos	3	4997.30	14992	4997.30	14992
20.	Guard netting	Span	2	6873.90	13748	6873.90	13748
Total Material Cost				—	427343	—	586446
GST @ 18% on Material Cost				—	76922	—	105560
Total Material Cost with GST				—	504265	—	692006
Cost of 150 mm <sup>2</sup> ACSR Conductor				—	162922	—	—
Cost of 200 mm <sup>2</sup> ACSR Conductor				—	211989	—	—
Note:	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.						—

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 33 KV LINE ON 9 METER ST/PCC POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR  
WITH HALF SPAN OF 58 METERS**

S.No	PARTICULARS	PCC Pole	ST Pole
		Amount	Amount
1	Net cost of Material	669978	1015050
2	Labour charges for Normal Terrain @ 27% for PCCP & 15% for STP	361788	304515
3	GST @18% on Labour Charges for Normal Terrain	65122	18804
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	469601	135598
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	33499	50752
6	Total Amount for Normal Terrain	1130386	1389121
7	Total Amount for Hilly Terrain /Congested areas	1173077	1201400

COST OF MATERIAL FOR ERECTION OF 1 KM OF 33 KV LINE ON 9 METER ST/PCC POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 58 METERS							
S.No	PARTICULARS	Unit	Qty	PCC Poles		ST Poles	
				Rate	Amount	Rate	Amount
1	9 Mtr. Long Pole(PCC WL-300Kg, ST-410 SP33)	Nos	19	5520.90	104897	15028.20	285535
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	2	7154.40	14309	22235.40	44471
3	GI V cross-arm with top Bracket including clamp	Kg	425	92.40	39270	92.40	39270
4	GI Channel X-arm including clamps and braces	Kg	200	92.40	18480	92.40	18480
5	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036	79946.90	247036
6	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	305.80	3670	305.80	3670
7	33kV Polymeric composite Pin Insulator 36KV, 10kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	57	471.90	26898	471.90	26898
8	33kV Polymeric composite Disc Insulator 36KV, min failing load 70kN, Lighting Impulse 170kV Positive and 180kV Negative, creepage distance 900mm	Nos	12	792.00	9504	792.00	9504
9	Galvanized Nuts and Bolts	kg	21	103.84	2181	103.84	2181
10	Danger Plates with Clamps	Nos	21	111.10	2333	111.10	2333
11	Anti-Climbing Device with Clamps	Nos	21	233.20	4897	233.20	4897
12	Earthing Complete by GI Pipe 40 mm - 3 mtr long through GI Strip 25x3 mm	Nos	21	1802.90	37861	1802.90	37861
13	Red Oxide	Ltr.	21	—	—	222.20	4666
14	Aluminum Paint	Ltr.	21	—	—	370.70	7785
15	Cement bottoming 1:2:4 mix as per REC standards .5 cum /pole	Nos	19	—	—	3232.90	61425
16	Cement bottoming 1:2:4 mix as per REC standards .6 cum /pole	Nos	2	—	—	3878.60	7757
17	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	21	171.60	3604	171.60	3604
18	Aluminium Jointing Sleeves	Nos	3	118.80	356	118.80	356
19	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long,20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete (33kV)	Nos	5	4997.30	24987	4997.30	24987
20	Guard netting	Span	4	6873.90	27496	6873.90	27496
Total Material Cost				—	567778	—	860212
GST @ 18% on Material Cost				—	102200	—	154838
Total Material Cost with GST				—	669978	—	1015050
Cost of 150 mm <sup>2</sup> ACSR Conductor				—	162922	—	—
Cost of 200 mm <sup>2</sup> ACSR Conductor				—	211989	—	—
Note:- Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase;				—	—	—	—

## ABSTRACT OF COST FOR GUARD NETTING OF SINGLE SPAN FOR 33 KV LINES

Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount	Half span
1	GI Channel X-arm including clamps and braces	Kgs	40	92.40	3696	3696
2	Galvanized Nuts and Bolts	Kgs	3	103.84	312	312
3	GI Wire 6 SWG & 8 SWG	Kgs	27	99.00	2673	1337
4	Eye Bolts	Nos.	4	134.20	537	537
	Total Material Cost	—	—	—	7217	5881
	GST @18% on Material Cost				1299	1059
	Total Material Cost with GST				8516	6939
	Labour charges for Normal Terrain @ 15%	---	---	---	2555	2082
	GST @18% on Labour Charges for Normal Terrain				460	18804
	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges	—	—	—	3316	135598
	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	—	—	—	426	347
	<b>Total Amount for Normal Terrain</b>				<b>11957</b>	<b>28172</b>
	<b>Total Amount for Hilly Terrain /Congested areas</b>				<b>12259</b>	<b>142884</b>

## ABSTRACT OF COST FOR SINGLE GUY FOR 33 kV LINES

Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete	Set	1	4997.30	4543
	GST@ 18% on Material Cost				818
	<b>Total Material Cost with GST</b>				<b>5361</b>
	Labour charges for Normal Terrain @ 15%	---	---	---	1608
	GST @18% on Labour Charges for Normal Terrain				289
	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	---	---	---	2087
	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	---	---	---	268
	<b>Total Amount for Normal Terrain</b>				<b>7526</b>
	<b>Total Amount for Hilly Terrain /Congested areas</b>				<b>7716</b>

ABSTRACT OF COST FOR THICKENING OF 1 CIRCUIT KM ACSR CONDUCTOR FROM 50 mm<sup>2</sup> (RABBIT) TO 100 mm<sup>2</sup> (DOG)

Amount in Rs.

S.No	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	100 mm <sup>2</sup> ACSR Conductor - Dog	KM	3.09	79947	247036	3.09	79947	247036
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	4	7154	28618	1	22235	22235
3	GI V cross-arm with top Bracket including clamp	Kg	88	92	8131	88	92	8131
4	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	375	4501	12	375	4501
5	11KV Polymeric composite Pin Insulator 12KV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	183	2191	12	183	2191
6	11KV Polymeric composite Disc Insulator 12KV,min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 330mm	Nos	6	252	1511	6	252	1511
7	Galvanized Nuts and Bolts	Kg	4	104	415	4	104	415
8	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	4	1803	7212	4	1803	7212
9	Danger Plates with Clamps	Nos	4	111	444	4	111	444
10	Anti-Climbing Device with Clamps	Nos	4	233	933	4	233	933
11	Aluminium Jointing Sleeves	Nos	3	157	470	3	157	470
12	Red Oxide	Ltr.			0	4	222	889
13	Aluminium Paint	Ltr.			0	4	371	1483
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos		—		4	3879	15514
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	172	686	4	172	686
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long,20 mm diameter solid G5 stay rod & 7/4 mm dia GI stranded wire complete	Nos	5	4997	24987	5	4997	24987
17	Guard netting	Span	4	6874	27496	4	6874	27496
18	Total Material Cost				354631			366135
19	GST @18% on Material Cost				63834			65904
20	Total Material Cost with GST				418465			432039
21	Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP	---	---	---	125539	---	---	86408
22	GST @18% on Labour Charges for Normal Terrain				22597			15553
23	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)	---	—	—	162950	—	—	112157
24	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling ,3% Contingency and safety equipments, 0.5% Insurance}	---	—	—	20923	—	—	14602
25	Total Amount for Normal Terrain	---	—	—	587524	—	—	555602
26	Total Amount for Hilly Terrain /Congested areas	---	—	—	602338	—	—	565799
	Write back to credit material for 50 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher	---	—	—	—	—	—	—

ABSTRACT OF COST FOR THICKENING OF 1 CIRCUIT KM ACSR CONDUCTOR FROM 30/ 50 mm <sup>2</sup> TO 100 mm <sup>2</sup> (DOG) on 9 Mtr Pole Amount in Rs.							
S.No	PARTICULARS	Unit	PCC Poles			ST Poles	
			Qty	Rate	Amount	Qty	Rate
1	100 mm <sup>2</sup> ACSR Conductor - Dog	KM	3.09	79946.90	247036	3.09	79946.90
2	9 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	4	5520.90	22084	4	15028.20
3	GI V cross-arm with top Bracket including clamp	Kg	.88	92.40	8131	.58	92.40
4	PG-Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	12	375.10	4501	12	375.10
5	11kV Polymeric composite Pin insulator 12kV, 5kN, Lightning impulse 75kV Positive and 80kV Negative, creepage distance 230mm	Nos	12	182.60	2191	12	182.60
6	11kV Polymeric composite Disc insulator 12kV, min falling load 45kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 230mm	Nos	6	251.90	1511	6	251.90
7	Galvanized Nuts and Bolts	kg	4	103.84	415	4	103.84
8	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	4	1802.90	7212	4	1802.90
9	Danger Plates with Clamps	Nos	4	111.10	444	4	111.10
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20
11	Aluminium Jointing Sleeves	Nos	3	156.65	470	3	156.65
12	Red Oxide	Ltr.		222.20	0	4	222.20
13	Aluminium Paint	Ltr.		370.70	0	4	370.70
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos		3878.60	0	4	3878.60
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	0	171.60
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete.	Nos	5	4997.30	24987	5	4997.30
17	Guard netting	Span	4	6873.90	27496	0	6873.90
18	Total Material Cost				348097		373058
19	GST @18% on Material Cost				62657		67150
20	Total Material Cost with GST				410755		440209
21	Labour charges for Normal Terrain (@ 15% for PCCP & 10% for STP)	---	---	---	123226	---	88042
22	GST @18% on Labour Charges for Normal Terrain	---	---	---	22181		15848
23	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)	---	---	---	159948	---	114278
24	Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	---	---	---	20538	---	22010
25	Total Amount for Normal Terrain	---	---	---	576699	---	566109
26	Total Amount for Hilly Terrain /Congested areas	---	---	---	591240	---	576497
	Write back to credit material for 50 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher	---	---	---	---	---	---

S.No	PARTICULARS	Unit	ABSTRACT OF COST FOR THICKENING OF 1 CIRCUIT KM ACSR CONDUCTOR FROM 100mm <sup>2</sup> (DOG) TO 150mm <sup>2</sup> (WOLF)			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	150 mm <sup>2</sup> ACSR Conductor	KM	3.09	162922.10	503429	3	162922.10	488766
2	11 Mtr. Long Pole(PCC WI- 360Kg, ST-410 SPSE)	Nos	4	7154.40	28618	1	22235.40	22235
3	GI V cross-arm with top Bracket including clamp	Kg	88	92.40	8131	88	92.40	8131
4	PG Clamps for 150 mm <sup>2</sup> ACSR Conductor	Nos	12	375.10	4501	12	375.10	4501
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	182.60	2191	12	182.60	2191
6	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	6	251.90	1511	6	251.90	1511
7	Galvanized Nuts and Bolts	kg	4	103.84	415	4	103.84	415
8	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip.25x3mm	Nos	4	1802.90	7212	4	1802.90	7212
9	Danger Plates with Clamps	Nos	4	111.10	444	4	111.10	444
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11	Aluminium Jointing Sleeves	Nos	3	156.65	470	3	156.65	470
12	Red Oxide	Ltr.		222.20		1	222.20	222
13	Aluminium Paint	Ltr.		370.70		1	370.70	371
14	Cement bottoming 1:2:4 mix as per REC standards 6cum/pole	Nos		3878.60		1	3878.60	3879
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	686
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid G5 stay rod & 7/4 mm dia GI stranded wire complete	Nos	5	4997.30	24987	5	4997.30	24987
17	Guard netting	Span	4	6873.90	27496	4	6873.90	27496
	Total Material Cost				611024			594451
	GST @ 18% on Material Cost				109984			107001
	Total Material Cost with GST				721009			701452
	Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP	---	---	---	216303	---	---	140290
	GST @18% for Labour Charges for Normal Terrain				38934			25252
	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)	---	---	---	280761	---	---	182097
	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	---	---	---	36050	---	---	35073
	Total Amount for Normal Terrain	---	---	---	1012297	---	---	902067
	Total Amount for Hilly Terrain /Congested areas	---	---	---	1037820	---	---	918621
	Write back to credit material for 100 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher	---	---	---	---	---	---	---

S.No	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	150 mm <sup>2</sup> ACSR Conductor	KM	3.09	162922.10	503429	3	162922.10	488766
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	4	7154.40	28618	1	22235.40	22235
3	GI V cross-arm with top Bracket including clamp	Kg	88	92.40	8131	88	92.40	8131
4	PG Clamps for 150 mm <sup>2</sup> ACSR Conductor	Nos	12	375.10	4501	12	375.10	4501
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance: 320mm	Nos	12	182.60	2191	12	182.60	2191
6	11kV Polymeric composite Disc Insulator 12kV, min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	6	251.90	1511	6	251.90	1511
7	Galvanized Nuts and Bolts	Kg	4	103.84	415	4	103.84	415
8	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip.25x3mm	Nos	4	1802.90	7212	4	1802.90	7212
9	Danger Plates with Clamps	Nos	4	111.10	444	4	111.10	444
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11	Aluminium Jointing Sleeves	Nos	3	156.65	470	3	156.65	470
12	Red Oxide	Ltr.		222.20		1	222.20	222
13	Aluminium Paint	Ltr.		370.70		1	370.70	371
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos		3878.60		1	3878.60	3879
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	686
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete	Nos	5	4997.30	24987	5	4997.30	24987
17	Guard netting	Span	4	6873.90	27496	4	6873.90	27496
<b>Total Material Cost</b>					<b>611024</b>			<b>594451</b>
<b>GST @ 18% on Material Cost</b>					<b>109984</b>			<b>107001</b>
<b>Total Material Cost with GST</b>					<b>721009</b>			<b>701452</b>
Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP			---	---	216303	---	---	140290
GST @18% for Labour Charges for Normal Terrain					38934			25252
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)			---	---	280761	---	---	182097
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			---	---	36050	---	---	35073
<b>Total Amount for Normal Terrain</b>			---	---	<b>1012297</b>	---	---	<b>902067</b>
<b>Total Amount for Hilly Terrain /Congested areas</b>			---	---	<b>1037820</b>	---	---	<b>918621</b>
Write back to credit material for 100 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher			---	---	---	---	---	---

S.No	PARTICULARS	Unit	Existing to 150mm <sup>2</sup> (WOLF)			Existing to 200mm <sup>2</sup> (Panther)		
			Qty	Rate	Amount	Qty	Rate	Amount
1	150/200 mm <sup>2</sup> ACSR Conductor	IM	3.09	162932.10	503429	3.09	211988.70	655045
2	11 Mtr. Long Pole PCC WL-360Kg, ST-410 SP56	Nos	6	22235.40	133412	6	22235.40	133412
3	GI V cross-arm with top Bracket including clamp	Kg	132	92.40	12197	132	92.40	12197
4	PG Clamps for 150 mm <sup>2</sup> ACSR Conductor	Nos	18	375.10	6752	18	341.00	6138
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	18	182.60	3287	18	182.60	3287
6	11kV Polymeric composite Disc Insulator 12kV, min falling load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	10	251.90	2519	10	251.90	2519
7	Galvanized Nuts and Bolts	kg	6	103.84	623	6	103.84	623
8	Earthing Complete by GI Pipe 40 mm 3mtr long through GI Strip 25x3mm	Nos	6	1802.90	10817	6	1802.90	10817
9	Danger Plates with Clamps	Nos	6	111.10	667	6	111.10	667
10	Anti-Climbing Device with Clamps	Nos	6	233.20	1399	6	233.20	1399
11	Aluminium Jointing Sleeves	Nos	6	156.65	940	6	156.65	940
12	Red Oxide	Ltr.	6	722.20	4333	6	222.20	1333
13	Aluminium Paint	Ltr.	6	370.70	2224	6	370.70	2224
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos	6	3878.60	23272	6	3878.60	23272
15	Stone Pad (300 mm x 300 mm x 25 mm)	Nos		171.60	0		171.60	0
16	Galvanized Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long 20 mm diameter solid G5 stay rod & 7/4 mm dia GI stranded wire complete	Nos	6	4997.30	29984	6	4997.30	29984
17	Guard netting	Span	6	6873.90	41243	6	6873.90	41243
<b>Total Material Cost</b>					<b>774098</b>			<b>925100</b>
GST (@ 18% on Material Cost)					139338			166518
<b>Total Material Cost with GST</b>					<b>913436</b>			<b>1091618</b>
Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP			---	---	274031	---	---	218324
GST @18% for Labour Charges for Normal Terrain					49326			59298
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)			---	---	355692	---	---	383384
Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			---	---	45672	---	---	54581
<b>Total Amount for Normal Terrain</b>			---	---	<b>1282464</b>	---	---	<b>1403821</b>
<b>Total Amount for Hilly Terrain /Congested areas</b>			---	---	<b>1314800</b>	---	---	<b>1429584</b>
Write back to credit material for 100 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher			---	---	---	---	---	---

S.No	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	200 mm <sup>2</sup> ACSR Conductor	KM	3.09	211988.70	655045	3.09	211988.70	655045
2	11 Mtr. Long Pole(PCC WL-360Kg; ST-410 SP56)	Nos	4	7154.40	28618	4	22235.40	88942
3	GI V cross-arm with top Bracket including clamp	Kg	88	92.40	8131	88	92.40	8131
4	PG Clamps for 200 mm <sup>2</sup> ACSR Conductor	Nos	12	375.10	4501	12	375.10	4501
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	182.60	2191	12	182.60	2191
6	11kV Polymeric composite Disc Insulator 12kV, min falling load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	6	251.90	1511	6	251.90	1511
7	Galvanized Nuts and Bolts	kg	4	103.84	415	4	103.84	415
8	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	4	1802.90	7212	4	1802.90	7212
9	Danger Plates With Clamps	Nos	4	111.10	444	4	111.10	444
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11	Aluminium Jointing Sleeves	Nos	3	156.65	470	3	156.65	470
12	Red Oxide	Ltr.				4	222.20	889
13	Aluminium Paint	Ltr.				4	370.70	1483
14	Cement bottoming 1:2:4 mix as per REC standards .5cum/pole	Nos		—		4	3878.60	15514
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.60	686	4	171.60	686
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete	Nos	5	4997.30	24987	5	4997.30	24987
17	Guard netting	Span	4	6873.90	27496	4	6873.90	27496
<b>Total Material Cost</b>					762640			840850
GST @ 18% on Material Cost					137275			151353
<b>Total Material Cost with GST</b>					899916			992203
Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP			—	—	269975	—	—	198441
GST @18% on Labour Charges for Normal Terrain					48595			55719
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)			—	—	350427	—	—	257576
Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)			—	—	44996			49610
<b>Total Amount for Normal Terrain</b>			—	—	1263481	—	—	1275974
<b>Total Amount for Hilly Terrain /Congested areas</b>			—	—	1295338	—	—	1299390
Write back to credit material for 150 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher.			—	—	—	—	—	—

S.No	PARTICULARS	Unit	PCC Poles			ST Poles		
			Qty	Rate	Amount	Qty	Rate	Amount
1	200 mm <sup>2</sup> ACSR Conductor	KM	3.09	211988.70	655045	3.09	211988.70	655045
2	11 Mtr. Long Pole(PCC WL-360Kg, ST-410 SP56)	Nos	4	7154.40	28618	4	22235.40	88942
3	GI V cross-arm with top bracket including clamp	Kg	88	92.40	8131	88	92.40	8131
4	PQ Clamps for 200 mm <sup>2</sup> ACSR Conductor	Nos	12	375.10	4501	12	375.10	4501
5	11kV Polymeric composite Pin Insulator 12kV, 5kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	12	182.60	2191	12	182.60	2191
6	11kV Polymeric composite Disc Insulator 12kV,min falling load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	6	251.90	1511	6	251.90	1511
7	Galvanized Nuts and Bolts	Kg	4	103.84	415	4	103.84	415
8	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	4	1802.90	7212	4	1802.90	7212
9	Danger Plates	Nos	4	111.10	444	4	111.10	444
10	Anti-Climbing Device with Clamps	Nos	4	233.20	933	4	233.20	933
11	Aluminium Jointing Sleeves	Nos	3	156.65	470	3	156.65	470
12	Red Oxide	Ltr.				4	222.20	889
13	Aluminium Paint	Ltr.				4	370.70	1483
14	Cement bottoming 1:2:4 mix as per REC standards 6cum/pole	Nos		—		4	3878.60	15514
15	Stone Pad (300 mm x 300 mm x 75 mm)	Nos	4	171.94	688	4	171.94	688
16	Galvanised Stay Set with 50x8mm stay clamp, guy insulator(2Nos.), anchor plate (450x 450 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long,20 mm diameter solid GS stay rod & 7/4 mm dia GI stranded wire complete	Nos	5	4997.30	24987	5	4997.30	24987
17	Guard netting	Span	4	6873.90	27496	4	6873.90	27496
<b>Total Material Cost</b>					762642			764410
<b>GST @ 18% on Material Cost</b>					137275			137594
<b>Total Material Cost with GST</b>					899917			902004
Labour charges for Normal Terrain @ 15% for PCCP & 10% for STP (GST included @ 18%)			—	—	269975	—	—	180401
GST @ 18% on Labour Charges for Normal Terrain					48596			32472
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)			—	—	350428	—	—	234160
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling, 3% Contingency and safety equipments, 0.5% Insurance)			—	—	44996	—	—	45100
<b>Total Amount for Normal Terrain</b>			—	—	1263484	—	—	1159977
<b>Total Amount for Hilly Terrain /Congested areas</b>			—	—	1295341	—	—	1181264
Note: Write back to credit material for 150 mm <sup>2</sup> ACSR Conductor - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value								

