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# NOTE & ORDER

Chief Engineer (Project)/Director (Project)/Managing Director, PTCUL


Sub: Finalization of rate schedule for 400/220/132 KV Lines, Substations and Civil items.

This is to bring your kind notice that a committee for finalization of rate schedule was constituted vide OM No. 616/CE(Project)/PTCUL dated 23-06-2016 under Chairmanship of Chief Engineer (Project), Dehradun (*copy enclosed*). Meetings were held on dated 03-07-2016, 16-08-2016, 15-09-2016 and 18-10-2016 for deciding the rate schedule for 400/220/132 KV Lines, Substations and Civil items. The committee has deliberated upon the rate of the various items in the past contracts, previous rate schedule and budgetary offers from various suppliers. The Proposed rate schedule for 400/220/132 KV Lines, Substations and Civil items is enclosed as *Annexure-A*.

May like to accord the approval for issuing the rate schedule as proposed by the committee for the year 2016-17.

Encl: As above

  
(Shishpal Singh)  
EE (Costing & Funding)

  
(Lalit Kumar)  
SE (Costing & Funding)

*Recommended for approval*  
*Subash*  
*27/10/16*

*M.D, PTCUL may like to kindly approve*

~~*M.D., PTCUL*~~

~~*DMW*~~

~~*S.P.*~~  
~~*27/10/16*~~

~~*27/10/16*~~  
~~*Dir (C)*~~

~~*D(Pri)*~~

~~*CE(P)*~~

~~*28/10/16*~~

No. *1769* /MD/PTCUL/.....Dt. *27-10-16*  
No. *2097* /Dir(P)/PTCUL NFO /Dt. *28/10/16*

No. *1144* /C.E.(Project) PTCUL dtd. *28/10/16*

*SE (Engg. & PRCG)*

*Subash*

**MOM for Finalization of Rate Schedule 2016-17 held on dated 03-07-2016,  
16-08-2016, 15-09-2016 & 18-10-2016 in the office of CE (Project), PTCUL, Vidyut  
Bhawan, Dehradun**

**Persons Present:**

1.	CE (O&M), Kumaon Zone	Member
2.	CE (O&M), Garhwal Zone	Member
3.	SE(Civil) Dehradun	Member
4.	SE(Engg-Line Design)	Member
5.	SE (Engg.-Substation Design)	Member
6.	SE (Engg-Costing & DPR)	Member
7.	SE (SCADA)	Member
8.	Dy. CAO (Project)	Member
9.	EE(Costing)	Member & Convener

Following deliberations took place :

- 1) Supply and erection rates for construction of 400/220/132 KV Substation & Lines were discussed during the meetings.
- 2) As per the deliberation held during the meeting the rates of equipments of line were decided as 5% increase in the supply, 10% increase in erection & 10% increase in Civil erection rates of the previous 2015-16 rate schedule, keeping in view the present market rates (as per budgetary offer received) and tenders awarded by PTCUL in the last two years.
- 3) The Rates of various equipments of RTU, Auxiliary Power Supply (APS) & Communication Network were finalized based on the budgetary offer of M/s Alstom as forwarded by SCADA Wing.
- 4) The list of Non Schedule Civil items were finalized according to the proposal submitted by Civil Wing.
- 5) The Rates of substation equipments were finalized keeping in view the rates of various items in the past contracts, previous rate schedule and budgetary offers from various suppliers.
- 6) The rates are inclusive of all the taxes.
- 7) The rates are given for plain area & hill area separately. For hilly terrain 5% increase on supply and 25 % on erection is to be applied over plains area rates decided by committee.
- 8) Rates for civil works of substation will be provided by Civil Wing of PTCUL as per case to case site condition.
- 9) These rates are subjected to approval from MD, PTCUL.
- 10) The rates are for estimation purpose only.
- 11) These rates will be valid till the approval of next rate schedule.

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EE(Costing)

*Anur*  
SE(Engg & L)

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CE(P)  
CE(O&M)



# पावर ट्रांसमिशन कारपोरेशन ऑफ उत्तराखण्ड लि०

(उत्तराखण्ड सरकार का उपक्रम)

मुख्य अभियन्ता (परियोजना) कार्यालय

विद्युत भवन, नजदीक-आई०एस०बी०टी० क्रॉसिंग, सहारनपुर रोड, माजरा, देहरादून-248002

दूरभाष नं० 0135-2640039 फैंक्स नं० 0135-2644153 email:- deep\_sah@ptcul.org

No. 616 /CE(Project)/PTCUL/

Date: 23/06/2016

## OFFICE MEMORANDIUM

In reference to the approval accorded by MD, PTCUL vide Note & Order No. 899/MD/PTCUL/A-1 dated 22-06-2016 for finalization of rate schedule for Year 2016-17, a committee comprising of following officers, is hereby constituted:


- |                                 |                   |
|---------------------------------|-------------------|
| 1. CE (Project), Dehradun       | Chairman          |
| 2. CE (O&M), Kumaon Zone        | Member            |
| 3. CE (O&M), Garhwal Zone       | Member            |
| 4. CE (Civil), Dehradun         | Member            |
| 5. SE (Engg.-Line Design)       | Member            |
| 6. SE (Engg.-Substation Design) | Member            |
| 7. SE (Engg.-Costing & DPR)     | Member            |
| 8. Dy. CAO (Project)            | Member            |
| 9. EE (Costing)                 | Member & Convener |

SE (SCADA & OPGW) will be additional member for finalizing the Rate Schedule of OPGW & associated hardware items & Installation of RTU, APS & communication networks.