<b>COST FOR REPLACEMENT OF 16 METER STEEL TUBULAR POLE</b>					
S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	Pole 16 Mtr Long ST-410 SP80	Nos	1	38002.80	38003
2	Galvanized Nuts and Bolts	kg	3	103.84	312
3	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	No.	1	1802.90	1803
4	Cement bottoming 1:2:4 mix as per REC standards 1cum/pole	No.	1	6464.70	6465
5	Red Oxide	Ltr.	1	222.20	222
6	Aluminium Paint	Ltr.	1	370.70	371
Total Material Cost					47175
GST @18% on Material Cost					8491
<b>Total Material Cost with GST</b>					<b>55666</b>
Labour charges for Normal Terrain @ 10%					11133
GST@18% on Labour Charges for Normal Terrain					2004
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)					14451
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)					2783
<b>Total Amount for Normal Terrain</b>					<b>71587</b>
<b>Total Amount for Hilly Terrain /Congested areas</b>					<b>72901</b>
Note: Write back to credit material for replace pole - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher					

COST FOR REPLACEMENT OF 13 METER STEEL TUBULAR POLE Amount in Rs.					
S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	Steel Tubular Pole 13 Mtr Long 410 SP-69	Nos.	1	28523.00	28523
2	Galvanized Nuts and Bolts	kg.	2	103.84	208
3	Earthing Complete by GI Pipe 40 mm 3 intr long through GI Strip 25x3 mm	No.	1	1802.90	1803
4	Cement bottoming 1:2:4 mix as per REC standards 0.7cum/pole	No.	1	4525.40	4525
5	Red Oxide	Ltr.	1	222.20	222
6	Aluminum Paint	Ltr.	1	370.70	371
	Total Material Cost				35652
	GST @18% on Material Cost				6417
	<b>Total Material Cost with GST</b>				<b>42069</b>
	Labour charges for Normal Terrain @ 10% (GST included @ 18%)				8414
	GST @18% on Labour Charges for Normal Terrain				1514
	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @ 18%)				10921
	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				1912
	<b>Total Amount for Normal Terrain</b>				<b>53910</b>
	<b>Total Amount for Hilly Terrain /Congested areas</b>				<b>54902</b>
Note:	Write back to credit material for replace pole - Depreciation shall be calculated as per useful life of the conductor or the actual scrap value whichever is higher				

## ABSTRACT OF COST FOR 33/11 kV SUBSTATIONS

Amount in Rs. Lacs

S. No	ITEM	1 X 3.15 MVA	1 X 6.3 MVA	1 X 10 MVA	2 X 6.3 MVA	2 X 10 MVA
1	33 kV LINE BAY	27.27	27.27	27.27	27.27	27.27
2	33 kV TRANSFORMER BAY	20.02	20.02	20.02	40.04	40.04
3	33/11 kV POWER TRANSFORMER	39.80	60.16	72.53	120.33	145.05
4	11 kV SWITCHGEAR AND AUXILLARIES	32.68	41.85	52.29	83.70	104.58
5	COMMON MISCELLANEOUS WORK'S	132.32	132.32	132.32	145.98	145.98
6	COMMON MISCELLANEOUS EQUIPMENTS	5.12	5.12	5.12	5.12	5.12
7	11 kV Capacitor Bank	9.69	21.32	21.32	33.59	42.63
8	Out Going Double Pole Structures	4.50	6.00	7.50	9.00	10.50
	TOTAL COST OF 33/11 kV SUBSTATION	271.40	314.06	338.36	465.03	521.18

COST FOR 33 KV LINE BAY OF SINGLE BUS SCHEME					
S.No	PARTICULARS	Unit	Qty	Rate	Amount
<b>1</b>	<b>SUB-STATION MAIN EQUIPMENT</b>				
i)	33 KV VCB (36 KV, 1250A, 26.2 kA, Outdoor Type)	No.	1	268415	268415
ii)	33KV C&R Panel along with O/C, E/F relays, mimic diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter-5 Amps with RS-485 port, DLMS Compliant with RS-485 port	No.	1	263161	263161
iii)	33 KV Isolator with Earthing Blade (36kV,800A, Outdoor, 3 poles, 25 kA)	No.	1	67962	67962
iv)	33 KV Isolator without Earthing Blade (36KV,1250A, Outdoor, 3 poles, 25 KA)	No.	1	63182	63182
v)	33 KV Current Transformer (33 KV, 1Φ, Multi Ratio Multi Core, Outdoor) (1 No. per Ø)	Nos.	3	59506	178517
vi)	33 KV Voltage Transformer (33 KV/110 V, 1Φ, Multi-Core, Outdoor), (1No. per Ø)	Nos.	3	53734	161202
vii)	30 KV Lightening Arrestors (30 KV, 10kA, Station class, ZnO, Polymer) gap less	Nos.	3	19196	57588
viii)	33 KV Polymer Post Insulator: 36kV,170kV Impulse, creepage distance 1224m	Nos.	3	1473	4420
	Total				1064447
<b>2</b>	<b>PIPE STRUCTURES</b>				
i)	Nonnal Bore 200, 5.9 mm Thick	MT	2.38	118800	282744
ii)	Galvanised Steel Structures	MT	3.81	95575	364139
iii)	Galvanized Nuts & Bolts	MT	0.39	103844	40499
	Total				687383
<b>3</b>	<b>CONTROL CABLES</b>				
i)	12 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRLS.	M	60	652	39138
ii)	4 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRLS.	M	300	272	81510
iii)	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRLS.	M	60	176	10560
iv)	Lugs, Ferrules etc.	Item	L.S	891	891
	Total				132099
<b>4</b>	<b>CONDUCTOR &amp; HARDWARE</b>				
i)	200 mm <sup>2</sup> ACSR Conductor Panther	M	100	192.72	19272
ii)	T Clamps	Nos.	24	779	18691
iii)	Single Tension Fittings	Nos.	9	1670	15028
	Polymeric composite Disc Insulator 36KV, Lightening impulse 170kV Positive and 180kV				14256
iv)	Negative, creepage distance 900mm,min failing load 70kN	Nos.	18	792	
					14256
v)	Earth wire 7/4.00 mm sq.	Kg	58	99	5753
vi)	GI flat for earthing 50x6 mm	Kg	125	68	11000
	Total				16753
<b>5</b>	<b>Total (1+2+3+4)</b>				1967929
	GST @18% on 5				354227
	<b>Total Material Cost with GST</b>				2322156
	Spares @ 3%				69665
	Labour charges @ 4%				185773
	GST @ 18% on Labour Charges				33439
	Overheads @ 5% (1.0% I&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				116108
	<b>Total Amount</b>				2727140

COST FOR 33 KV TRANSFORMER BAY OF SINGLE BUS SCHEME  
Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	<b>SUB-STATION MAIN EQUIPMENT</b>				
i	33 KV Vacuum Circuit Breaker (36 kV, 1250A, 26.2 kA, Outdoor Type)	No.	1	268415.40	268415
ii	33 KV Isolator without Earthing Blade (36kV,800A, Outdoor, 3 poles, 25kA)	No.	1	63181.80	63182
iii	33 KV Current Transformer (33 KV, 1Φ, Multi Ratio Multi Core, Outdoor) (1No. per Φ)	Nos.	3	59505.60	178517
iv	30 KV Lightening Arrestors (30 KV, 10kA, Station class, ZnO, Polymer) gapless	Set	3	19196.10	57588
v	33 KV C&R Panel along with O/C, E/F and differential relays (IEC61850), mimic diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port	No.	1	339418.20	339418
vi	33 KV Post Insulator Polymer 36kV,235kV impulse, creepage distance 1224m	Nos.	3	1473.33	4420
	Total				911540
2	<b>PIPE STRUCTURES</b>				
i	Non-mild Bare 200, 5.9 mm Thick	MT	1.95	118800.00	231660
ii	Galvanised Steel Structures	MT	1.04	95574.60	93998
iii	Galvanised Nuts & Bolts	MT	0.15	103844.43	15577
	Total				346634
3	<b>CONTROL CABLES</b>				
i	12 Core 2.5 mm <sup>2</sup> Control cable copper Armoured, 1.1 kV Grade, ISI, FRLS	M	60	652.30	39138
ii	6 Core 2.5 mm <sup>2</sup> Control cable copper Armoured, 1.1 kV Grade, ISI, FRLS	M	300	375.10	112530
iii	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured, 1.1 kV Grade, ISI, FRLS	M	60	176.00	10560
iv	Lugs, Ferrules etc.	Item	L.S	891.00	891
	Total				163119
4	<b>CONDUCTOR &amp; HARDWARE</b>				
i	ACSR Conductor Panther	M	100	211.89	21199
ii	T-Clamps	Nos.	3	778.80	2336
	Total				23536
	Total (1+2+3+4)				1444829
	GST @18% on Material Cost				260069
	Total Material Cost with GST				1704899
	Spares @ 3%				51147
	Labour charges @ 4%				136392
	GST @18% on Labour Charges				24551
	Overheads @ 5% (1.5% T&P, 3% Contingency and safety equipments, 0.5% Insurance)				85245
	<b>Total Amount:</b>				<b>2002233</b>

S.No	PARTICULARS	Unit	Qty.	3.15 MVA		6.3 MVA		10 MVA		Amount in Rs.
				Rate	Amount	Rate	Amount	Rate	Amount	
1	33/11kV, ONAN, Copper wound, Out-door Type, conventional Power Transformer, Oil Filled with OLTC and all accessories including HT and LT Terminal connections	No.	1	2725561.30	2725561	4651330	4651330	5644867.80	5644868	
2	12 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS.	M	120	652.30	78276	652	78276	652.30	78276	
3	6 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS.	M	120	375.10	45012	375	45012	375.10	45012	
4	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 kV Grade, ISI, FRLS.	M	240	176.00	42240	176	42240	176.00	42240	
Total Material Cost					2891089		4378962		5282178	
GST @18% on Material Cost					520396		788213		950792	
<b>Total Material Cost with GST</b>				—	3411485	—	5167175	—	<b>6232970</b>	
Spares @ 3%				—	102345	—	155015	—	186989	
Labour charges( including installation, testing & Commissioning of Power Transformer) @ 4%				—	272919	—	413374	—	498638	
GST @ 18% on Labour Charges					22330		22330		22330	
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				—	170574	—	258359	—	311649	
<b>Total Amount</b>					3979653		6016253		<b>7252575</b>	

S. No	PARTICULARS	Unit	COST FOR 11 KV INDOOR SWITCHGEAR OF 11/11 KV SUBSTATION			1 X 3.15 MVA			1 X 6.3 MVA			1 X 10 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	11 KV VCB Panel Board - (12 KV, 1250A, 25 kA, indoor) with O/C, E/F relays [IEC61850], Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter - 5 Amps, DLMS Compliant with RS-485 port.	Set												
i	For 3.15 MVA (1+3)		1	1566485	1566485									
ii	For 6.3 MVA (1+6)					1	1966950	1966950				1	2333305	2333305
iii	For 10 MVA (1+9)													
2	11 KV Bus Coupler with Adaptor Panel													
3	11KV, Gapless Surge Arrestor, 9 KV, 10 KA, LA with Polymer housing, Stn. Type (4/5/6 Sets)	Set	4	5633	22532	5	5633	28166	6	5633	33799			
4	11 KV XLPE Power Cables-													
i	11 KV 630 mm <sup>2</sup> Single Core XLPE Cable (with one spare length) armoured, FRIS	Mtr				40	3606	144232						
ii	11 KV 3-Core XLPE 400 mm <sup>2</sup> armoured, FRIS	Mtr												
iii	11 KV 3-Core XLPE 300 mm <sup>2</sup> armoured, FRIS	Mtr	40	2068	82720	—	—	—						
iv	11 KV 3-Core XLPE 185 mm <sup>2</sup> armoured, FRIS	Mtr	120	1436	172320	180	1436	258480	240	1436	344640			
v	11 KV 3-Core XLPE 120 mm <sup>2</sup> armoured, FRIS	Mtr												
5	11 KV Heat Shrinkable Cable Termination Kit for Incoming Cable (single/three core)													
i	11 KV Indoor Heat Shrinkable Cable Termination Kits	Set	1	11900	11900	1	11900	11900	3	6617	19850			
ii	11 KV Outdoor Heat Shrinkable Cable Termination Kits	Set	1	13867	13867	1	13867	13867	3	7999	23998			
6	11 KV Heat Shrinkable Cable Termination Kit for Outgoing Cable													
i	11 KV Indoor Heat Shrinkable Cable Termination Kits	Set	3	11900	35700	4	11900	47600	5	11900	59500			
ii	11 KV Outdoor Heat Shrinkable Cable Termination Kits	Set	3	13867	41601	4	13867	55468	5	13867	69335			
7	11 KV Isolator, double break, 3-pole, 600Amp, horizontal mounting Type, with Earth Switch	Set	2	33928	67857	3	33928	101285	4	33928	135714			
8	9 Mtr. Long Pole(ST-410 SP33)	Nos	6	15028	90169	8	15028	120226	10	15028	150282			
9	11KV GO, AB Switch 3-Phase, 3-Pole, 200 Amp	Nos	1	8522	8522	1	8522	8522	1	8522	8522			
10	Galvanized iron of sorts	kg	180	92	16632	270	92	24948	360	92	33264			
11	100 kVA, 11/0.433KV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound)	No	1	152526	152526	3	152526	152526	1	152526	152526			
12	120 mm <sup>2</sup> XLPE LT Cable 4 Core, armoured, FRIS	Mtr	15	1179	17688	15	1179	17688	15	1179	17688			
13	Cement bottoming 1:2:4 mix as per REC standards 0.5cum per pole	Nos	6	3233	19397	8	3233	25863	10	3233	32329			
14	Earthing of 100kVA substation – Excavation of earth pit of dia. 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239. GI Strip for neutral earthing of size 75 mm x10 mm & 50 mm x 6 mm, for connection of transformer body, G.O Set & Earthing arrester as per IS 2629/85, GI nuts & bolts, refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	1	7829		1			1					
15	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI strip	Nos	4	1803	7212	6	1803	10817	8	1803	14423			
16	MCCB - 200 Amps , 35KA, 4P	No	1	23165	23165	1	23165	23165	1	23165	23165			
<b>Total Material Cost</b>					2358121			300031			3773270			
GST @18% on Material Cost					424462			543606			679189			
<b>Total Material Cost with GST</b>					2782583			3563636			4452459			
Spares @ 3%					83477			106905			133574			
Labour charges @ 4%					222607			285091			356197			
GST @18% on Labour Charges					40669			51316			64115			
Overheads @ 5% [1.0% T&P, 0.5% Storage and Handling, 3% Contingency and safety equipments, 0.5% insurance]					139129			178182			222623			
<b>Total Amount</b>					3267866			4185135			5228968			
Note:														
(i) The provision for Earthing feeder gantry and 300kVA Substation is optional only if these equipments could not be connected with the Earthing mat														
(ii) Cables shall be suitable for effectively earthed system.														

## COST FOR 11 KV INDOOR SWITCHGEAR OF 33/11 KV SUBSTATION

S. No	PARTICULARS	Unit	2 X 6.3 MVA			2 X 10 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount
1	11 kV VCB Panel Board (12 kV, 1250A, 25 kA, indoor) with O/C, E/F relays (IEC61850), Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port	Set						
i)	For 6.3 MVA (2+6)		1	251760	251760			
ii)	For 10 MVA (2+7)			---		1	3506483	3506483
2	11 kV Bus Coupler with Adaptor Panel		1	251760	251760	1	251760	251760
3	11kV, Gapless Surge Arrestor, 9 kV, 10 kA, LA with Polymer housing, Stn. Type (8/10 Sets)	Set	8	5633	45065	10	5633	56331
4	11 kV XPLE Power Cables:-			---			---	
i)	11 kV 630 mm <sup>2</sup> Single Core XLPE Cable (with one spare length) armoured, FRLS			---		320	1957	626208
ii)	11 kV 3-Core XLPE 400 mm <sup>2</sup> armoured, FRLS	Mtr	80	3606	288464		---	
iii)	11 kV 3-Core XLPE 300 mm <sup>2</sup> armoured, FRLS	Mtr		---	---		---	
iv)	11 kV 3-Core XLPE 185 mm <sup>2</sup> armoured, FRLS	Mtr	—	---	---		---	
v)	11 kV 3-Core XLPE 120 mm <sup>2</sup> armoured, FRLS	Mtr	360	1580	568656	480	1580	758208
5	11 kV Heat Shrinkable Cable Termination Kit for incoming Cable			---			—	
ii)	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	2	13090	26180	6	6617	39699
iii)	11 kV Outdoor Heat Shrinkable Cable Termination Kits	Set	2	17907	35814	6	7999	47995
6	11 kV Heat Shrinkable Cable Termination Kit for Outgoing Cable			---			---	
ii)	11 kV Indoor Heat Shrinkable Cable Termination Kits	Set	6	13090	78540	7	13090	91630
iii)	11 kV Outdoor Heat Shrinkable Cable Termination Kits	Set	6	15254	91522	7	15254	106776
7	11 kV Isolator, double break, 3-pole, 600Amp, horizontal mounting Type, with Earth Switch.	Set	5	33928	169642	6	33928	203570
8	9 Mtr. Long Pole(ST-410 SP33)	Nos	12	15028	180338	14	15028	210395
9	11kV GO, AB Switch 3-Phase, 3-Pole, 200 Amp	Nos	1	8522	8522	1	8522	8522
10	Galvanised iron of sorts	kg	510	92	47124	660	92	60984
11	100 kVA, 11/0.433kV, 3-phase Distribution Transformers with Bimetallic Terminal Connectors Energy Level-2, (Aluminium wound)	Nos	1	152526	152526	1	152526	152526
12	120 mm <sup>2</sup> PVC LT Cable 4 Core, armoured, FRLS	Mtr	15	1179	17688	15	1179	17688
13	Cement bottoming 1:2:4 mix as per REC standards 0.5 cum per pole	Nos	12	3233	38795	14	3233	45261
14	Earthing of 100kVA substation --Excavation of earth pit of dia: 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 75 mm x10 mm & 50 mm x 6 mm for connection of transformer body,G.O Set & lightening arrestor as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	Nos	1	7829		1	7829	7829
15	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI strip 25x3 mm	Nos	10	1803	18029	12	1803	21635
16	MCCB - 200 Amps , 36KA, 4P	No	1	23165	23165	1	23165	23165
17	Total Material Cost				2301419			6236665
18	GST @18% on Material Cost				414255			1122600
	<b>Total Material Cost with GST</b>				<b>2715674</b>			<b>7359264</b>
	Spares @ 3%				81470			220778
	Labour charges @ 4%				217254			588741
	GST @18% on Labour Charges				39106			105973
	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				135784			367963
	<b>Total Amount</b>				<b>3189288</b>			<b>8642720</b>

The provision for Earthing feeder gantry and 100KVA Substation is optional only if these equipments could not be connected with the Ear

## COMMON MISCELLANEOUS WORKS IN 33/11kV SUBSTATIONS

S.No	PARTICULARS	Unit	For Single Power Transformer			For Double Power Transformer		
			Qty	Rate	Amount	Qty	Rate	Amount
1	Land requirement for Substation	Kanals	2	---	---	2	---	---
2	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	128	1388	177690	128	1388	177690
3	Chainlink Fencing of 33 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height.	RM	50	9875	493750	50	9875	493750
4	HDPE Pipe Outer Dia 180 mm Inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	25	1388	34705	25	1388	34705
5	33/11 kV Power Transformer Foundation	Item	1	417357	417357	2	417357	834713
6	33 kV Equipment Foundation & Gantry foundation	Job	---	1412442	1412442	---	1996484	1996484
7	Earthing Mat (GI Flat 50 mm x8 mm)	KG	2486	88.00	218768	2486	88	218768
8	Earthing Electrode ( 3m long 40mm dia. GI pipe) through GI Strip 50x6mm	No.	38	3428	130249	38	3428	130249
9	33 kV Yard Concreting/Metalling ( 375 Sq Mtr)	Item	---	456480	456480	---	456480	456480
10	Borewell with submersible pump	No.	1	379500	379500	1	379500	379500
11	Control Room Building	sqm	111	32034	3555796	111	32034	3555796
12	Truss for Control Room Building	sqm	144.3	7948	1146824	144.3	7948	1146824
13	Shift Quarters for JE and SBA	sqm	130	24460	3179748	130	24460	3179748
14	Development of land by removing weeds, wild grass and endulation if any, ornamental land scaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	15	442750	442750	15	442750	442750
15	Yard Lighting by way of Providing 12 Mtr motorised High Mast with 4 No.s of 200 W LED flood lights on each High Mast complete with earthing , and foundations	Job	2	241869	483738	2	241869	483738
16	750 m Cable Trench	RM	40	13493	539704	55	13493	742093
17	500 MM Cable Trench	RM	15	10817	162261	30	10817	324522
16	Total Amount				13231747			14597795

Civil Works rates Are based on SOR Civil 2020.