SE (DPR & Costing) & EE (Costing) will put all records of various supply and work items required for construction of transmission lines & Substations before committee.

Above committee will decide the methodology to frame the rate schedule, then rate schedule for 2016-17 will be finalized.

Finalized rate schedule 2016-17 will be applicable after approval by MD, PTCUL & will be valid till the approval of next Rate Schedule.

  
(Deep Sah) 23/6/16

Chief Engineer (Projects)

CC:

1. PS to MD, PTCUL, Vidyut Bhawan, Dehradun for kind information.
2. Director (Projects), PTCUL, Vidyut Bhawan, Dehradun for kind information.
3. All Committee members.

## Rate Schedule for AIS Equipment

### Supply

S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>A Circuit Breakers</b>				
1	420 KV circuit Breakers SF6 (3 Ph.) along with support structure)	NoS	₹ 3,558,428	₹ 3,36,349
2	245kV circuit breakers SF6 (3Ph.) (along with support structure)	NoS	₹ 2,024,997	₹ 2,26,247
3	145kV circuit breakers SF6 (3 Ph.), (along with support structure)	NoS	₹ 999,147	₹ 1,019,104
4	33 kV Circuit Breaker SF6 (3 Ph.), along with support structure)	NoS	₹ 577,600	₹ 606,480
5	33 kV Circuit Breaker VCB (3 Ph.), (along with support structure)	NoS	₹ 354,235	₹ 3,19,947
<b>B Isolators</b>				
<b>400KV</b>				
1	420kV,(3-phase) HDB Isolator with out Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 859,281	₹ 90,245
2	420 KV, (3-phase)HDB isolator with one Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 983,484	₹ 1,032,658
3	420 KV,(3-phase) HDB isolator with two Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 1,058,491	₹ 1,111,415
4	420 KV,(3-phase) HDB Tandem Isolator including the cost of Mettalics & Insulator	NoS	₹ 937,027	₹ 983,378
<b>220KV</b>				
5	245kV 1600A, 40 KA,(3-phase) Horizontal Double break Isolator with out Earthswitch( Mettalic & Insulator)	NoS	₹ 426,303	₹ 447,018
6	245 KV, 1600A, 40 KA, (3-phase) (Horizontal Double break) isolator with one Earthswitch( Mettalic & Insulator)	NoS	₹ 487,922	₹ 512,018
7	245 KV1600A, 40 KA,(3-phase) (Horizontal Double break) isolator with two Earthswitch ( Mettalic & Insulator)	NoS	₹ 525,134	₹ 551,031
8	245 KV1600A, 40KA,(3-phase) (Horizontal Double break) Tandem Isolator ( Mettalic & Insulator)	NoS	₹ 464,874	₹ 488,118
<b>132KV</b>				
9	145kV ,(3-phase) (Horizontal Double break) Isolator without Earthswitch( Mettalic & Insulator)	NoS	₹ 258,081	₹ 270,905
10	145kV ,(3-phase) (Horizontal Double break)isolator with one Earthswitch ( Mettalic & Insulator)	NoS	₹ 270,825	₹ 284,363
11	145kV (3-phase) (Horizontal Double break)Tandem Iso ator( Mettalic & Insulator)	NoS	₹ 252,697	₹ 265,331

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*Sh. EK*      *Sh. EK*      *Sh. EK*      *Sh. EK*      *Sh. EK*