COMMON MISCELLANEOUS EQUIPMENTS 33/11kV SUBSTATIONS					
S.No	PARTICULARS	Unit	Qty	Rate	Amount
A					
1	a). Battery Bank 30 V,100 AH , of 15 No. cells of 2 V each, sealed maintenance free VRLA type,High impact Polypropelene copolymer container,flame retardant. b). 30V,100 AH , Float-Cum-Boost Charger With Full wave rectification for 220 V, 1Phase, 50 HZ AC Input Supply .	No.	1	129542	129542
2	Distribution Panel (30 V, DC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43 for 2 No battery incoming supply with 2 No 53 Amps DP MCBs for incoming supply Double busbar of adequate size, 12 No DP DC MCB (0-32A) including indication lamps and cables and other accessories	No.	1	32161	32161
3	Distribution Panel (415 V, AC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43, 200 Amps Switch Fuse disconnector for incoming supply and 5 No TPN MCB's (16-125 Amps ) and 5 No DP MCBs (0-32A), rectangular busbar suitable for 200 Amps continuous Supply including indication lamps and cables and other accessories	No.	1	41950	41950
4	TELECOMMUNICATION FACILITIES	Item	LS	16500	16500
5	Rubber Mat 1mx2m 19mm thick	No	4	4288	17151
6	Fire Extinguisher Co <sub>2</sub> Type of 4.5 kg capacity for control room	No	6	4825	28948
7	3 Sand Bucket Fire Extinguisher	Set	1	6433	6433
8	Helmet	No	4	375	1500
9	Rubber Gloves for 33 kV level	Set	2	1725	3450
10	Rubber Gloves for 11kV level	Set	2	1233	2466
11	Safety Belt	No	4	1715	6860
12	Safety Shoes	No	4	1608	6433
13	Earthing rod (set of 3 rods)	set	1	8599	8599
14	HV Detectors all voltages	No	1	51458	51458
15	Alumunium Ladder 2*20', 3 mm Thick. (Double Ladder)	No	1	16170	16170
<b>Total of A</b>					<b>369619</b>
GST @18% on B					66531
<b>Total Material Cost with GST (B+C)</b>					<b>436150</b>
Spares @ 3%					13085
Labour charges @ 4%					34892
GST @ 18% on F					6281
Overheads @ 5% (1.5% T&P , 3% Contingency and safety equipments, 0.5% Insurance)					21808
<b>Total Amount</b>					<b>512215</b>

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S.No	PARTICULARS	Unit	1 X 3.15 MVA			1 X 6.3 MVA			1 X 10 MVA			2 X 6.3 MVA			2 X 10 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	12 kV Capacitor Bank with VCB Panel with complete arrangement for connection with 11 kV incomer panel , Series Reactor, Isolator, RVT, Surge Arrestors, HT Cable with termination kits, Control Cables, CRCA,Cubicle Panel etc with structure, foundation & accessories.	Set	1.2 MVAR	699152	699152	2.4 MVAR	1211865	1211865	3.6 MVAR	1538136	1538136	2 X 2.4 MVAR	2423729	2423729	2 X 3.6 MVAR	3076271	3076271
2	Total Material Cost				699152			1211865			1538136			2423729			3076271
3	GST @ 18% on Material Cost				125847			218136			276864			436271			553729
4	Total Material Cost with GST				825000			1430000			1815000			2860000			3630000
5	Spares @ 3%	—	—	—	24750			42900			54450			85800			108900
6	Labour charges @ 4%	---	---	---	66000			114400			145200			228800			290400
7	GST @18% on Labour Charges				11880			20592			26136			41184			52272
8	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	—	—	—	41250			71500			90750			143000			181500
9	Total Amount				968880			1679392			2131536			3358784			4263072

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## ABSTRACT OF COST FOR 33/11 KV SUBSTATIONS (ADDITION OF TRANSFORMER BAYS)

Amount in Rs. Lacs

S. No	ITEM	1 X 3.15 MVA	1 X 6.3 MVA	1 X 10 MVA
1	33 KV LINE BAY	---	---	---
2	33 KV TRANSFORMER BAY	20.02	20.02	20.02
3	33/11 KV POWER TRANSFORMER	39.80	60.16	72.53
4	11 KV SWITCHGEAR AND AUXILLARIES	32.68	41.85	52.29
5	COMMON MISCELLANEOUS WORKS	10.37	10.37	10.37
6	COMMON MISCELLANEOUS EQUIPMENTS	---	---	---
7	11 KV CAPACITOR BANK	9.69	16.79	21.32
8	TOTAL COST OF ADDITIONAL 33/11KV TRANSFORMER BAY	112.56	149.20	176.53

Amount in Rs. Lacs

ABSTRACT OF COST FOR 33/11 KV SUBSTATIONS (ADDITION OF TRANSFORMER BAYS)				
S. No	ITEM	1 X 3.15 MVA	1 X 6.3 MVA	1 X 10 MVA
1	33 KV LINE BAY	---	---	---
2	33 KV TRANSFORMER BAY	20.02	20.02	20.02
3	33/11 KV POWER TRANSFORMER	39.80	60.16	72.53
4	11 KV SWITCHGEAR AND AUXILLARIES	32.68	41.85	52.29
5	COMMON MISCELLANEOUS WORKS	10.37	10.37	10.37
6	COMMON MISCELLANEOUS EQUIPMENTS	---	---	---
7	11 KV CAPACITOR BANK	9.69	16.79	21.32
8	TOTAL COST OF ADDITIONAL 33/11KV TRANSFORMER BAY	112.56	149.20	176.53

COMMON MISCELLANEOUS WORKS IN 33/11KV SUBSTATIONS (FOR ADDITIONAL OF TRANSFORMERS BAYS)				For Additional Power Transformer		
S. No	PARTICULARS	Unit	Qty	Rate	Amount	
1	Land requirement for Substation	Kanals	-	-	-	
2	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	-	13916	-	
3	Chainlink Fencing of 33 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height	RM	-	9875	-	
4	HDPE Pipe Outer Dia 180 mm Inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	-	1388	-	
5	33/11 kV Power Transformer Foundation	Item	1	417357	417357	
6	33 kV Equipment Foundation & Gantry foundation (for additional equipments )	Job	1	584042	584042	
7	Earthing Mat (GI Flat 50x8)	KG	20	88.00	1760	
8	Earthing Electrode ( 3m long 40mm dia GI pipe) through GI Strip.	nos	10	3428	34276	
9	33 kV Yard Concreting/Metalling ( 375 Sq Mtr)	Item	-	456480	-	
10	Borewell with submersible pump	no	-	379500	-	
11	Control Room Building	sqm	-	32034	-	
12	Shift Quarters for JE and SBA	sqm	-	24460	-	
13	Development of land by removing weeds, wild grass and endulation if any, ornamental land scaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	-	442750	-	
14	Yard Lighting by way of Providing 12 Mtr motorised High Mast with 4 No.s of 200 W LED flood lights on each High Mast complete with earthing , and foundations	Item	-	241869	-	
15	Total Amount				<b>10,37,434</b>	

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S.No	PARTICULARS	Unit	COST ESTIMATION FOR AUGMENTATION OF POWER TRANSFORMER AT 33 kV LEVEL FROM			3.15 MVA to 6.3 MVA			6.3 MVA to 10 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	33/11kV, ONAN, Copper wound, Out-door Type, conventional Power Transformer, Oil Filled with OLTC and all accessories including HT and LT Terminal connections	No.	1	4651330	4651330	1	5644868	5644868			
2	11 kV VCB Panel Board (12 kV, 1250A, 25 kA, Outdoor) with O/C, E/F relays (IEC61850), Mimic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri- vector meter -5 Amps, DLMS Compliant with RS-485 port	No.									
3	For 6.3 MVA (1+4)	set	1	1966950	1966950						
4	for 10 MVA (1+5)	set				1	2333305	2333305			
5	11 kV Bus Coupler with Adaptor Panel	set	1	251760	251760	1	251760	251760			
6	300 mm <sup>2</sup> 11kV XLPE Power cables-3C FRLS	mtr.									
7	11 kV 3- Core ,XLPE, armoured,FRLS, 400 mm <sup>2</sup> for 6.3 MVA Power Transformer	Mtr	40	3606	144232						
8	11 kV ,630 mm <sup>2</sup> Single Core ,XLPE armoured Cable FRLS. (with one spare length) for 10 MVA Power Transformer	Mtr				160	1957	313104			
9	11 kV Isolator, double break,3-pole, 600Amp, horizontal mounting Type, with Earth Switch	Nos.	1	33928	33928	1	33928	33928			
10	9 Mtr. Long Pole(ST-410 SP33)	Nos	2	15028	30056	2	15028	30056			
11	Installation of 11 kV Capacitor Bank complete set	Item	1	1211865	1211865	1	1211865	1211865			
12	Earthing of Power Transformer (Improvement/strengthening works only)	Item	1	11135	11135	1	11135	11135			
Total Material Cost					8301257				9830021		
GST @18% on Material Cost					1494226				1769404		
Total Material Cost with GST				--	9795483			--	11599425		
Labour Charges ( including installation, testing & Commissioning of Power Transformer) @ 4%				--	119538			--	141552		
GST @18% on Labour Charges					21517				25479		
Dismantalling Charges @ 1%				--	97955			--	115994		
Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				--	489774			--	579971		
Total Amount					10524267				12462422		
Write back to credit material of Power Transformers - Depreciation shall be calculated as											
For 33/11 KV PTR Augmentation dismantalling charge has been considered 1% of the cost											
Cables Shall be suitable for effectively Earthed System											

## Estimate for 2 Pole Structure for 11 KV out going feeders in 33/11 KV

S.No.	Item Description	Unit	Qty	Rate	Amount
1	9 Mtr. Long Pole, ST-410 SP33	No.s	2	15028.20	30056.40
2	Steel of all sorts	Kg	183	92.40	16909.20
3	11 KV Polymer composite Pin insulator	No.s	3	182.60	547.80
4	11 KV 45KN Polymeric Composite Disc set	No.s	3	251.90	755.70
5	Tension Fitting	No.s	3	1669.80	5009.40
6	11 KV Double Break Isolator 3 Phase 600 Amp	Set	1	33928.40	33928.40
7	11KV LA		1	5633.10	5633.10
8	150 MM GI Pipe with Clamp	Mtr	3	2904.00	8712.00
9	Galvanized Nuts and Bolts	Kg	8	103.84	830.72
10	Danger Plates	No.s	2	111.10	222.20
11	Anti-Climbing Device with Clamps	No.s	2	233.20	466.40
12	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI Strip.	Job	2	1802.90	3605.80
13	Red Oxide	Ltr	2	222.20	444.40
14	Aluminium Paint	Ltr	2	370.70	741.40
15	Cement bottoming 1:2:4 mix as per REC standards .45cum/pole	Job	2	2560.02	5120.04
16	Stone Pad (300 mm x 300 mm x 75 mm)	No.s	2	171.94	343.88
<b>Material Cost</b>					<b>113326.84</b>
Add Gst @ 18%					20398.83
<b>Net cost of Material</b>					<b>133725.67</b>
Labour charges for Normal Terrain @ 15% for STP					40118
GST @18% on Labour Charges for Normal Terrain					7221
Labour charges for Hilly Terrain/Congested areas with 10% appreciation on					52073
Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and					6686.28
<b>Total Amount for Normal Terrain</b>					<b>187750.84</b>
<b>Total Amount for Hilly Terrain /Congested areas</b>					<b>192484.73</b>

ESTIMATE FOR SINGLE PHASE SERVICE CONNECTION for 25 KVA DT's HAVING 3 NO. OF CONSUMERS					
S.No	PARTICULARS	UNIT	QTY	RATE	AMOUNT (Rs)
1	16 mm <sup>2</sup> PVC service cable armoured 20 mtr per consumer	Meter	60	191	11484
2	Main Service Distribution Box Along with MCCB / MCB as per REC Drawing	No	1	14915	14915
3	Single Phase Smart Energy Meter 5-30 Amp/10-60 Amp, DLMS Complaint of accuracy class 1.0	Each	3	2970	8910
4	Polypropylene weather proof outdoor type Meter Box for 4 Single Phase Meter along with Zinc plated clamps	Each	1	2796	2796
5	Misc Items such as insulation tape, binding wire, screws, etc.	LS	1	111	111
6	Earthing complete for metering box	No		588	0
7	<b>Total Material Cost</b>				38216
8	GST @ 18% on Material Cost				6879
9	<b>Total Material Cost with GST</b>				<b>45095.12</b>
10	Labour charges @ 7% (GST included @18%)			7%	6313
11	GST @ 18% on Labour Charges				1136
12	Storage and transportation @ 1%			1%	451
<b>Total</b>					<b>52996</b>

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ESTIMATE FOR SINGLE PHASE SERVICE CONNECTION ACSR/ABC TO CONSUMERS					
S. No	PARTICULARS	UNIT	QTY	RATE	AMOUNT( Rs)
1	4 core 35 mm <sup>2</sup> PVC Cable from AB Cable taping point through Piercing connector to MSDB	Mtr	2	396	792
2	ACSR to Cable Connector / Piercing connector	No.	2	165	330
3	Main Service Distribution Box	No.	1	6465	6465
4	16 mm <sup>2</sup> PVC service cable armoured 20 mtr per consumer	Meter	80	191	15312
5	Single Phase (smart/ prepaid) Energy Meter 5-30 Amp/10-60 Amp, DLMS Complaint of accuracy class 1.0	Each	4	2970	11880
6	Polypropylene weather proof outdoor type Meter Box for 4 Single Phase Meter along with Zinc plated clamps	Each	1	2796	2796
7	Misc Items such insulation tape, binding wire, screws, etc.	LS	1	111	111
8	Earthing complete for metering box	No	0	588	0
	Total Material Cost				37686
	GST @ 18% on Material Cost				6783
	<b>Total Material Cost with GST</b>				<b>44469</b>
	Labour charges @ 7%			7%	6226
	GST@ 18% on Labour Charges				1121
	Storage and transportation @ 1%			1%	445
	<b>Total Amount</b>				<b>52261</b>

STANDARD ESTIMATE FOR LAYING OF 1 KM OF 33KV 185MM<sup>2</sup> XLPE, (SINGLE CIRCUIT, SINGLE CORE) ALUMINIUM ARMOURE

S No	Description	Unit	Quantity	Rate	Amount
A					
1	33KV, Single core 185 mm <sup>2</sup> Aluminium, round wire Armoured XLPE Cable , FRLS One spare cable	KMs	4.12	1248720	5144726
2	Straight Through Joints for cables 4 No's for 4 single cores	Kits	16	31072	497147
3	route marker	Nos	10	117	1166
4	warning Tap	Kms	1	4289	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	8	9372	74976
6	Excavation in any type of soil including hard laterite soil	cums	585	593.29	347075
7	Back filling of available excavated earth	cums	517.5	218.57	113110
8	Sand for cushioning of HT underground cables	cums	67.5	3300	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	1050	2904	3049200
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	163	146520
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg) after 500 mtrs.	job	2	39024	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	2	1803	3606
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9745	136429
	Total of A				9867917
	GST @18% on (S No 1-5,11,12,14)				1605893
	<b>Total of A with GST D = B + C</b>				<b>11473810</b>
	Spares @3%				344214
	Erection Charges @2.5% (S No 1-5,11,12,14)			2.50%	446082
	GST @18% on E				80295
	<b>Total H = D + E + F+ G</b>				<b>12344401</b>
	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				573691
	<b>Gross Total E = C + D</b>				<b>12918091</b>

STANDARD ESTIMATE FOR LAYING OF 1 KM OF 33KV 400MM <sup>2</sup> XLPE (SINGLE CIRCUIT, SINGLE CORE) ALUMINUM CABLE					
S No	Description	Unit	Quantity	Rate	Amount
A					
1	33KV, Single core 185 mm <sup>2</sup> Aluminium, round wire Armoured XLPE Cable , FRLS One spare cable	KMs	4.12	2703195	11137163
2	Straight Through Joints for cables 4 No's for 4 single cores	Kits	16	45807	732917
3	route marker	Nos	10	117	1166
4	warning Tap	Kms	1	4289	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	8	10684	85474
6	Excavation in any type of soil including hard laterite soil	cums		593.29	0
7	Back filling of available excavated earth	cums		218.57	0
8	HDPE Pipes	cums	4120	1388	5719384
9	Mechanical transport 30kms of sand	cums	0	479.60	0
10	Head load 100 mtrs of sand	cums	0	244.49	0
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904	319440
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	163	146520
13	Brick Masonary Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg) after 500 mtrs	job	2	39024	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	2	1803	3606
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9745	136429
Total of A					18364435
GST @18% on (S No 1-5,11,12,14)					2237504
Total of A with GST D = B + C					20601939
Spares @3%					618058
Erection Charges @2.5% (S.No 1-5,11,12,14)					2.50%
GST @18% on E					621529
Total H = D + E + F+ G					111875
Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c					21953401
Gross Total E = C + D					1030097
					22983498

33kV, Single core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	1248720	End termination for 1C	9372
33kV, Single core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	1456249	End termination for 1C	9372
33kV, Single core 300 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E)	1722312	End termination for 1C	9372
33kV, Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E)	1968863	End termination for 1C	9372
33kV, Single core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E)	2703195	End termination for 1C	10684
straight though Jointing Kit for 185 sqmm	31072		
straight though Jointing Kit for 240 sqmm	31072		
straight though Jointing Kit for 300 sqmm	38984		
straight though Jointing Kit for 400 sqmm	38984		
straight though Jointing Kit for 630 sqmm	45807		

Note: All Cables shall be suitable for Effectively Earthed system.

**STANDARD ESTIMATE FOR LAYING OF 1 KM OF 33KV XLPE, 185MM<sup>2</sup> (DOUBLE CIRCUIT, SINGLE CORE) ALUMINIUM**

S No	Description	Unit	Quantity	Rate	Amount
A					
1	33kV, Single core 185 mm <sup>2</sup> Aluminium, round wire Armoured XLPE Cable , FRLS (one spare cable)	KMs	8.24	1248720.00	10289453
2	Straight Through Joints for cables	Kits	28	31071.70	870008
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4288
5	Cable Termination Kits (indoor/outdoor)	Kits	16	9372.00	149952
6	Excavation in any type of soil including hard laterite soil	cums	960	593.29	569558
7	Back filling of available excavated earth	cums	835.25	218.57	182561
8	Sand for cushioning of HT underground cables	cums	124.75	3300.00	411675
9	Mechanical transport 30kms of sand.	cums	124.75	479.60	59830
10	Head load 100 mtrs of sand	cums	124.75	244.49	30500
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points 2 runs	mtr	210	2904.00	609840
12	RCC protective cover of size 600 mm (width) x 250mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.70	294030
13	Brick Masonary Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg) after 500 mtrs	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip, 25x3 mm	Nos	2	1802.90	3606
15	Reinstatement of roads {100 m x .7 m x 0.2 m thick} = 14 cums	cums	14	9744.90	136429
B	Total of A				13690943
C	GST @18% on (S No 1-5,11,12,14)				2200022
D	Total of A with GST (D = B + C)				15890965
E	Spares @3%				476729
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	611117
G	GST @18% on E				110001
H	Total H = D + E + F+ G				17088812
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on C				794548
J	Gross Total E = C + D				17883360

33kV, Single core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	1248720	End termination for 1C 185 sqmm	9372
33kV, Single core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	1456249	End termination for 1C 240 sqmm	9372
33kV, Single core 300 mm <sup>2</sup> Aluminium round wireArmoured XLPE(E) Cable	1722312	End termination for 1C 300 sqmm	9372
33kV, Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E) Cable	1968863	End termination for 1C 400 sqmm	9372
33kV, Single core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E) Cable	2703195	End termination for 1C 630 sqmm	10684

**Standard Estimate for laying of 1 Kms of 33kV XLPE, 185mm<sup>2</sup> (Single Circuit, Three Core ) Aluminium armoured cable.**

S No	Description	Unit	Quantity	Rate	Amount
A					
1	33kV, Three core 185 mm <sup>2</sup> Aluminium flat wire Armoured XLPE Cable , FRLS- one spare cable	KMs	2.06	3366577.50	6935150
2	Straight Through Joints for cables	Kits	8	82893.80	663150
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	4	33025.30	132101
6	Excavation in any type of soil including hard laterite soil	cums	585	593.29	347075
7	Back filling of available excavated earth	cums	495	218.57	108192
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904.00	319440
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	163.19	146871
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	2	1802.90	3606
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				9147142
C	GST @18% on (S No 1-5,11,12,14)				1477039
D	Total of A with GST (D = B + C)				10624181
E	Spares @3%				318725
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	410289
G	GST @18% on E				73852
H	Total H = D + E + F+ G				11427047
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				531209
J	Gross Total E = C + D				11958256

Standard Estimate for laying of 1 Kms of 33kV XLPE, 185mm<sup>2</sup> (Double Circuit, Three Core ) Aluminium armoured cable underground.

S No	Description	Unit	Quantity	Rate	Amount
A					
1	33kV, Three core 185 mm <sup>2</sup> Aluminium Armoured XLPE Cable , FRLS (Double Circuit + one spare cable)	KMs	3.09	3366577.50	10402724
2	Straight Through Joints for cables	Kits	12	82893.80	994726
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits {indoor/outdoor}	Kits	6	33025.30	198152
6	Excavation in any type of soil Including hard laterite soil	cums	715	593.29	424202
7	Back filling of available excavated earth	cums	605	218.57	132235
8	Sand for cushioning of HT underground cables	cums	24.75	3300.00	81675
9	Mechanical transport 30kms of sand	cums	24.75	479.60	11870
10	Head load 100 mtrs of sand	cums	24.75	244.49	6051
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	210	2904.00	609840
12	RCC protective cover of size600 mm (width) x 250mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.44	293796
13	Brick Masonary Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	2	1802.90	3606
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				13378808
C	GST @18% on {S.No 1-5,11,12,14}				2251494
D	Total of A with GST [D = B + C]				15630302
E	Spares @3%				468909
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	625415
G	GST @18% on E				112575
H	Total H = D + E + F+ G				16837200
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				781515
J	Gross Total E = C + D				17618715

33kV, Three core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	3961100.00	End termination for 3C	30023
33kV, Three core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable	3837900.00	185 to 240 sqmm	
33kV, Three core 300 mm <sup>2</sup> Aluminium round wireArmoured XLPE(E) Cable	4332900.00	End termination for 3C	43525
33kV, Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E) Cable	5042400.00	300 to 400 sqmm	
33kV, Three core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE(E) Cable			
straight though Jointing Kit for 185 sqmm	82893.80		
straight though Jointing Kit for 240 sqmm	82893.80		
straight though Jointing Kit for 300 sqmm	91360.50		
straight though Jointing Kit for 400 sqmm	91360.50		
straight though Jointing Kit for 630 sqmm			

Note: All Cables shall be suitable for Effectively Earthed system.

**Standard Estimate for laying of 1 Km of 11kV XLPE, 185mm<sup>2</sup> (Single Circuit, Single Core) Aluminium armoured cable**

	Description	Unit	Quantity	Rate	Amount
<b>A</b>					
1.	11kV, Single core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS (one spare cable)	KMs	4.12	807056.80	3325074
2.	Straight Through Joints for cables	Kits	16	11885.50	190168
3.	route marker	Nos	10	116.60	1166
4.	warning Tap	Kms	1	4288.90	4289
5.	Cable Termination Kits (indoor/outdoor)	Kits	8	3917.10	31337
6.	Excavation in any type of soil including hard laterite soil	cums	585	593.29	347075
7.	Back filling of available excavated earth	cums	495	218.57	108192
8.	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9.	Mechanical transport 20kms of sand	cums	67.5	479.60	32373
10.	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11.	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904.00	319440
12.	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	162.80	146520
13.	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast iron cover in CI Frame (38Kg) after 500 mtrs	Job	2	39023.60	78047
14.	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	2	1802.90	3606
15.	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
<b>B</b>	Total of A				4962968
<b>C</b>	GST @18% on [S No 1-5,11,12,14]				723888
<b>D</b>	Total of A with GST (D = B + C)				5686856
<b>E</b>	Spares @3%				170606
<b>F</b>	Erection Charges @2.5% [S.No 1-5,11,12,14]				2.50%
<b>G</b>	GST @18% on E				36194
<b>H</b>	Total H = D + E + F + G				6094736
<b>I</b>	Overheads @ 5% {1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance} on c				284343
<b>J</b>	Gross Total E = C + D				6379079

11 kV, Single core 120 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	612830.90	End termination for	3917
11 kV, Single core 150 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	674025.00	End termination for	4882
11 kV, Single core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	973789.30	End termination for	6951
11 kV, Single core 300 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1122784.30	End termination for	7999
11 kV, Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1341841.60		
11 kV, Single core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1957333.40		
straight though jointing Kit upto 185 sqmm	11885.50		
straight though jointing Kit for 240 to 300 sqmm	13693.90		
straight though jointing Kit for 400 sqmm	17790.30		
straight though jointing Kit for 630 sqmm	21101.30		

Note: All Cables shall be suitable for Effectively Earthed system.

Standard Estimate for laying of 1 Kms of 11kV XLPE, 185mm<sup>2</sup> (Double Circuit, Single Core ) Aluminium armoured cable underground.

S No	Description	Unit	Quantity	Rate	Amount
A					
1	11 kV, Single core, 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS (One spare cable)	KMs	7.21	807056.80	5818880
2	Straight Through Joints for cables	Kits	28	11885.50	332794
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	3899.00	3899
5	Cable Termination Kits (Indoor/outdoor)	Kits	14	3917.10	54839
6	Excavation in any type of soil including hard laterite soil	cums	715	593.29	424202
7	Back filling of available excavated earth	cums	605	218.57	132235
8	Sand for cushioning of HT underground cables	cums	24.75	3300.00	81675
9	Mechanical transport 30kms of sand	cums	24.75	479.60	11870
10	Head load 100 mtrs of sand	cums	24.75	244.49	6051
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	210	2904.00	609840
12	RCC protective cover of size 600 mm (width) x 250mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.44	293796
13	Brick Masonary Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg) after 500 mtrs	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	2	1802.90	3605
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
	Total of A				7989329
	GST @18% on (S No 1-5,11,12,14)				1281388
	Total of A with GST (D = B + C)				9270717
	Spares @3%				278121
	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	355941
	GST @18% on E				64069
	Total H = D + E + F+ G				9968848
	Overheads @ 5% - (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				463536
	Gross Total E = C + D				10432384

11 kV, Single core 120 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	612831	End termination	3917
11 kV, Single core 150 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	674025	End termination	4882
11 kV, Single core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	973789	End termination	6951
11 kV ,Single core 300 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1122784	End termination	7999
11 kV ,Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	1341842		
11 kV, Single core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1957333		
straight through Jointing Kit upto 185 sqmm		11886	
straight through Jointing Kit for 240 to 300 sqmm		13694	
straight through Jointing Kit for 400 sqmm		17790	
straight through Jointing Kit for 630 sqmm		21101	

Note: All Cables shall be suitable for Effectively Earthed system.

**Standard Estimate for laying of 1 Kms of 11kV XLPE, 185mm<sup>2</sup> (Single Circuit, Three Core ) Aluminium armoured cable underground.**

S No	Description	Unit	Quantity	Rate	Amount
A					
1	11kV, Three core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS ( non-snare cable)	KMs	2.06	2068192.50	4260477
2	Straight Through Joints for cables	Kits	8	31659.10	253273
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits (Indoor/outdoor)	Kits	4	15253.70	61015
6	Excavation in any type of soil including hard laterite soil	cums	585	593.29	347075
7	Back filling of available excavated earth	cums	495	218.57	108192
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904.00	319440
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	162.80	146520
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip .25x3 mm	Nos	2	1802.90	3606
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				5991154
C	GST @18% on (S No 1-5,11,12,14)				908961
D	<b>Total of A with GST (D = B + C)</b>				6900115
E	Spares @3%				207003
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	252489
G	GST @18% on F				45448
H	<b>Total H = D + E + F+ G</b>				7405056
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				345006
J	<b>Gross Total J =H+I</b>				7750061
	11 KV, 3- Core XLPE 400 mm <sup>2</sup> round wire Armoured, FRLS	3278213	3606034.30		
	11 KV, 3- Core XLPE 300 mm <sup>2</sup> round wire Armoured, FRLS	2684006	2952406.60		
	11 KV, 3- Core XLPE 240 mm <sup>2</sup> round wire Armoured, FRLS	2263144	2489458.40		
	11 KV, 3- Core XLPE 150 mm <sup>2</sup> round wire Armoured, FRLS	1610081	1771089.10		
	11 KV, 3-Core XLPE 120 mm <sup>2</sup> round wire Armoured, FRLS	1435931	1579524.10		

Standard Estimate for laying of 1 Kms of 11kV XLPE, 185mm<sup>2</sup> (Double Circuit, Three Core ) Aluminium armoured cable unit

S No	Description	Unit	Quantity	Rate	Amount(in Rs)
A					
1	11kV, Three core 185 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS (one spare cable)	KMs	3.06	2068192.50	6328669
2	Straight Through Joints for cables	Kits	12	31659.10	379909
3	route marker	Nos	10	116.60	1166
4	warning Tap	Km	1	4288.90	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	6	15253.70	91522
6	Excavation in any type of soil including hard laterite soil	cums	715	593.29	424202
7	Back filling of available excavated earth	cums	605	218.57	132235
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	210	2904.00	609840
12	RCC protective cover of size 600 mm (width) x 250mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.44	293796
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	2	39023.60	78047
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip .25x3 mm	Nos	2	1802.90	3606
15	Reinstatement of roads {100 m x .7 m x 0.2 m thick} = 14 cums	cums	14	9744.90	136429
B	Total of A				8755336
C	GST @18% on (S No 1-5,11,12,14)				1388303
D	Total of A with GST (D = B + C)				10143640
E	Spares @3%				304309
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	385640
G	GST @18% on E				69415
H	Total H = D + E + F+ G				10903004
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				507182
J	Gross Total E + C + D				11410186

11 KV, Single core 120 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	557119	612830.90	End	3917
11 KV, Single core 150 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	612750	674025.00	End	4882
11 KV, Single core 240 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	885263	973789.30	End	6951
11 KV , Single core 300 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable , FRLS	1020713	1122784.30	End	7999
11 KV , Single core 400 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable, FRLS	1219856	1341841.60		
11 KV, Single core 630 mm <sup>2</sup> Aluminium round wire Armoured XLPE Cable ..	1779394	1957333.40		
strraight though Jointing Kit upto 185 sqmm	10805	11885.50		
strraight though Jointing Kit for 240 to 300 sqmm	12449	13693.90		
strraight though Jointing Kit for 400 sqmm	16173	17790.30		
strraight though Jointing Kit for 630 sqmm	19183	21101.30		

Note: All Cables shall be suitable for Effectively Earthed system.

Standard Estimate for laying 1Km Single Core 630mm<sup>2</sup> 3P4W LT underground cable

S No	Description	Unit	Qty	Rate	Amount (in Rs)
A					
1	630mm <sup>2</sup> Single Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(3-φ, 1N, 1 spare)	KMs	5.15	1564707.10	8058242
2	Straight Through Joints for cables	Kits	20	2251.70	45034
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	10	2071.30	20713
6	Excavation in any type of soil including hard laterite soil	cums	420	593.29	249182
7	Back filling of available excavated earth	cums	352.5	218.57	77046
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904.00	319440
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.44	293796
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	5	39023.60	195118
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3 mm	Nos	5	1802.90	9015
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				9681094
C	GST @18% on (S No 1-5,11,12,14)				1575305
D	<b>Total of A with GST (D = B + C)</b>				<b>11256399</b>
E	Spares @3%				337692
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	437585
G	GST @18% on E				78765
H	<b>Total H = D + E + F+ G</b>				<b>12110441</b>
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance) on c				562820
J	<b>Gross Total E = C + D</b>				<b>12673261</b>

Standard Estimate for laying 1 KM 630mm<sup>2</sup> 3½ Core 3P4W LT underground cable

S No	Description	Unit	Qty	Rate	Amount (in Rs)
A					
1	630mm <sup>2</sup> 3½ Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(3-Ø, 1N) (One Spare Cable)	KMs	2.06	5483500.00	11296010
2	Straight Through Joints for cables	Kits	8	7882.60	63061
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	4	7250.10	29000
6	Excavation in any type of soil including hard laterite soil	cums	420	593.29	249182
7	Back filling of available excavated earth	cums	375	218.57	81964
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	210	2904.00	609840
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	200	326.44	65288
13	Brick Masonry Chamber 900x900x1050mm with RCC top slab, Cast	job	5	39023.60	195118
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip 25x3	Nos	5	1802.90	9015
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				13011987
C	GST @18% on (S No 1-5,11,12,14)				2173980
D	Total of A with GST (D = B + C)				15185967
E	Spares @3%				455579
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	603883
G	GST @18% on E				108699
H	Total H = D + E + F+ G				16354129
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				759298
J	Gross Total E = C + D				17113427

Standard Estimate for laying 1KM 95mm<sup>2</sup> 2 Core 1P2W LT underground cable

S No	Description	Unit	Qty	Rate	Amount(in Rs)
A					
1	95mm <sup>2</sup> 2 Core, 1P2W Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type(1-Φ, 1N) (one cable spare)	KMs	2.06	581900.00	1198714
2	Straight Through Joints for cables	Kits	8	2411.20	19290
3	route marker	Nos	10	116.60	1166
4	warning Tap	Kms	1	4288.90	4289
5	Cable Termination Kits (indoor/outdoor)	Kits	4	2163.70	8655
6	Excavation in any type of soil including hard laterite soil	cums	300	593.29	177987
7	Back filling of available excavated earth	cums	270	218.57	59014
8	Sand for cushioning of HT underground cables	cums	67.5	3300.00	222750
9	Mechanical transport 30kms of sand	cums	67.5	479.60	32373
10	Head load 100 mtrs of sand	cums	67.5	244.49	16503
11	GI Pipe 150 mm dia with required no of collars for road crossing including termination points	mtr	110	2904.00	319440
12	RCC protective cover of size 300 mm (width) x 300mm (Length) x 60 mm (Thickness) for underground cables	mtr	900	326.44	293792
13	Brick Masonary Chamber 900x900x1050mm with RCC top slab, Cast Iron cover in CI Frame (38Kg)	job	5	39023.60	195118
14	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip, 25x3 mm	Nos	5	1802.90	9015
15	Reinstatement of roads (100 m x .7 m x 0.2 m thick) = 14 cums	cums	14	9744.90	136429
B	Total of A				2694534
C	GST @18% on (S No 1-5,11,12,14)				333785
D	<b>Total of A with GST (D = B + C)</b>				<b>3028319</b>
E	Spares @3%				90850
F	Erection Charges @2.5% (S.No 1-5,11,12,14)			2.50%	92718
G	GST @18% on E				16689
H	<b>Total H = D + E + F+ G</b>				<b>3228575</b>
I	Overheads @ 5% {1.0% T&P 0.5% Storage and Handling, 3% Contingency and safety equipments, 0.5%}				151416
J	<b>Gross Total E = C + D</b>				<b>3379991</b>

120mm <sup>2</sup> Two Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type	632000	695200
150mm <sup>2</sup> Two Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type	734000	807400
70 mm <sup>2</sup> Two Core Cable, 1.1kV Grade, Armoured, XLPE Insulated Stranded Conductor FRLS type	413000	454300

Note: All Cables shall be suitable for Effectively Earthed system.

## Standard Estimate for Sub Distribution Pillar Feeder for LT Underground Cable

S No	Description	Unit	Qty	Rate	Amount[in Rs]
A					
1	3 phase, 415V, 1no of 250 Amps incoming 3 TP MCCBs (Breaking 36KA) fitted with outgoing 03 No 100 Amps SP MCCBs, 1No.100Amps 3 pole MCCB for outgoing LT cables; Distribution feeder Pillar suitable for outdoor installation , made out of CRCA sheet painted through 7-tank process with PU painted Busbars 4P, Aluminium with heat shrinkable sleeves and adequate capacities complete with all accessories 4 way Distribution Feeder Pillar.	Nos	1	37162.40	37162
2	Support Galvanised angle frame and legs (50mm x 50 mm x 6 mm) for Distribution Feeder Pillar , leg height 1m with 0.3m in soil approx 7m@4.50Kg per mtr	Kgs	31.5	92.40	2632
3	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip.25x3 mm	Nos	1	1802.90	1639
4	Cement grouting for support angle legs	cum	0.5	6465.20	3233
B	Total of A				44666
C	GST @18% on S No (1,2,3)				7458
D	Total of A with GST (D = B + C)				52124
E	Spares @ 3%				1340
F	Erection Charges @10%				8933
G	GST @18% on F				1608
H	Total H = D + E + F + G				64005
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				2233
J	Gross Total I = G + H				66238
Note	Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the accumulated snow.				

Handwritten signatures and initials are present over the page number 121. The signatures include a large stylized 'W' at the top left, followed by a signature that looks like 'S. J. J. J.' and initials 'J. J.' below it. To the right, there is a large checkmark 'V', a small 'X', and the number '01' at the bottom right.

## Standard Estimate for Service Pillar Feeder for LT Underground Cable

S No	Description	Unit	Qty	Rate	Amount (inRs)
A					
1	1 phase 2 wire, 415V, 1nos of 100 Amps incoming SP MCCBs fitted with outgoing 04 No 32 Amps SP MCBS for Service Connections, Distribution Service Pillar suitable for outdoor installation , made out of CRCA sheet painted through 7-tank process with PU painted Busbars 2P, Aluminium with heat shrinkable sleeves and adequate capacities complete with all accessories 4 way Distribution Service Pillar.	Nos	1	13063.60	13064
2	Support Galvanised angle frame and legs (40mm x 40 mm x 3 mm) for Distribution Feeder Pillar with leg height 1m with 0.3m in soil approx 7m@1.8Kg per mtr	Kgs	12.6	92.40	1164
3	Earthing Complete by GI Pipe 40 mm 3 mtr long through GI Strip,25x3 mm	Nos	1	1802.90	1803
4	Cement grouting for support angle legs	cums	0.5	6465.20	3233
B	Total of A				19263
C	GST @18% on S No {1,2,3}				2886
D	Total of A with GST (D = B + C)				22149
E	Spares @ 3%				664
F	Erection Charges @10%				4430
G	GST @18% on F				797
H	Total H = D + E + F + G				28040
I	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				1402
J	Gross Total I = G + H				29442
Note	Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the accumulated snow.				

Standard Estimate 11kV HT metering CT and PT operated				
S No	Description	Unit	Qty	Rate
				Amount(in Rs)
1	11kV Pillar resistant metering cubicle for 3phase 4 wire metering system made of MS Sheet steel thickness not less than 2mm duly power coat painted suitable for indoor as well as outdoor as per the site requirement. The cubicle shall be painted through 7-tank process. The External dimensions should be adequate. Panel having two compartments upper Meter compartment and lower CT/PT compartment. Provided with synthetic or semi synthetic gasket firmly glued to the surface. Dust, weather and Vumen proof and shall comply degree of protection IP-65 Both the chambers having one sided hinged door arrangements. The metering panel shall be provided with two 4No MS channels of size 100 x 50 mm on the front and rear sides duly welded and 4No of lifting hooks. It should be possible to take meter reading manually, through CMR and computer without opening the LV chamber door.	No		
2	Single Phase, Single core, single ratio, Epoxy resin Cast Current Transformers suitable for 11kV, copper wound primary type with rated burden 5VA and accuracy class 0.5 or better and conforming to IS2705 (part-I & II) amended upto date. ISF shall be upto 5. The CT ratio shall be as under: i. 2.5 /5 for 25kVA DT ii. 5/5 for 63kVA DT iii. 7.5/5 for 100kVA DT iv. 15/5 for 200kVA DT v. 20/5 for 250kVA DT vi. 25/5 for 400kVA DT vii. 50/5 for 630kVA DT viii. 75/5 for 1000kVA DT			
3	11kV/ 110 V, Three phase epoxy resin cast PT with rated burden 15VA per phase and accuracy class 0.5 or better and conforming to IS-3156 (part-I&II) amended upto date with proper colour coded identification. PTs shall be of uniform insulating and withstand separate source 23kV pf for one minute.	1	1	92373
4	Bus Bar details: CTs bus bar:- 40x6 mm copper strip or adequate size. PTs bus bar: Copper wire 8 SWG or 30x0.6mm copper flat strip to connect PT terminal or adequate size duly insulated by monoplast tape	Job		
5	PVC Copper wire flexible multi-strand of required size for secondary connections for CT wiring the minimum wire size shall be 4 mm <sup>2</sup> (RYB) and for PT wiring minimum wire size shall be 2.5 mm <sup>2</sup> (RYB).			
6	Copper Lugs preferably ring type duly crimped for termination of wires and tapes			
7	Grounding bus of minimum 40mm copper, 25cm long fixed to the unit in HV chamber. The CTs, PT meter and 11kV Cable sheath shall be grounded to the bus through grounding wire (green) of min size 10mm <sup>2</sup> .			
8	3Ph3 Wire HT CT/PT operated Fully static Smart Tri-Vector Energy meters DCM5 Compliant Category 'C' with RS232 port for modem compatibility. 11kV/110V, Ph-Ph [3P,3W] meters for measurement of different electrical parameters including Active Energy (kWh/ MWh), Reactive Energy (kVarh/MVarh), Apparent Energy (kVAh/ MVAh) etc. [make I&T, Secure, ABB]			
9	Independent flexible PVC pipes for CT wiring and PT wiring of appropriate size from HT compartment to meter compartment			
10	Pedestal made out of MS Channel of size 75 x 40 mm or angle iron of size 65 x 65 x 5 mm, duly painted as per site requirement for mounting of metering panel including concrete foundation wherever required including cost of nuts and bolts			
11	3-Core 11 kV Aluminium cable XLPE armoured 35 mm <sup>2</sup> including cost of clamp for its fixing where ever required.	mtr	20	838.20
12	Cable termination kits suitable for 3 x 35 mm <sup>2</sup> XLPE Cable (indoor/outdoor)	Nos	4	5237.10
13	Earthing by way of 40 mm GI Pipe earthing : Job-includes , excavation, enhancement material and Main Hole Chamber (500x450x600) with frame and cover.	Job	2	7038.90
A	Total of A			144163
B	GST @ 18% on Sub Total A			25949
C	Total of A with GST			170113
D	Spares @ 3%			5103
E	Erection Charges @10%			34023
F	GST @ 18% on Sub Total B			6124
G	Total D + E + F			215363
H	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% insurance)			8506
I	Gross Total H = D + E + F			223868
Nut	Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the accumulated snow.			

Page 6 (2)


 A series of handwritten signatures and initials are present at the bottom right of the page. The signatures include 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z', and '01'. There are also some smaller marks like an asterisk (\*).

## Standard Estimate 33kV HT metering CT and PT operated

S No	Description	Unit	QTY	Rate	Amount(in Rs)
A	33kV CT/PT Combined Unit, 3-phase, 50 Hz, ONAN cooled, outdoor type. The combined unit, CTs and PTs shall be as per below specifications. The CT ratio shall be as under: I. 20/5 for 500kVA and 1 MVA, 33/11kV Transformers II. 60/5 for 1.5, 2 and 3.15 MVA, 33/11kV Transformers III. 125/5 for 4 MVA, 5 MVA, 6.3 MVA, 33/11kV Transformers IV. 200/5 for 10MVA, 33/11 kV Transformers The rated burden of CT shall be 7VA The PT shall be 33 kv/110 volts / v3, Three phase PT with rated burden 20VA per phase with proper colour coded identification. PTs shall be of uniform insulating				
1	Metering cubicle for 3phase 4 wire metering system suitable for 3 phase, HT, tri-vector meter with sealing and locking facility made of MS Sheet steel thickness not less than 2mm duly power coat painted suitable for indoor as well as outdoor as per the site requirement, The cubicle shall be painted through 7-tank process. The External dimensions should be adequate. Provided with synthetic or semi synthetic gasket firmly glued to the surface, Dust, weather and Vermin proof and shall comply degree of protection IP 65 both the chambers having one sided hinged door arrangements. The panel shall be provided with two No MS channels of size 100 x 50 mm on the front and rear sides duly welded and 4 No of lifting hooks. It should be possible to take meter reading manually, through CMRI and computer without opening door.	Job	1	156143.90	156144
4	MS Channels for mounting CT PT Combined Units with nuts and bolts (size 100 x 50 x 5)				
5	3Ph4 Wire HT CT/PT operated Fully static Smart Tri-Vector Energy meters DLMS Compliant Category 'C' with RS232 port . 33kV/V3 /110V/V3, Ph-N (3P, 4W) meters for measurement of different electrical parameters including Active Energy (kWh/ MWh), Reactive Energy (kVArh/MVArh), Apparent Energy (kVAh/ MVAh) etc. (make				
6	PVC Copper wire flexible multi-strand of required size for secondary connections for CT wiring the minimum wire size shall be 4 mm <sup>2</sup> (RYB) and for PT wiring minimum				
7	Copper Lugs preferably ring type duly crimped for termination of wires and tapes				
8	ACSR Jumpers with hardware fittings like ACSR to CT/PT unit bush clamp, other hardware	Lot	1	804.10	804
9	Earthing by way of 40 mm GI Pipe earthing . Job includes , excavation, enhancement material and Main Hole Chamber (500x450x600) with frame and	Job	1	7038.90	7039
A	Total of A				163987
	GST @ 18% on Sub Total A				29518
B	Total of A with GST				193505
	Spares @ 3%				5805
C	Erection Charges @10% (S.No 1-5,11,12) with 18% GST				38701
	GST @ 18% on Sub Total B				6966
D	Total D = B+C				244977
E	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety				9675
F	Gross Total F = D + E				254652
Note	Suitable support to be provided in snow bound areas as per site requirement so that				

## Standard Estimate 33KV HT metering CT and PT operated

S No	Description	Unit	QTY	Rate	Amount(in Rs)
A	33kV CT/PT Combined Unit, 3-phase, 50 Hz, ONAN cooled, outdoor type. The combined unit, CTs and PTs shall be as per below specifications. The CT ratio shall be as under: I. 20/5 for 500kVA and 1 MVA, 33/11kV Transformers II. 60/5 for 1.5, 2 and 3.15 MVA, 33/11kV Transformers III. 125/5 for 4 MVA, 5 MVA, 6.3 MVA, 33/11kV Transformers IV. 200/5 for 10MVA, 33/11 kV Transformers The rated burden of CT shall be 7VA The PT shall be 33 kv/110 volts / v3, Three phase PT with rated burden 20VA per phase with proper colour coded identification. PTs shall be of uniform insulating				
3	Metering cubicle for 3phase 4 wire metering system suitable for 3 phase, HT, tri-vector meter with sealing and locking facility made of MS Sheet steel thickness not less than 2mm duly power coat painted suitable for indoor as well as outdoor as per the site requirement. The cubicle shall be painted through 7-tank process. The External dimensions should be adequate. Provided with synthetic or semi synthetic gasket firmly glued to the surface. Dust, weather and Vermin proof and shall comply degree of protection IP 65 both the chambers having one sided hinged door arrangements. The panel shall be provided with two No M5 channels of size 100 x 50 mm on the front and rear sides duly welded and 4 No of lifting hooks. It should be possible to take meter reading manually, through CMRI and computer without opening door.	Job	1	156143.90	156144
4	MS Channels for mounting CT-PT Combined Units with nuts and bolts (size 100 x 50 x 5)				
5	3Ph4 Wire HT CT/PT operated Fully static Smart Tri-Vector Energymeters DLMS Compliant Category 'C' with RS232 port . 33kV/V3/110V/V3, Ph-N (3P, 4W) meters for measurement of different electrical parameters including Active Energy (kWh/ MWh), Reactive Energy (kVArh/MVArh), Apparent Energy (kVAh/ MVAh) etc. (make				
6	PVC Copper wire flexible multi-strand of required size for secondary connections for CT wiring the minimum wire size shall be 4 mm <sup>2</sup> (RYB) and for PT wiring minimum				
7	Copper Lugs preferably ring type duly crimped for termination of wires and tapes				
8	ACSR Jumpers with hardware fittings like ACSR to CT/PT unit bush clamp, other hardwares	Lot	1	804.10	804
9	Earthing by way of 40 mm GI Pipe earthing . Job includes , excavation, enhancement material and Main Hole Chamber (500x450x600) with frame and	Job	1	7038.90	7039
A	Total of A				163987
	GST @ 18% on Sub Total A				29518
B	Total of A with GST				193505
	Spares @ 3%				5805
C	Erection Charges @10% (S.No 1-5,11,12) with 18% GST				38701
	GST @ 18% on Sub Total B				6966
D	Total D = B+C				244977
E	Overheads @ 5% (1.0% T&P 0.5% Storage and Handling , 3% Contingency and safety				9675
F	Gross Total F = D + E				254652
Note	Suitable support to be provided in snow bound areas as per site requirement so that				

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Estimate for Compact Packaged substation					
S.No	Description	Unit	Qty	Rate	Amount (in Rs)
1	Packaged Substation - 11kV Outdoor type Package Sub-Station consisting of 11/0.433kV, 400kVA Oil type transformer, MV panel, LT panel inside GI sheet steel /Metallised Epoxy enclosure with all interconnections, fully type tested as per the IEC-1330 complete in all respect each consisting of following items & as per detailed technical specifications: A) 3 way Non - Extensible RMU (breaking capacity 25kA for on second) with 2 no. 630 A load break switch and 1 no. 200 A tee off with SF6 circuit breaker / VCB self powered with O/C + E.F. Relay, M.V Metering arrangement with digital electronic meter, C.T's etc. to complete as required to entire satisfaction of Engineer-in-charge. B) 1 no. 11 kV / 433V, 400 KVA three phase,Copper Wound Level-2 DYN11, +5% to -5% in steps of 2.5% at line end of HT side , off lead tap, oil cooled type transformer with Cu winding an standard fittings. C) 1 No. 433V, 800A LT devices with PVC sleeved Aluminium busbars. D) One no. 4pole 630A, 25kA MCCB with microprocessor Based Release.	No	1	3390750.00	3390750
2	Excavation in any type of soil including hard laterite soil.	cub mtr	20	593.29	11866
3	Refilling of excavated soil	cub mtr	8	218.57	1749
4	Reinforced cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic or basaltic stone aggregate 40 m nominal size for foundations) icuding plastering	Cu.mtr	13.125	8631.15	113284
5	wire mesh jali around the Packaged Sub-Station of size upto 8'x4' made out of wire mesh 1"x1"square including fixing in cement 1:2:4 including welding cutting etc. Complete in all respect	lumsum	1	64322.50	64323
6	Earthing of Substation --Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 25 mmx3 mm for connection of substation body as per IS-2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	No.	6	7828.70	46972
	Total Material Cost				3628943
	GST @18% on Material Cost (excluding Civil works)				630368
	Total Material Cost with GST				4259311
	Spares @ 3%				127779
	Labour charges (excluding Civil works) for Normal Terrain @ 7%				578538
	GST @18% on Labour Charges (excluding Civil works)				104137
	Overheads @ 5% (1.5% T&P, 3% Contingency and safety equipments,0 .5% Insurance)				212966
	<b>Total Amount</b>				<b>5282730</b>
	11 /0.433,100 KVA substation				
	11 /0.433,100 KVA substation Aliminium Wound Level-2				1103122.9
	11 /0.433,200 KVA substation Aliminium Wound Level-2				1217885.1
	11 /0.433,250 KVA substation Copper Wound Level-2				2958750
	111 /0.433,630 KVA substation Copper Wound Level-2				3447000
Note: Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the accumulated snow.					

S.No	Description	unit	3 way type,two isolators			4 way type,two isolators			5 way type,two isolators		
			Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	11 kV, 1 core(4 runs) 185sq.mm, Al conductor, XLPE, insulated,	Mtrs.	20	807.40	16148	40	807.40	32296	60	807.40	48444
2	11 kV, Ring Main Unit ,SF6 Insulated, out-door type, Extensible	No	1	564914.90	564915	1	707250.00	707250	1	1018920.00	1018920
3	11kV 1 core indoor terminating kit to be used with cables - 185	set	1	2739.00	2739	2	2739.00	5478	3	2739.00	8217
4	11kV 1 core indoor outdoor terminating kit to be used with cables -	set	1	3917.10	3917	2	3917.10	7834	3	3917.10	11751
5	Cable route Markers..	No.	3	116.60	350	6	116.60	700	9	116.60	1049
6	Excavation in any type of soil including hard laterite soil.	cub mtr	12.49	593.29	7410	23.29	593.29	13818	34.09	593.29	20225
7	Refilling of excavated soil	cub mtr	9.5	218.57	2076	19	218.57	4153	28.5	218.57	6229
8	Sand for cushioning of the cables in the trench.	cub mtr	1.72	3300.00	5676	3.44	3300.00	11352	5.16	3300.00	17028
9	Cement Tiles of size 300mm length x250mm width x 37mm thick	No.	18	125.40	2257	36	125.40	4514	54	125.40	6772
10	Earthing of RMU –Excavation of earth pit of dia 650 mm & depth	set	3	7828.70	23486	4	7828.70	31315	5	7828.70	39144
11	cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic	Cu.mtr	2.24	6465.20	14482	6.72	6465.20	43446	8.96	6465.20	57928
12	Centering and shuttering including strutttings, propping etc and	Sq.mtr	14.25	631.24	8995	17.25	631.24	10889	23.25	631.24	14676
13	15 mm cement plaster 1:4 (1 - cement: 4 - fine sand) for	Sq.mtr	10.7	330.50	3536	13.7	330.50	4528	16.7	330.50	5519
14	Constructing masonry chamber 600x600x900mm.inside, in brick	No.	1	26436.30	26436	2	26436.30	52873	3	26436.30	79309
15	Wire mesh fencing around the packaged RMU of size upto 8'x4' made out of wire mesh 1"x1" square including fixing in cement	lumsum	1	32160.70	32161	1	32160.70	32161	1	32160.70	32161
<b>Total Material Cost</b>					714585			962606			1367373
<b>GST @18% on Material Cost (excluding Civil works)</b>					121034			157396			224238
<b>Total Material Cost with GST</b>					835619			1120001			1591611
<b>Spares @3%</b>					25069			33600			47748
Labour charges (excluding Civil works) for Normal Terrain @ 7%			--	--	47069	--	--	61209	--	--	87204
GST @18% on Labour Charges (excluding Civil works)					4512			10556			15026
Overheads @ 5% {1.5% T&P, 3% Contingency and safety}			--	--	41781	--	--	56000	--	--	79581
<b>Total Amount</b>			--	--	954049	--	--	1281367	--	--	1821169
11 kV, Ring Main Unit , out-door type, Non-Extensible					461441						
11 kV, Ring Main Unit , out-door type, Non-Extensible					674020						
11 kV, Ring Main Unit , out-door type, Non-Extensible					886867						

Note: The volume of cement concrete foundation may be increased as per site condition.

Note: Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the

Standard Estimate for providing RMU alongwith out going cable for Recieving Substation connection at 33 kV level					
S.No	Description	Unit	3 way type,two isolators and one Circuit breaker		
			Qty	Rate	Amt (in Rs)
1	33 kV, 1 core(4 runs) 185sq.mm, Al conductor,XLPE, insulated, armoured cable (from the RMU to Recieving Substation)	Mtrs	20	1249	24970
2	33kV RING MAIN UNIT : 3 way Out-poor type RMU,SF6 insulated, extensible type, at 33kV system volatge and breaking capacity 25kA for one second,with SF6 circuit breaker / VCB self powered with O/C + E/F Relay system comprising of a) One (1) Nos. 33kV, 630 Amp. motorized Isolators including earthing switches with making capacity 62.5kA, having mechanical ON/OFF b) Two (2) No. 33kV, 200Amp motorized, spring operated, Circuit Breakers (CB) with earthing switches c) Cu Bus - Bar of 630 Amp. rating d) One (1) No. Numerical Aux. self powered relay having non-directional O/C and E/F protection (for each Circuit Breaker feeder). Relay should have minimum 7-DI & 8- DO. The relay shall also interface via an RS 232/485 port in order to send, as a minimum, real-time readings using the MODBUS	No	1	3626154.66	3626155
3	33 KV Sigle core indoor terminating kit to be used with cables - 185 sq.mm.	set	1	6672.60	6673
4	33 KV Sigle core outdoor terminating kit to be used with cables - 185 sq.mm.	set	1	9372.00	9372
5	Cable route Markers,	No.	3	116.60	350
6	Excavation in any type of soil including hard laterite soil.	cub mtr	12.49	593.29	7410
7	Refilling of excavated soil	cub mtr	9.5	218.57	2076
8	Sand for cushioning of the cables in the trench.	cub mtr	1.72	3300.00	5676
9	Cement Tiles of size 300mm length x250mm width x 37mm thick as a protective cover for underground cables.	No.	25	125.40	3135
10	Earthing of RMU --Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239.GI Strip for neutral earthing of size 75 mmx10 mm & 50 mmx6 mm for connection of rmu body as per IS 2629/85, GI nuts & bolts,refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	set	3	7828.70	23486
12	Cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic or basaltic stone aggregate 40 m nominal size for foundations)	Cu.mtr	2.24	6465.20	14482
13	Centering and shuttering including struttlings, propping etc and removal of formwork,	Sq.mtr	14.25	631.24	8995
14	15 mm cement plaster 1:4 (1 - cement: 4 -fine sand) for foundations.	Sq.mtr	10.7	330.50	3536
15	Wire mesh boundary fencing around the RMU	lumsum	1	24033.00	24033
Total Material Cost					
GST @18% on Material Cost (excluding Civil works)					
Total Material Cost with GST					
Spares @3%					
Labour charges (excluding Civil works) for Normal Terrain @ 7%					
GST @18% on Labour Charges (excluding Civil works)					
Overheads @ 5% {1.5% T&P, 3% Contingency and safety equipments,0}					
Total Amount					

Note: The volume of cement concrete foundation may be increased as per site condition,  
 Note: Suitable support to be provided in snow bound areas as per site requirement so that

## Estimate for 250 KVA DG Set substation

S.No	Description	Unit	Qty	Rate	Amount (in Rs)
1	250 KVA DG Set complete with AMF Pannel	No	1	2185945.30	2185945
2	Excavation in any type of soil including hard laterite soil.	CUM	63	593.29	37377
3	PCC in 1:4:8	CUM	5.916	5399.02	31941
4	Cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded	CUM	34.08	6465.20	220334
5	15 MM Plaster	SD Mtre	35.76	330.50	11819
6	Single core 150 sq MM XLPE 1.1 KV, 2 Runs per phase ( 40 Mtr per phase per Run )	RM	320	420.20	134464
7	Earthing of DG Set -- Excavation of earth pit of dia 650 mm & depth 3000 mm, installation of Earthing pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as Per IS 1239, GI Strip for neutral earthing of size 25 mmx3 mm for connection of substation body as per IS 2629/85, GI nuts & bolts, refilled with earth enhancement materials and earth Chamber made of brick masonry with RCC slab cover.	No.	4	7828.70	31315
	Total Material Cost				2653195
	GST @18% on Material Cost (excluding Civil works)				477575
	<b>Total Material Cost with GST</b>				<b>3130770</b>
	Spares @ 3%				93923
	Labour charges (excluding Civil works) for Normal Terrain @ 7%				438308
	GST @18% on Labour Charges (excluding Civil works)				78895
	Overheads @ 5% (1.5% T&P, 3% Contingency and safety equipments, 0.5% Insurance)				156538
	<b>Total Amount</b>				<b>3898434</b>
	62.5 KVA DG Set with AMF Pannel			731597	804756.7
	100 KVA DG Set with AMF Pannel			1028970	1131867
	125KVA DG Set with AMF Pannel			1072711	1179982.1
	200 KVA DG Set with AMF Pannel			1631001	1794101.1
	320 KVA DG Set with AMF Pannel			2253403	2478743.3
	380KVA DG Set with AMF Pannel			2962466	3258712.6
	400KVA DG Set with AMF Pannel			3096149	3405763.9

Note:

Suitable support to be provided in snow bound areas as per site requirement so that cubicle is protected from the accumulated snow.

Note: The volume of cement concrete foundation may be increased as per site condition.

<u>Material Cost of Double Pole Structure on 11 kV line for installation of Auto Voltage Booster/ Auto Line Sectionalizer</u>					
S.N.	Item	Qty	Unit	Rate FY 2022	Cost
1	Steel Tubular poles 9 mtr long	2	No.	15028.20	30056
2	Cross Arm: [Channel Iron (100x50x6 m), (Length 2400+200 m)]	4	No.	1549.90	6200
3	Knee Bracing: [Angle Iron (50x50x6 m), (Length 2x750 m)]	2	m	227.70	455
4	Channel Iron (100x50x6 m), (Length 2x 980 m)	2	m	584.10	1168
5	11 kV Strain Insulators complete with fittings	6	No.	1524.60	9148
6	Stay set complete with guy trip	5	Set	936.10	4681
7	Earthing Set complete	2	Set	3000.80	6002
8	Danger plate	2	No.	139.70	279
9	Barbed wire	8	Kg	78.10	625
10	MS Half clamps with nuts & bolts	2	No.	166.10	332
11	MS Full clamps with nuts & bolts	6	No.	287.10	1723
12	Set of Jumpers with PG clamps( each set of 3 no.)	2	Set	454.30	909
13	Total Erection Charges for 11 kV Auto voltage Booster/Sectionalizer/ Auto				61577
14	Say Rs.				128290
15	GST @18% on Material Cost (excluding Civil works)				23092
16	<b>Total Material Cost with GST</b>				151382
17	Labour charges for Normal Terrain @ 7%				21194
18	GST @18% on Labour Charges (excluding Civil works)				3815
19	Overheads @ 5% (1.5% T&P, 3% Contingency and safety equipments,0 .5% Insurance)				7569
20	<b>Total Amount</b>				183960

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 66 KV LINE ON 13 METER ST POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 150 METERS**

S. No	PARTICULARS	Amount
1	Net cost of Material	1190542
2	Labour charges for Normal Terrain @ 10%	238108
3	GST @18% on Labour Charges for Normal Terrain	42860
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	309065
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	59527
6	Total Amount for Normal Terrain	1531037
7	Total Amount for Hilly Terrain /Congested areas	1559134

COST OF MATERIAL FOR ERECTION OF 1 KM OF 66 KV LINE ON 13 METER ST POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 150 METERS					
S.No	PARTICULARS	ST Poles			
		Unit	Qty	Rate	Amount
1	13 Mtr. Long Pole (ST-410-SP69)	Nos	14	28523.00	399322
2	GI Channel /Angle X-arm including clamps	Kg	872	92.40	80573
3	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036
4	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	6	305.80	1835
5	11kV Polymeric composite Disc Insulator 12kV,min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos.	144	792.00	114048
6	Suspension Fitting	Nos	18	1114.30	20057
7	Tension Fitting	Nos.	6	1114.30	6686
8	Galvanized Nuts and Bolts	kg	14	103.84	1454
9	Danger Plates with Clamps	Nos.	14	111.10	1555
10	Anti-Climbing Device with Clamps	Nos.	14	233.20	3265
11	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI Strip.	Nos.	14	1802.90	25241
12	Red Oxide	Ltr.	14	370.70	5190
13	Aluminium Paint	Ltr.	14	370.70	5190
14	Cement bottoming 1:2:4 mix as per REC standards .7cum /pole	Nos.	14	4525.40	63356
15	Aluminium Jointing Sleeves	Nos.	3	130.17	391
16	Galvanised Stay Set with 50 x 8 mm stay clamp, guy insulator[2Nos.], anchor plate (300x 300 x 8 mm), nut-bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4.00 mm dia GI stranded wire complete	Nos.	4	4997.30	19989
17	Guard netting	Span	2	6873.90	13748
18	Total Material Cost				1008934
19	GST@ 18% on Material Cost				181608
20	Total Material Cost				1190542
	Cost of 150 mm <sup>2</sup> ACSR Conductor			162922	
	Cost of 200 mm <sup>2</sup> ACSR Conductor			211989	
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.				

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 66 KV LINE ON 13 METER ST POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 75 METERS**

S. No	PARTICULARS	Amount
1	Net cost of Material	1943793
2	Labour charges for Normal Terrain @ 10%	388759
3	GST @18% on Labour Charges for Normal Terrain	69977
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	504609
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	97190
6.	Total Amount for Normal Terrain	2499718
7	Total Amount for Hilly Terrain /Congested areas	2499718

COST OF MATERIAL FOR ERECTION OF 1 KM OF 66 KV LINE ON 13 METER ST POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH HALF SPAN OF 75 METERS					
S.No	PARTICULARS	ST Poles			
		Unit	Qty	Rate	Amount
1	13 Mtr. Long Pole (ST-410- SP69)	Nos	26	28523.00	741598
2	GI Channel /Angle X-arm including clamps	Kg	1592	92.40	147101
3	100 mm <sup>2</sup> ACSR Conductor	Kg	3.09	79946.90	247036
4	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Kg	6	305.80	1835
5	11kV Polymeric composite Disc Insulator 12kV,min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	252	792.00	199584
6	Suspension Fitting	Nos	36	1114.30	40115
7	Tension Fitting	Nos	6	1114.30	6686
8	Galvanized Nuts and Bolts	Nos	26	103.84	2700
9	Danger Plates with Clamps	kg	26	111.10	2889
10	Anti-Climbing Device with Clamps	Nos	26	233.20	6063
11	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI Strip.	Nos	26	1802.90	46875
12	Red Oxide	Ltr.	26	370.70	9638
13	Aluminium Paint	Ltr.	26	370.70	9638
14	Cement bottoming 1:2:4 mix as per REC standards .7cum/pole	Nos	26	4525.40	117660
15	Aluminium Jointing Sleeves	Nos	3	130.17	391
16	Galvanised Stay Set with 50 x 8 mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4.00 mm dia GI stranded wire complete	Nos	8	4997.30	39978
17	Guard netting	Span	4	6873.90	27496
18	Total Material Cost				1647282
19	GST @ 18% on Material Cost				296511
20	<b>Total Material Cost with GST</b>	Nos			1943793
	Cost of 150 mm <sup>2</sup> ACSR Conductor			162922	1647282
	Cost of 200 mm <sup>2</sup> ACSR Conductor			211989	
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.				

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 66 KV LINE ON 11 METER ST POLES , 100 MM<sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 150 METERS**

S. No	PARTICULARS	Amount
1	Net cost of Material	1086671
2	Labour charges for Normal Terrain @ 10% (GST included @18%)	217334
3	GST @18% on Labour Charges for Normal Terrain	39120
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	282100
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	54334
6	<b>Total Amount for Normal Terrain</b>	<b>1397459</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>1397459</b>

COST OF MATERIAL FOR ERECTION OF 1 KM OF 66 kV LINE ON 11 METER ST POLES, 100 MM <sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 150 METERS					
S.No	PARTICULARS	ST Poles			
		Unit	Qty	Rate	Amount
1	11 Mtr. Long Pole( ST-410 SP56)	Nos	14	22235.40	311296
2	GI Channel /Angle X-arm including clamps	Kg	872	92.40	80573
3	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036
4	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	6	305.80	1835
5	11kV Polymeric composite Disc Insulator 12kV,min failing load 45kN, Lightning Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	144	792.00	114048
6	Suspension Fitting	Nos	18	1114.30	20057
7	Tension Fitting	Nos	6	1114.30	6686
8	Galvanized Nuts and Bolts	kg	14	103.84	1454
9	Danger Plates with Clamps	Nos	14	111.10	1555
10	Anti-Climbing Device with Clamps	Nos	14	233.20	3265
11	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI Strip.	Nos	14	1802.90	25241
12	Red Oxide	Ltr.	14	370.70	5190
13	Aluminium Paint	Ltr.	14	370.70	5190
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos	14	4525.40	63356
15	Aluminium Jointing Sleeves	Nos	3	130.17	391
16	Galvanised Stay Set with 50 x 8 mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4.00 mm dia GI stranded wire complete.	Nos	4	4997.30	19989
17	Guard netting	Span	2	6873.90	13748
18	Total Material Cost				920908
19	GST @18% on Material Cost				165763
20	Total Material Cost				1086671
	Cost of 150 mm <sup>2</sup> ACSR Conductor			162922	
	Cost of 200 mm <sup>2</sup> ACSR Conductor			211989	
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.				

**ABSTRACT OF COST FOR ERECTION OF 1 KM OF 66 KV LINE ON 11 METER ST POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR  
WITH HALF SPAN OF 75 METERS**

S. No	PARTICULARS	Amount
1	Net cost of Material	1745203
2	Labour charges for Normal Terrain @ 10%	174520
3	GST @18% on Labour Charges for Normal Terrain	31414
4	Labour charges for Hilly Terrain/Congested areas with 10% appreciation on labour charges (GST included @18%)	147724
5	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	87260
6	<b>Total Amount for Normal Terrain</b>	<b>2038397</b>
7	<b>Total Amount for Hilly Terrain /Congested areas</b>	<b>1342713</b>

**COST OF MATERIAL FOR ERECTION OF 1 KM OF 66 KV LINE ON 11 METER ST POLES, 100 MM<sup>2</sup> ACSR CONDUCTOR WITH STANDARD SPAN OF 75 METERS**

S.No	PARTICULARS	ST Poles			
		Unit	Qty	Rate	Amount
1	11 Mtr. Long Pole ( ST-410 SP56)	Nos	26	22235.40	578120
2	GI Channel /Angle X-arm including clamps	Kg	1592	92.40	147101
3	100 mm <sup>2</sup> ACSR Conductor	km	3.09	79946.90	247036
4	PG Clamps for 100 mm <sup>2</sup> ACSR Conductor	Nos	6	305.80	1835
5	11kV Polymeric composite Disc Insulator 12kV,min failing load 45kN, Lighting Impulse 75kV Positive and 80kV Negative, creepage distance 320mm	Nos	252	792.00	199584
6	Suspension Fitting	Nos	36	1114.30	40115
7	Tension Fitting	Nos	6	1114.30	6686
8	Galvanized Nuts and Bolts	kg	26	103.84	2700
9	Danger Plates with Clamps	Nos	26	111.10	2889
10	Anti-Climbing Device with Clamps	Nos	26	233.20	5063
11	Earthing Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through GI Strip.	Nos	26	1802.90	46875
12	Red Oxide	Ltr.	26	370.70	9638
13	Aluminium Paint	Ltr.	13	370.70	4819
14	Cement bottoming 1:2:4 mix as per REC standards .6cum/pole	Nos	26	4525.40	117660
15	Aluminium Jointing Sleeves	Nos	3	130.17	391
16	Galvanised Stay Set with 50 x 8 mm stay clamp, guy insulator(2Nos.), anchor plate (300x 300 x 8 mm), nut- bolts, 2 Nos turn-buckles, 1.8m long, 20 mm diameter solid GS stay rod & 7/4.00 mm dia GI stranded wire complete	Nos	8	4997.30	39978
17	Guard netting	Span	4	6873.90	27496
18	Total Material Cost				1478986
19	GST @18% on Material Cost				266217
20	<b>Total Material Cost with GST</b>				<b>1745203</b>
	Cost of 150 mm <sup>2</sup> ACSR Conductor			133898	
	Cost of 200 mm <sup>2</sup> ACSR Conductor			172034	
Note:-	Depending upon the site conditions where reduction of spans is necessitated, the number of poles may be enhanced subject to maximum of 30% increase.				

## ABSTRACT OF COST FOR 66/11 KV SUBSTATIONS

Amount in Rs. Lacs

S. No	ITEM	1 X 3.15 MVA	1 X 5 MVA	1 X 6.3 MVA	1 X 10 MVA	1 X 20 MVA
1	66 KV LINE BAY	30.95	30.95	30.95	30.95	30.95
2	66 KV TRANSFORMER BAY	28.74	28.74	28.74	28.74	28.74
3	66/11 KV POWER TRANSFORMER	52.47	74.27	89.11	121.98	203.70
4	11 KV SWITCHGEAR AND AUXILIARIES	27.28	27.28	34.36	42.25	59.10
5	COMMON MISCELLANEOUS WORKS	112.87	112.87	112.87	112.87	112.87
6	COMMON MISCELLANEOUS EQUIPMENTS	4.48	4.48	4.48	4.48	4.48
7	11 KV CAPACITOR BANK	9.24	13.67	18.22	27.34	54.67
8	TOTAL COST OF 66/11 KV SUBSTATION	266.02	292.24	318.73	368.59	494.50

COST FOR 66 KV LINE BAY OF SINGLE BUS SCHEME					
S.No	PARTICULARS	Unit	Qty	Rate	Amount
1	<b>SUB-STATION MAIN EQUIPMENT</b>				
i)	72.5 kV, 1250 A, 31.5 kA, 3 phase Outdoor Type SF6 Circuit Breaker alongwith support structure, marshalling box and required accessories complete.	No.	1	606441	606441
ii)	66 KV ,630 Amp, 25 kA,duoble break centre rotating type (DBCR) with Earthing Blade,G.O Isolator alongwith support insulators, operating mechanism, base channel down pipe & all required accessories complete	No.	1	154930	154930
iii)	66 KV Current Transformer (66 KV, Multi Ratio Multi Core, Outdoor)	Set	1	153534	153534
iv)	66 KV Voltage Transformer (66 KV/110 V, Multi-Core, Outdoor)	Set	1	160525	160525
v)	Gapless Surge arrester,60 kV,10 kA, Lightening Arrestors LA with Polymer housing Stn Type	Set	1	100980	100980
vi)	66 KV C&R Panel along with O/C, E/F relays (IEC61850, mimic diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port	No.	1	263161	263161
vii)	66 KV Post Insulator Polymer 72.5KV,350kV Impulse, creepage distance 2248m	No.	3	1936	5808
	Total				1445378
2	<b>STRUCTURES</b>				
i)	Galvanised Steel Structures	MT	8	77177	617417
ii)	Galvanised Nuts & Bolts	MT	0.4	81035	32414
	Total				649831
3	<b>CONTROL CABLES</b>				
i)	12 Core 2.5 mm <sup>2</sup> Control( Cu conductor), 1.1 KV Grade PVC Insulated, steel armoured , stranded conductor FRLS type .	M	60	251	15048
ii)	4 Core 2.5 mm <sup>2</sup> Control( Cu conductor), 1.1 KV Grade PVC Insulated, steel armoured , stranded conductor FRLS type .	M	360	103	37274
iii)	2 Core 2.5 mm <sup>2</sup> Control( Cu conductor), 1.1 KV Grade PVC Insulated, steel armoured , stranded conductor FRLS type .	M	100	66	6600
iv)	Lugs, Ferrules etc.	Item	LS	969	969
	Total				59841
4	<b>CONDUCTOR &amp; HARDWARE</b>				
i)	200 mm <sup>2</sup> ACSR Conductor Panther	M	100	189	18920
ii)	T Clamps	Nos.	24	678	16262
iii)	Single Tension Fittings	Nos.	9	1452	13068
iv)	66 KV Post Insulator Polymer 72.5KV,350kV Impulse, creepage distance 2248m	Nos.	18	662	11920
v)	Earth wire 7/4 mm sq.	Kg	58	52	2999
vi)	GI flat for earthing 50x6 mm	Kg	125	77	9625
VII)	PG Clamps	Nos.	12	436	5227
	Total				78021
5	Total Material Cost				2233071
6	GST @ 18% on Material Cost				401953
7	Total Material Cost with GST				2635023
8	Spares @ 3%				79051
9	Labour charges @ 4%				210802
10	GST @18% on Labour Charges				37964
11	Overheads @ 5% (1.0% T&P,0.5% Storage and Handling ,3% Contingency and safety equipments, 0.5% Insurance)				131751
12	Total Amount				3094571

COST FOR 66 KV TRANSFORMER BAY OF SINGLE BUS SCHEME					
S.No.	PARTICULARS	Unit	Qty	Rate	Amount
1	SUB-STATION MAIN EQUIPMENT				
i)	72.5 kV, 1250 A, 31.5 kA, 3 phase Outdoor Type SF6 Circuit Breaker (alumina support structure, marshalling box and required accessories complete)	Nos.	1	606441	606441
ii)	66 KV ,630 Amp, 25 KA, isolable break-centre rotating type DBCR, without Earthing blade,G-O isolator alongwith support insulators, operating mechanism, base channel drain pipe & all required accessories complete	Nos.	2	154980	309960
iii)	66 KV Current Transformer (66 KV, Multi Ratio Multi Core, Outdoor)	Set	1	153534	153534
iv)	Gaijent Surge arrester, 66 KV, 10 kA, Lightning Arrestors LR with Polymer housing	Set	1	100980	100980
v)	66 KV C&A Panel along with G/C, E/T relays, and differential relays (IEC61850), mimic diagram, Voltmeter, Ammeter, Annunciator Windows with annunciation relays, 3-phase Tri-vector meter -5 Amps, DLMS Compliant with RS-485 port	Nos.	1	339418	339418
vi)	66 KV Post Insulator Polymer 72.5kV, 350kV Impulse, creepage distance 2248m	Nos.	3	1936	5808
	Total				1516040
2	STRUCTURES				
i)	Steel Structures	MTR	6	77177	463003
ii)	Rods & Bolts of various	MTR	0.3	81015	24300
	Total				487303
3	CONTROL CABLES				
i)	32 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	M	60	251	15048
ii)	6 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	M	300	148	43200
iii)	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 1.1 KV Grade, ISI, FRIS.	M	60	65	3900
iv)	Loggs, Ferrules etc.	Item	1.5	965	965
	Total				63207
4	CONDUCTOR & HARDWARE				
i)	200 mm <sup>2</sup> ACSR Conductor Panther	M	100	189	18900
ii)	T Clamps	Nos.	3	678	2034
	Total				20954
5	Total Material Cost				2087573
6	GST @ 18% on Material Cost				375763
7	Total Material Cost with GST				2463336
8	Spares @ 3%				73900
9	Labour charges @ 4%				197057
10	GST @18% on Labour Charges				35472
11	Overheads @ 5% (1.0% TRP,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)				104379
12	Total Amount				2874153

**COST OF POWER TRANSFORMER FOR 66/11KV SUBSTATION**  
Amount in Rs. Lacs

S.No	PARTICULARS	Unit	Qty	3.15 MVA		5 MVA		6.3 MVA		10 MVA		20 MVA	
				Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
1	66/11kV, ONAN, Copper wound, Out-door Type, conventional Power Transformer, Oil Filled with OLTC and all accessories including HT and LT Terminal connections	Nos.	1	37.2800	37.2800	53.0100	53.0100	63.7200	63.7200	67.4400	67.4400	146.4100	146.4100
2	12 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 11 kV Grade ISI FR15	M	120	0.0025	0.3036	0.0025	0.3036	0.0025	0.3036	0.0025	0.3036	0.0025	0.3036
3	4 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 11 kV Grade ISI FR15	M	120	0.0010	0.1188	0.0010	0.1188	0.0010	0.1188	0.0010	0.1188	0.0010	0.1188
4	2 Core 2.5 mm <sup>2</sup> Control cable copper Armoured , 11 kV Grade ISI FR15	M	240	0.0007	0.1584	0.0007	0.1584	0.0007	0.1584	0.0007	0.1584	0.0007	0.1584
5	Total Material Cost				37.8608		53.5908		64.3008		86.3208		146.5908
6	GST @ 18% on Material Cost				6.8149		9.6461		11.5741		15.8432		26.4583
7	Total Material Cost with GST	—	—	—	44.6757	—	63.2371	—	75.8749	—	103.8645	—	173.4491
8	Spares @ 2%	—	—	—	1.3403	—	1.8971	—	2.2762	—	3.1159	—	5.2035
9	Labour charges (including installation, testing & Commissioning of Power Transformer) @ 4%	—	—	—	3.5745	—	5.0500	—	6.8700	—	8.3092	—	13.8759
10	GST @18% on Labour Charges				0.6433		0.9106		1.0926		1.4956		2.4977
11	Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance)	—	—	—	2.2338	—	3.1619	—	3.7937	—	5.1932	—	8.6725
12	Total Amount				52.47		76.27		89.11		121.98		209.70

S No	PARTICULARS	SACR	COST FOR 11 KV INDOOR SWITCHGEAR OF 66/11 KV SUBSTATION											
			33/5 MVA			6.3 MVA			33 MVA			22 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	11 KV VCB Panel Board (11 KV, 125KA, 25 A.C, Outdoor) with D/C, L/T relay 04KV180E, Ampermeter, Ammeter, Ammeterscale Windows with Annunciation relays, 3 phase Tri-vector Meter, 3 Amps, DIN Compliant with RS-485 port.	Set												
	For 3.33 to 5-MVA (1+1)	Set	1	1588475	1588475									
	For 6.3 MVA (1+1)	Set				1	2968900	2968900						
	For 10 MVA (2+2)	Set							1	1338400	1338400			
	For 22 MVA (2+2)	Set								1	3079534	3079534		
2	11 KV Bus Coupler with Adapter Panel	No		251790										
3	138KV, Gasless Surge Arrestor, 8 KV, 10 KA, LA with Polymer housing, 1st. Type	Set	3	4939	14817	4	4939	19750	9	-4939	4695	18	8929	8929
4	11 KV XPUZ, armoured Power Cables-													
	11 KV 400 mm <sup>2</sup> Single Core Cables (with one spare length) armoured.	Mtr								100	73.7	7212.00	350	737
	11 KV 9-Core 300 mm <sup>2</sup> armoured, FRLS	Mtr	—		—	40	1338	53520	40	1338		80	1338	
	11 KV 9-Core 185 mm <sup>2</sup> armoured, FRLS	Mtr	—		—									
	11 KV 3-Core 120 mm <sup>2</sup> armoured, FRLS	Mtr	40	839	33560	—			—	3400	839	301432	400	838
5	11 KV Cable Termination Kit for incoming cable					100	646	64600	—					
	11 KV Indoor Heat Shrinkable Cable Termination Kits	Set	1	8715	8715	1	8715	8715	1	8715	8715	9	8725	87145
	11 KV outdoor Heat Shrinkable Cable Termination Kits	Set	1	12430	12430	1	13630	11620	1	21430	21630	9	13640	13661
	11 KV Indoor heat Shrinkable Cable Termination Kits													
	11 KV outdoor Heat Shrinkable Cable Termination Kits													
6	11 KV Isolator, double break, 600Amp, horizontal mounting type, with Arc.	Set	8	11620	94864	4	11620	68482	8	13420	58102	7	11620	81243
7	11KV 600A, 4 Pole Switch 3-Phase, 3-Pole, 200 Arms	No	8	11620	93241	8	11620	94863	8	11620	48482	6	11620	69722
8	9 KV Long Pole(ST-410 MP3)	No	8	12036	72217	8	12236	96294	10	12036	137952	14	12036	138527
9	6f. of ports	kg	180	77	13660	270	77	20790	360	77	27720	489	77	26360
10	300 kVA, 11/10.4 KV, 3 phase, 32 MLDNAN AL, Wound, indoor 3m Transformer along with 5-mtr O.D (Elevated)	No	1	131985	331985	1	131985	131985	1	131985	131985	1	131985	131985
11	120 mm <sup>2</sup> PVC LT Cable, 4 Core, armoured, FRLS	Mtr	15	440	6600	13	440	6600	15	440	6600	15	440	6600
12	Cement backfilling 1.1/4 mtr as per BEC standards 0.5 cu.m per Pole	Wbm	6	2330	12278	8	3342	17033	10	2130	21390	14	2130	28814
13	Earthling of substation - Excavation of earth pit of dia. 600 mm & depth 3000 mm, installation of Earth pipe of 40 mm Nominal bore & 4mm wall thickness & length 2.5 mtr long as per IS 12346-01 length for neutral earthing of size 25 mm x 3 mtr for connection of transformer body, G.O Set & lightning arrester as per IS-2625/85, GI nuts & bolts, refilled with earth enhancement materials and earth chamber made of brick masonry with RCC slab cover.	No	3	2516		1			1		2518	3	2518	2518
14	Earthling Complete by GI Pipe 40 mm or GI Rod 20mm 2.5 mtr long through	No	4	782	2978	8	744	4462	9	744	5949	13	788	8033
15	MCCB - 200 Arms	No	1	4452	4452	1	4452	4452	1	4452	4632	1	4452	4452
16	Grand Total				2590754			2583043			2170468			4443205
17	GST @ 18% on Material Cost				349134			400341			371748			798795
18	Grand Total				2415890			3046604			3748218			5244509
19	Spares @ 2%				—			—			—			—
20	Labour charges @ 4% (GST included @18%)				72587			91438			132448			157298
21	GST @ 18% on Labour Charges				98796			121944			149626			308724
22	Overheads @ 5% (11.0% T&P), 5% Storage and Handling, 2% Contingency and Safety equipments, 0.5% insurance				17423			23560			35756			342166
23	Total Amount				122994			132430			187906			342166
					273790			3436387			4228818			583022

**COMMON MISCELLANEOUS WORKS IN 66/11kV SUBSTATIONS**  
Amount in Rs.

S.No	PARTICULARS	Unit	Qty	Rate	Amount
1.	Land requirement for Substation	Kanals	3	—	—
2.	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	128	10940	1400256
3.	Chainlink Fencing of 66 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height	RM	50	7938	396880
4.	HDPE Pipe Outer Dia 180 mm Inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	30	1313	39402
5.	66/11 kV Power Transformer Foundation	Item	---	192500	192500
6.	66 kV Equipment Foundation & Gantry Foundation	Job	---	579535	579535
7.	Earthing Mat (GI Flat 50x8)	Item	---	191400	191400
8.	Earthing Electrode (3m long 40mm dia GI pipe) through G7 wire 8/6 SWG	No.	38	1320	50160
9.	66 kV Yard Concreting/Metalling	Item	---	86093	86093
10.	Borewell with submersible pump	No.	1	330000	330000
11.	Control Room Building	sqm	111	32034	3555796
12.	Truss of Control Room Building	sqm	167	4400	734800
13.	Shift Quarters for JE and SBA	sqm	130	24460	3179748
14.	Development of land by removing weeds, wild grass and encultivation if any, ornamental landscaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	LS	440000	440000
15.	Yard Lighting	Item	LS	110000	110000
16.	Total Amount				11286570
Note	Civil Works rates to be revised as per new SOR.				

COMMON MISCELLANEOUS EQUIPMENTS 66/11kV SUBSTATIONS					
S.NO	PARTICULARS	Unit	Qty	Rate	Amount
A					
1	a). Battery Bank 30 V,100 AH , of 15 No. cells of 2 V each, sealed maintenance free VRLA type,High impact Polypropylene- copolymer container,flame retardant. b). 30V,100 AH , Float-Cum-Boost Charger With Full wave rectification for 220 V, 1Phase, 50 HZ AC Input Supply.	No.	1	112644	112644
2	Distribution Panel (30 V, DC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43 for 2 No battery incoming supply with 2 No 63 Amps DP MCBs for incoming supply Double busbar of adequate size, 12 No DP DC MCB (0-32A) including indication lamps and cables and other accessories.	No.	1	27966	27966
3	Distribution Panel (415 V, AC) made of CRCA thickness not less than 2mm. Powder Coated, degree of protection IP43. 200 Amps Switch Fuse disconnector for incoming supply and 5 No TPN MCB's (16-125 Amps ) and 5 No DP MCBs (0-32A), rectangular busbar suitable for 200 Amps continuous Supply including indication lamps and cables and other	No.	1	37288	37288
4	Accessories TELECOMMUNICATION FACILITIES	Item	LS	16500	16500
1	Rubber Mat 1mx2m 19mm thick	No	4	4288	17151
2	Fire Extinguisher- Co <sub>2</sub> Type of 4.5 kg capacity for control room	No	6	4825	28948
3	3 Sand Bucket Fire Extinguisher	Set	1	6433	6433
4	Helmet	No	4	375	1500
5	Rubber Gloves for 66 kV level	Set	2	1678	3355
6	Rubber Gloves for 11kV level	Set	2	1233	2466
7	Safety Belt	No	4	1715	6860
8	Safety Shoes	No	4	1608	6433
9	Earthing rod (set of 3 rods)	set	1	8159	8159
10	HV Detectors all voltages	No	1	51458	51458
B	Grand Total of A				327161
C	GST @ 18 % on B				58889
D	Grand Total of B+C				386050
E	Spares @ 3% of D	---	---	---	11581
F	Labour charges @ 4%	---	---	---	26173
G	GST@ 18% on F				4711
H	Overheads @ 5% {1.0% T&P,0.5% Storage and Handling , 3% Contingency and safety equipments, 0.5% Insurance}	---	---	---	19302
I	Total Amount				447818

## COST FOR 21 KV INDOOR SWITCHGEAR OF 16/21 KV SUBSTATION (INSTALLATION OF CAPACITOR BANKS OF VARIOUS CAPACITIES)

Sl.No	DESCRIPTIONS	QTY	1 X 3.15 MVA			1 X 9 MVA			1 X 18 MVA			1 X 30 MVA			1 X 36 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	12 KV Capacitor Bank with HCB Panel with complete arrangement for connection with 12 KV Inverter panel, Series Reactor, isolator, RPT, Surge Arrestors, HF Cables with termination kits, Control Cables, CIOCA Cabinet Panels etc with hardware, foundation & accessories.	Set	1.0	306782	306782	1.0	1000142	1000142	2.4	1000128	1000128	3.6	3000248	3000248	1 X 1.2	4000170	4000170
2	Total Material Cost			306782			1000142			1000128		3000248			4000170		
3	GST @ 18% on Material Cost				1300071			1000042		1000042		3000128			4000070		
4	Total Material Cost with GST				786779			1160000		1160000		1501748			317115		
5	Spares @ 1%	—	—	31601		—	34914		34914		46332		98821		139826		
6	Labour charges @ 4% (GST included @ 18%)	—	—	42942		—	93164		93164		224139		186206		379117		119858
7	GST @ 18% on Labour Charges				11396			14758		14758		33245		138117			317117
8	Overheads @ 5% (1.0% T&P, 2.5% Storage and Handling, 1.5% Contingency and safety equipments, 0.5% Insurance)	—	—	28128		—	58156		58156		71547		138386		342760		470115
9	Total Amount			821993			1164218		1164218		1822504		2719188		5462078		232763

**ABSTRACT OF COST FOR 66/11 KV SUBSTATIONS (ADDITION OF TRANSFORMER BAYS)**  
Amount in Rs. Lacs

S. No	ITEM	1 X 3.15 MVA	1 X 5 MVA	1 X 6.3 MVA	1 X 10 MVA	1 X 20 MVA
1	66 KV LINE BAY	---	---	---	---	---
2	12 KV Capacitor Bank with VCB Panel with complete arrangement for connection with 11 KV incomer panel , Series Reactor, Isolator, RVT, Surge Arrestors, HT Cable with termination Kits, Control Cables, CRCA Cubicle Panel.	28.74	28.74	28.74	28.74	28.74
3	66/11 KV POWER TRANSFORMER	52.47	74.27	89.11	121.98	203.70
4	11 KV SWITCHGEAR AND AUXILLARIES	27.28	27.28	34.36	42.25	59.10
5	COMMON MISCELLANEOUS WORKS	4.48	4.48	4.48	4.48	4.48
6	COMMON MISCELLANEOUS EQUIPMENTS	---	---	---	---	---
7	11 KV Capacitor Banks	9.24	13.67	18.22	27.34	54.67
8	TOTAL COST OF ADDITIONAL 66/11 KV TRANSFORMER BAY	122.20	148.43	174.91	224.78	350.69

COMMON MISCELLANEOUS WORKS IN 66/11KV RECEIVING STATIONS (ADDITION OF TRANSFORMER BAYS)

Amount in Rs.

S.NO	PARTICULARS	Unit	Qty	Rate	Amount
1	Land requirement for Substation	Kanals	-	-	-
2	Compound walling of identified land by way of Mass Concrete in Foundations and 228 mm Brick Wall of 2 M height	RM	-	10940	-
3	Chainlink Fencing of 66 kV Yard of Substation by way of Mass Concrete in Foundations and chainlink fencing of 6 ft height	RM	-	7938	-
4	HDPE Pipe Outer Dia 180 mm Inner Dia 152 mm for laying of 11kV XLPE Cable from Power Transformer to Control Room	RM	-	1313	-
5	66/11 kV Power Transformer Foundation	Item	1	192500	192500
6	66 kV Equipment Foundation & Gantry Foundation (for additional equipments and Gantry)	Job	1	196540	196540
7	Earthing Mat (GI Flat 50x8)	KG	20	99	1980
8	Earthing Electrode (3m long 40mm dia GI pipe)	No.	10	1320	13200
9	66 kV Yard Concreting/Metalling	Item	-	86093	0
10	Borewell with submersible pump	No.	-	330000	0
11	Control Room Building	sqm	-	32034	0
12	Shift Quarters for JE and SBA	sqm	-	24460	0
13	Development of land by removing weeds, wild grass and endulation if any, ornamental land scaping and growing of ornamental trees in unbuilt areas and road sides and development of roads along with surface drains	Item	-	440000	0
14	Yard Lighting	Item	-	110000	0
15	750 m Cable Trench	RM	-	15000	-
15	Total Amount				404220

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COST ESTIMATION FOR AUGMENTATION OF POWER TRANSFORMER AT 66 KV LEVEL FROM 3.15 MVA TO 6.3 MVA, 6.3 MVA TO 10 MVA AND 10 MVA TO 20 MVA Amount in Rs. Lacs.											
S.NO	PARTICULARS	Unit	3.15/1 MVA to 6.3 MVA			6.3 MVA to 10 MVA			10 MVA to 20 MVA		
			Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
1	66/11KV, ONAN, Copper wound, Out-door Type, conventional Power Transformer, Oil Filled with OLTC and oil accessories including LT Terminal connections	No.	1	63.72000	63.72000	1	87.44000	87.44000	1	146.41000	146.41000
2	11 KV VCB Panel Board: (11 KV, 1250A, 25 kA, Outdoor) with D/C, E/F relays (IEC61850), Mmsic Diagram, Voltmeter, Ammeter, Annunciation Windows with annunciation relay, 3-phase Tri-vector meter -5 Arms, DMS Compliant with IEC-485 part.										
3	(i) For 6.3 MVA (1+4)	Set.	1	19.66950	19.66950			0.00000			0.00000
	(ii) For 10 MVA (1+5)	Set.				1	23.33305	23.33305			
	(iii) For 20 MVA (1+7)	Set.							1	30.79534	30.79534
4	11 KV 3-Core 300 mm <sup>2</sup> , armoured, RFLS	Mtr	40	0.01172	0.46880	40	0.01172	0.46880	80	0.01085	0.85200
	(i) 11 KV 3-Core 400 mm <sup>2</sup> for 6.3 MVA Power Transformer armoured, RFLS	Mtr	40	0.01472	0.58872			0.00000			0.00000
	(ii) 11 KV 630 mm <sup>2</sup> Single Core Cable (with one spare length) for 10 MVA Power Transformer	Mtr				160	0.00757		320	0.00757	
5	11 KV Feeder Gantry and Accessories	Item	1	0.14542	0.14542	1	0.14542	0.14542	3	0.13220	0.26440
6	Total Material Cost	Job	2.4 MVAR	13.33050	13.33050	3.6 MVAR	14.43050	14.43050	3 X 7.3MVAR	40.00085	40.00085
7	GST @ 18% on Material Cost				97.82			225.82			218.32
8	Total Material Cost with GST				27.63			22.65			39.30
9	Labour charges (including installation, testing & Commissioning of Power Transformer) @ 4%				115.55			148.48			257.62
10	GST @ 18% on Labour Charges				9.24			11.88			20.61
11	Dismantelling Charges @ 1%				1.66			2.14			3.71
12	Overheads @ 5% (1.0% T&P, 0.5% Storage and Handling, 1% Contingency and safety requirements, 0.5% Insurance)				1.16			1.48			2.58
13	Total Amount				5.78			7.42			12.68
Note	Write back to credit material of Power Transformers - Depreciation shall be calculated as per useful life of the Power Transformer or the actual scrap value whichever is higher										297.40
	Cables shall be suitable for effectively Earthed System										

**Abstract Cost Estimate for Construction of 66 kV Ring-Main Power Network from 66/11 KV S/stn on 132kV double circuit Tower line using single circuit Panther Conductor**

S.No	Particular	Unit	Rate (in lakh)	Qty	Amount (in lakh)
1	Material Cost Per Km of 132 kV Single Circuit Transmission Line on Single Circuit Towers	Km	45.43	1	45.43
2	Average Cost of Foundations & Stub Settings of 132 kV Single Circuit Tr. Line	Tower	12.96	4	51.85
3	Average Cost of Erection of Super Structure & Accessories of 132 kV Transmission line	Tower	7.41	4	29.65
4	Cost of Laying and Stringing of one circuit KM conductor of 132 kV Single Circuit Transmission line with Panther conductor	Km	11.49	1	11.49
5	Typical estimate for construction of Stone masonry protection wall around 132 kV Transmission line Tower foundation in all terrains	Km	13.60	4	54.40
<b>Total</b>					<b>192.82</b>

**Abstract Cost Estimate for Construction of 66 kV Ring-Main Power Network from 66/11 KV S/stn on 132kV double circuit Tower line using single circuit Goat Conductor**

S.No	Particular	Unit	Rate (in lakh)	Qty	Amount (in lakh)
1	Material Cost Per Km of 132 kV Single Circuit Transmission Line on Single Circuit Towers	Km	46.39	1	46.39
2	Average Cost of Foundations & Stub Settings of 132 kV Single Circuit Tr. Line	Tower	12.96	4	51.85
3	Average Cost of Erection of Super Structure & Accessories of 132 kV Transmission line.	Tower	7.41	4	29.65
4	Cost of Laying and Stringing of one circuit KM conductor of 132 kV Single Circuit Transmission line with Panther conductor	Km	10.54	1	10.54
5	Typical estimate for construction of Stone masonry protection wall around 132 kV Transmission line Tower foundation in all terrains	Km	13.60	4	54.40
<b>Total</b>					<b>192.83</b>

## ANNEXURE B

## Material Cost Per Km of 132 KV Single Circuit Transmission Line on Double Circuit Towers.(URBAN AREAS)

S.NO	Particulars	Unit	Rate	Semi-Hilly Terrain Quantity	Amount
1	Tower Material				
1.1	Superstructure	Mt.	68785	30	20,63,550
1.2	Stubs	Mt.	68785	1.54	1,05,929
	<b>Sub-Total of Item 1</b>				<b>21,69,479</b>
2	Tower Accessories				
2.1	Danger Plates 3 No Per Tower	Nos.	332	4	1,328
2.2	Phase Plates 3 No Per Tower for S/C	Nos.	332	12	3,984
2.3	Number Plates 1 No Per Tower	Nos.	332	4	1,328
2.4	Circuit Plates 1 No. Per Tower for S/C	Nos.	332	4	1,328
2.5	Bird Guard 3No Per Suspension Tower	Nos.	332	4	1,328
2.6	Anti Climbing Devices 1 No Per Tower	Nos.	571	4	2,284
3	Earthing of Towers				
3.1	Normal Type 50%	Nos.	2275	2	28,448
3.2	Counter Poise 50%	Nos.	4549	2	4,550
	<b>Sub Total of item (2+3)</b>				<b>9,098</b>
4	Nuts & Bolts				
5	ACSR Galv Conductor	Mt.	72224.25	1.08	78,002
6	Conductor Accessories	Km	232239.6	3.15	7,31,555
6.1	Mid Span Joints 3 No/Km	Nos.	744	3	2,232
6.2	Vibration Dampers 2 No/Phase/Tower	Nos.	870	20	17,400
6.3	Repair Sleeves For Conductor 9 No / Km for D/C	Nos.	492	5	2,460
6.4	Aluminium Tape 1 No Per Km Of Line	Kgs	399	1	399
	<b>Sub total of Item 6</b>				<b>22,491</b>
7	OPGW,Dual window single-Mode with Mode field diameter 8.6-9.5 $\mu\text{m}$ , cladding diameter 125 $\mu\text{m} \pm 1 \mu\text{m}$ ,3.5% wastage included consist of 24 fibers	Km	191000	1.02	1,94,820
8	Earth Wire Accessories				
8.1	Mid Span Joints 2No/Km	Nos.	180	2	360
8.2	Vibration Dampers 2 No / Tower	Nos.	239	8	1,912
	<b>Sub total of Item 8</b>				<b>2,272</b>
9	Insulators				
9.1	Disc Insulators 70 KN,Ball & Socket type, 145mm height and 255mm dia, Creepage total 430 mm and 260 mm protected. 3 No for S/C,6 No for D/C suspension strings per tower @ 10 discs per string +10% for double string per tower (For 9 Towers)	Nos.	570	40	22,800
9.2	ii. Disc Insulators 120 KN/90 KN,Ball & Socket type, 145mm height and 280mm dia. Creepage total 430 mm and 260 mm protected. 6 No for S/C,12 No for D/C tension strings per tower @ 11 discs per string +10% for double string per tower (For 2.4 Towers)	Nos.	852	232	1,97,664
	<b>Sub total of Item 9</b>				<b>2,20,464</b>
10	Hardware fittings for conductor				
10.1	Single Suspension Fittings for panther shall have minimum failing load of 50% ultimate strength of bundle conductors with Forged Steel Hanger free center type without bolt only having slipping strength 15% of ultimate strength of conductor.The ball and socket designation must be 16 mm. (3 No S/C 6NoD/C Per Sus. Tower)	Nos.	1950	4	7,800
10.2	Single Tension Fittings for panther shall have minimum failing load of 100% ultimate strength of Bundle conductors with compressive type Tension clamps having slipping strength 95% of ultimate Strength of conductors. The ball and socket designation must be 20mm. 90% (6 NoS/C,12NoD/C Per Ten. Towers)	Nos.	2000	16	32,000
10.3	Double Tension Fittings 10%	Nos.	3896	3	11,688
10.4	Double Suspension Fittings 10%	Nos.	3800	2	7,600
	<b>Sub total of Item 10</b>				<b>59,088</b>
11	Hardware fitting for Earth wire				
11.1	Suspension Clamps 5/C	Nos.	405	2	812
11.2	Tension Clamps S/C	Nos.	450	4	1,800

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142276/2023/PDD SECTION

Sub total of item 11		Tower	3000	4	12,000
12	Misc. items				2,612
	Tag welding of towers				
	Total (1-12)				35,34,879
	Add 20% on exworks cost of equipment and material on account of GST 18%, Package freight and insurance 2%			20%	7,06,976
	Sub total (A)				
13	Spares @ 5% of (A)				42,41,855
	Sub total (B) = A+13				2,12,092.73
14.	Storage & Handling of material and spares, POI @ 2% of (B)				44,53,947
	Grand Total				89,078.95
	Total Amount in Rs Lacs				45,43,026.27
					45.43

## ANNEXURE C

## Typical Estimate of Foundations &amp; Stub Settings of 132 kV Tr. Line

## A. Dry Type Foundation for D Type Towers

S.No	Particular	Unit	Rate	Qty	Amount
1	Jungle Clearance of land around tower area 20x20m	Sq M	5.85	600	3,510
2	Excavation of foundation pits	Cum	1700	24,26667	41,253
2.1	Semi hilly and hilly terrain	Cum	318.75	56,62667	18,050
2.1.1	15% hard/dense rock	Cum	743.75	80,90667	60,174
2.1.2	35% hard/dense soil	Cum	318.75	0	-
2.1.3	50% disintegrated.	Cum	743.75	0	-
2.2	Plain terrain	Cum	210	161.8	33,978
2.2.1	30% dense/hard/muddy soil	Cum	318.75	0	-
2.2.2	70% in disinteg. or soft rock	Cum	743.75	0	-
3	Disposal of excavated soil within 25mtrs	Cum	210	161.8	33,978
4	Bending, fixing and binding of reinforce.	MT	1100	1.013333	1,115
5	Concreting of tower foundation.	Cum	1811.25	9.413333	17,050
6	Benching of uneven foundation area	Cum	240.45	51.77333	12,449
6.1	40% hard/dense soil	Cum	500.95	77.66667	38,907
6.2	60% disintegrated / rock	Cum	210	129.44	27,182
7	Disposal of surplus soil	KL	81.85	0	-
8	Dewatering of foundation pits(70% of excavation volume for 3 days.) for plain terrain.	Set	15000	1	15,000
9	Stub setting of tower foundations	SqM	180	40	7,200
10	Form work of steel shuttering.	SqM	216.25	0	-
11	Close timbering/strutting in trenches in loose soil assuming only 10% towers in semi hilly, hilly and plain areas require close timbering for 4 pits, 4x4x4x3m	Job	4000	1	4,000
12	Coping & curving of tower foundations	Cum	0	0	-
13	Laying of dry stone soling.	Cum	123.75	152.3867	18,858
14	Back filling	SqM	5.85	1066.667	6,240
15	Making of temporary path 2 mtr wide with average length 1kms per tower in hilly/semi hilly areas & 0.3 km per tower in plain, partially and F/S areas	SqM	11.35	666.6667	7,567
15.1	Jungle clearance 60% of area	Cum	240.45	10	2,405
15.2	Surface dressing 40% of area	Cum	500.95	10	5,010
15.3	Making steps in 25% of path area in hilly and semi hilly area = 0.25x 500x2x0.3x0.2	Cum	1542	4.653333	16,168
15.3.1	50% dense / hard soil	Cum	9.32		
15.3.2	50% disintegrated	Cum	0		
16	Manual carriage of constructional material at an average of 1.0 Km.	Cum	13.97333		
16.1	Sand (0.45 of concrete vol.)+5% wastage for plain and 10% for hilly & semi hilly terrains	Cum	210	76.2	16,002
16.2	Bajree (0.90 of concrete vol)+5% wastage for plain and 10% for hilly & semi hilly terrains	Cum	1542.19	76.19333	1,17,505
16.3	Soling	KL	550.78	13.98667	7,704
	Total				
16.4	Back carriage of earth (disposed vide item 3 less by disintegrated/soft rock) for back filling 25 mtr lead.	Cum	210	76.2	16,002
16.5	Good earth 1.00 km lead	Cum	1542.19	76.19333	1,17,505
16.6	Water for curring @ 1.22 KL of conc. volume + 1.5% for back filling +20% wastage (average lead 1 km)	Bag	43.2	86	3,715
16.7	Cement (average lead 1.0km)	Each	3901	1	3,901
16.8	Form boxes	Each	2687.5	1	2,688
16.9	T&P accessories	MT	4981.46	1.01	5,031
16.10	Steel for reinforcement	Bag	390	86	33,540
17	Cost of constructional material	MT	66750	1.01	67,418
17.1	Cement				
17.2	Reinforcement steel				

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17.3	Sand		Cum	850	4.66	3,961
17.4	Bajree		Cum	900	9.318667	8,387
17.5	Good earth		Cum	200	76.19333	15,239
17.6	Soiling		Cum	400	0	-
18	Mechanical carriage average 20km lead					
18.1	Sand		Cum	265.13	4.66	1,236
18.2	Bajree		Cum	265.13	9.318667	2,471
18.3	Earth		Cum	304.85	76.19333	23,228
18.4	Soiling		Cum	286.91	0	-
19	Watch and ward of material		Each	27000	0	-
	Total					6,48,138
	Total including appreciation of 100% above SSR 2012 for High Altitude Terrain					12,96,275

## ANNEXURE D

## ERCTION OF SUPER STRUCTURE &amp; ACCESSORIES OF 132 KV TRANSMISSION LINE

S.No	Item of Work	Unit	Semi-Hilly Terrain		
			Rate	Qty	Amount
1	Loading & unloading of				
1.1	Tower material and Nuts & bolts.	MT	1,400.00	9.426666667	13,197
1.2	Stubs		1,400.00	0.493333333	691
2	Carriage of tower material from road site to erection	MT	0	9.92	
3	Erection of super structure	MT	15,022.13	9.92	149,020
4	Welding of tower bolts first two stories	Each	6,000.00	1	6,000
5	To and fro carriage of welding equipment	Each	600	1	600
6	Carriage and T&P articles average upto 1.0kms avg	Each	1,652.34	1	1,652
7	<b>Earthing of Towers</b>				
7.1	Pipe type	Each	1,150.00	1	1,150
7.2	Counter poise {4 points}	Each	1,900.00	1	1,900
8	Earth work for earthing				
8.1	Pipe type	CuM	336	5.573333333	1,873
8.2	Counter poise	CuM	336	28.8	9,677
9	Back filling of earth				
9.1	Pipe type	CuM	152	5.573333333	847
9.2	Counter poise	CuM	152	28.8	4,378
10	Disposal of earth				
10.1	Pipe type	CuM	0	5.013333333	
10.2	Counter poise	CuM	0	25.92	
11	<b>Cost of good earth</b>				
11.1	Pipe type	CuM	200	5.013333333	1,003
11.2	Counter poise	CuM	200	25.92	5,184
12	Mechanical carriage of earth 20 Kms lead				
12.1	Pipe type	CuM	304.85	5.013333333	1,528
12.2	Counter poise	CuM	304.85	25.92	7,902
13	Manual carriage of earth 1.0Kms lead				
13.1	Pipe type	CuM	0	5.013333333	
13.2	Counter poise	CuM	0	25.92	
14	Mechanical carriage of tower material from Divn.	MT	216.81	9.92	2,151
15	Cost of earthing material	Each	500	1.333333333	667
16	Watch & Ward of material	Tower	18,000.00	0	
17	<b>Total</b>				2,09,418
18	Add 200 % on Labour Charges at (17) for High Altitude Factor/ Remote Location				4,18,836
19	<b>Total Cost with ACF</b>				6,28,255
20	GST @18% on Total cost with ACF				1,13,086
21	<b>Total Labour cost with GST &amp; ACF (19+20)</b>				7,41,340

## ANNEXURE E

## LAYING &amp; STRINGING OF ONE CIRCUIT KM CONDUCTOR OF 132 KV SINGLE CIRCUIT TRANSMISSION LINE WITH PANTHER CONDUCTOR.

S.No	Description of Work	Unit	Seimi-Hilly Terrain		
			Rate	Qty	Amount
1	Loading/unloading of Goat conductor and earth wire four drums for S/C	Drum	3414	4	13,656.0
2	Carriage of ropes ,pulleys derrickpoles etc through 1.0 km avg.lead.	Tower	2203.13	4	8,812.5
3	Anchoring of towers including dismantling arrangements,1.95 towers / Km.	Tower	6200	2	12,400.0
4	Loading of insulators & other fittings.		0		
4.1	1.95 No Tension towers.	Tower	150	2	300.0
4.2	1.25 No Suspension towers.	Tower	75	2	150.0
5	Unloading of insulators & other fitting from Mech.Transport and carriage upto 0.50 mtrs.		0		
5.1	1.95 No Tension towers.	Tower	112.5	2	225.0
5.2	1.25 No Suspension towers.	Tower	56.25	2	112.5
6	Carriage of Insulators & other fittings beyond 50 mtrs.Upto 1.0 Km	Tower	0		
6.1	1.95 No Tension towers.	Tower	1101.56	2	2,203.1
6.2	1.25 No Suspension towers.	Tower	550.78	2	1,101.6
7	Loading of stringing equipment like compressor, turn table ,four sleeve pulleys,rollers etc 3.57 towers / Km.	Tower	2240.4	4	8,961.6
8	Unloading and stacking of material as per item 7, (3.57 T/Km)	Tower	1680	4	6,720.0
9	Carriage of material as per item 7, ( 3.57 T/Km) from road site to work site avg. lead 1.0 Km	Tower	1542.192	4	6,168.8
10	Laying of earth wire to string 1 KM+5% extra for uneven terrain ( The additional length added to be strung for calculating rates per Km to account for the laying lead from turn table to tower location)	Km	20088	1.05	21,092.4
11	Laying of conductor to string 1 KM+10% extra for uneven terrain ( The additional length added to be strung for calculating rates per Km to account for the laying lead from turn table to tower location)		0		
11.1	First phase string	Km	27900	1.1	30,690.0
11.2	For subsequent string 2 for S/C	Km	25110	2.2	55,242.0
12	Stringing of earth wire 1 Km + 1.5% for sag including erection of fittings	Km	11040	1.02	11,260.8
13	Stringing of panther conductor 1 Km + 1.5% for sag for 3 phase including erection of insulator strings/fitting	Km	22080	3.05	67,344.0
14	Extra for laying / stringing of conductor through nallah P&T lines, LT/HT lines	Km	7027.2	3.05	21,433.0
15	Erection of jumpers at tension towers 1.95x3 No. per Km including earth wire	Km	1584	6.24	9,884.2
16	Making of compression joints		0		
16.1	Earth wire @ 1 No. per km	No	690	1	690.0
16.2	Conductor @ 3 No. per km	No	1380	3	4,140.0
17	Making of compression type repair sleeves 1 No. per km of conductor i.e. 3 No. per Km	No	575	3	1,725.0
18	Fixing of phase plate, circuit plate, danger plate, Number plate for 3.57 T/Km	No	250	4	1,000.0
19	Fixing of bird guard 1.25 x3 T / km	No	800	5	4,000.0
20	Erection of anticalimbing devices 3.57 /Km	No	1100	3.57	3,927.0
21	Route clearance/jungle clearance/branch cutting of 20% of area falling under conductors of double circuit line with 25 m wide corridor	Sqm	5.85	4000	23,400.0
22	Watch and ward of material during laying and stringing of conductor and earth wire 4 wires/km for S/C	Km			
	<b>Total Cost</b>				<b>3,16,639</b>
23	Add 200 % on Labour Charges at (24) for High Altitude Factor/ Remote Location				<b>6,33,279</b>
24	<b>Total Cost with ACF</b>				<b>9,73,318</b>
25	GST @18% on Total cost with ACF				<b>1,75,197</b>
26	<b>Total Labour cost with GST &amp; ACF (24+25)</b>				<b>11,48,515</b>
	<b>Total Amount in Rs Lacs</b>				<b>11.49</b>

## ANNEXURE F

**TYPICAL ESTIMATE FOR CONSTRUCTION OF STONE MASONRY PROTECTION WALL AROUND 132 KV TRANSMISSION LINE TOWER FOUNDATIONS IN ALL TERRAINS.**
**(EXCEPT SPECIAL TYPE TOWERS IN PIRPANCHAL AND ZABARWAN RANGES)**

S.No	Particulars	Unit	Semi-Hilly terrain		
			Rate	Qty	Amount
1	2	3	4	7	8
1	Earth work in excavation over area (exceeding 30 cm depth 1.5 m in width as well as 10 SM on plan) including disposal of excavated earth and lift upto 1.5m disposed earth to be levelled and neatly dressed.				
1.1	Semi Hilly 15X(2.10X0.60)+2(7x2.10x0.60)				
	Hard soil=35%	CuM	240.45	33.42666667	8,037.44
	Disintegrated or soft rock.=65%	CuM	500.95	40.49333333	20,285.14
1.2	Hilly (3x15)X2.10X0.60				-
	Hard soil=35%	CuM	240.45	0	-
	Disintegrated or soft rock.=65%	CuM	500.95	0	-
1.3	Plain (2x12+2x11.40)X1.60X0.60				-
	Hard soil=100%	CuM	240.45	0	-
1.4	Partially sub merged (Same as of Plain)				-
	Hard soil / Mud=100%	CuM	240.45	0	-
1.5	Fully sub merged (Same as of Plain)				-
	Hard soil / Mud=100%	CuM	240.45	0	-
	Providing & laying in position cement concrete . All work upto plinth level in 1:4:8 aggregate 40mm nominal size (crushed stone) (Mud Mat)				-
2		CuM	3112.8	7.733333333	24,072.32
3	Random Rubble masonry with hard stone from quarry in foundation & plinth[ 1 cement : 6 coarse Sand :12 grade stone aggregate 20 mm nominal size ] at plinth level.				-
3.1	Semi Hilly 15X(2.0X0.60)/2x3+2(7x2.0+0.60)/2x(3.0+0.60)/2	CuM	2786.1	121.68	3,39,012.65
3.2	Hilly 15X(2.0X0.60)/2x5+2(7x2.0+0.60)/2x(5.0+0.60)/2	CuM	2786.1	0	-
3.3	Plain 45.60X1.5+0.60/2x2.0	CuM	2786.1	0	-
3.4	Partially sub merged 45.60X1.5+0.60/2x2.5	CuM	2786.1	0	-
3.5	Fully sub merged 45.60X1.50+0.60/2x3.0	CuM	2786.1	0	-
4	Providing & laying damp-proof course 50mm thick with cement concrete 1:2:4 { 1 cement :2 course sand ;4 graded stone aggregate 20mm nominal size (crushed)}	SqM	275.45	23.2	6,390.44
5	Earth filling in plinth, sides of foundations etc.in layers not exceeding 20cm in depth consolidating each disposed layer by ramming and watering. @100.50 - (4.20)				-
5.1	S/Hilly (13.8x7x2.00+0.60/2) - 9.44	CuM	348.15	154.85333333	53,912.19
5.2	Hilly (13.8x13.8x3.0+0.30/2) - 14.65	CuM	348.15	0	-
5.3	Plain (10.8x10.8x1.0) - 35.10	CuM	348.15	0	-
5.4	P/S (10.8x10.8x1.5) - 35.10	CuM	348.15	0	-
5.5	F/S (10.8x10.8x 2.0) - 35.10	CuM	348.15	0	-
6	Carriage of materials by Mechanical Transport average lead 20KM				-
6.1	Stone	CuM	487.82	121.68	59,357.94
6.2	Aggregates 40mm size	CuM	265.13	6.96	1,845.30
6.3	Aggregate 20mm size	CuM	243.88	1.044	254.61
6.4	Sand	CuM	265.13	42.93333333	11,382.91
6.5	Earth	CuM	304.85	154.85333333	47,207.04
6.6	Cement	MT	216.81	13.41333333	2,908.14
7	Carriage of materials by head load from unloading site average lead 1.50 KM				-
7.1	Stone	CuM	330.62	121.68	40,229.84
7.2	Aggregates 40mm size	CuM	359.9	6.96	2,504.90
7.3	Aggregate 20mm size	CuM	305.78	1.04	318.01

7.4	Sand		CuM	305.28	42.93333333	13,128.15
7.5	Earth		CuM	305.78	154.85333333	47,351.05
7.6	Cement		MT	130.67	13.41333333	1,752.72
	Total A					6,79,951
	Total including appreciation of 100% above SSR 2012 for High Altitude Terrain					13,59,902
	Total Amount in Rs Lacs					13.5990