S N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>33KV</b>				
12	33 KV Isolator HDB without Earthswitch ( Mettalic & Insulator)	NoS	₹ 72,723	₹ 76,359
13	33 KV Isolator HDB with Earthswitch( Mettalic & Insulator)	NoS	₹ 86,120	₹ 90,426
<b>C Current Transformers</b>				
1	420kV (5 Core) Current Transformer (1 Ph.) 2000/1000/1	NoS	₹ 737,393	₹ 774,263
2	245kV (5 Core) Current Transformer (1 Ph.) 1600/800/1	NoS	₹ 420,043	₹ 441,045
3	245kV (5 Core) Current Transformer (1 Ph.) 800/400/1	NoS	₹ 382,931	₹ 402,078
4	145kV (5 Core) Current Transformer (1 Ph.)800/400/1	NoS	₹ 180,195	₹ 189,205
5	145kV (5 Core) Current Transformer (1 Ph.)400/200/1	NoS	₹ 171,185	₹ 179,745
5	33 KV CurrentTransformer(1 Ph.)(1000/500/1) with Junction box	NoS	₹ 49,658	₹ 52,141
6	33 KV CurrentTransformer(1 Ph.)(800/400/1) with Junction box	NoS	₹ 47,175	₹ 49,534
7	33 KV CurrentTransformer(1 Ph.)(400/200/1) with Junction box	NoS	₹ 44,816	₹ 47,057
<b>D CVT /Potential Transformers</b>				
1	420KV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 397,286	₹ 417,150
2	245kV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 370,946	₹ 389,493
3	145kV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 261,643	₹ 274,725
4	33 kV Potential Transformer (1Ph.)	NoS	₹ 45,495	₹ 47,770
<b>E Surge Arrestor / Lightning Arrester</b>				
1	400 KV Lightning Arrester	NoS	₹ 131,764	₹ 138,352
2	220 KV Lightning Arrester	NoS	₹ 74,897	₹ 78,642
3	132 KV Lightning Arrester	NoS	₹ 53,604	₹ 56,284
4	33 KV Lightning Arrester	NoS	₹ 14,381	₹ 15,100
<b>F Fire Fighting Equipments</b>				
1	45 Ltr. Foam Type	NoS	₹ 15,595	₹ 16,375
2	20 Kg CO2 Type	NoS	₹ 20,799	₹ 21,839
3	10 Kg ABC Type	NoS	₹ 10,000	₹ 10,500
4	4.5 Kg CO2 Type	NoS	₹ 6,683	₹ 7,017
5	2 Kg CO2 Type	NoS	₹ 4,994	₹ 5,244
6	6 Fire Bucket with stand	Set	₹ 6,687	₹ 7,021
7	Sand Drum (half size) filled with stand	NoS	₹ 3,701	₹ 3,886
8	Fire Hut and sand pit	Set	₹ 23,840	₹ 25,032
9	Nitrogen Injection Fire Prevention and Extinguishing System	Set	₹ 1,548,486	₹ 1,615,910
10	Smoke detection system	Set	₹ 320,922	₹ 336,968

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S.N	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>G</b>	<b>Bus Post/Support Insulator</b>			
1	420 kV Bus Post Insulators Solid core Type	NoS	₹ 50,295	₹ 52,810
2	245 kV Bus Post Insulators Solid core Type	NoS	₹ 27,194	₹ 28,554
3	145 KV Bus post Insulator Solid core Type	NoS	₹ 10,898	₹ 11,443
4	33 KV Bus Post Insulators Solid core Type	NoS	₹ 2,702	₹ 2,837
<b>H</b>	<b>Earthing Material</b>			
1	MS Round 40 mm dia	MT	₹ 67,348	₹ 0,715
2	MS Round 36 mm dia	MT	₹ 67,348	₹ 0,715
3	MS Flat 75 x 12 mm	MT	₹ 67,348	₹ 0,715
4	MS Flat 50 x 6 mm	MT	₹ 67,348	₹ 0,715
5	Pipe electrode meter (Treated Pit)	Nos	₹ 4,944	₹ 5,191
6	3 mtr deep driven earth electrode	No	₹ 2,855	₹ 2,998
7	3mtr deep driven pipe electrode	No	₹ 3,113	₹ 3,269
8	GS shield wire	Km.	₹ 62,283	₹ 65,397
<b>I</b>	<b>Control and Relay panels</b>			
	<b>400 KV Equipment</b>			
1	400 KVCircuit Breaker Control and Relay Panel			₹ -
a	With Auto Reclose	Nos	₹ 1,000,567	₹ 1,050,596
b	With out Auto Reclose	Nos	₹ 711,552	₹ 747,130
2	400 KVFeeder Protection Panel (Main 1 + Main 2)	Nos	₹ 1,526,357	₹ 1,602,675
3	400 KVTransformer Protection Panel (HV and LV)	Nos	₹ 1,361,469	₹ 1,420,543
4	400 KVBus Bar Protection Panel Singal Bus Bar main and back up	Nos	₹ 7,014,432	₹ 7,360,154
5	TBC control panel	Nos	₹ 909,608	₹ 950,088
	<b>220 KV Equipment</b>			
1	220 KVCircuit Breaker Control and Relay Panel			
a	With Auto Reclose	Nos	₹ 909,607	₹ 950,087
b	With out Auto Reclose	Nos	₹ 646,866	₹ 679,209
2	220 KVFeeder Protection Panel (Main 1 + Main 2)	Nos	₹ 1,387,597	₹ 1,456,977
3	220 KVTransformer Protection Panel (HV and LV)	Nos	₹ 1,237,699	₹ 1,296,584
4	220 KVBus Bar Protection Panel Singal Bus Bar main and back up	Nos	₹ 3,507,216	₹ 3,632,577
5	TBC control panel	Nos	₹ 826,916	₹ 868,262
6	Event Logger panel	Nos	₹ 4,100,000	₹ 4,305,000

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>132 KV Equipment</b>				
1	132 KVCircuit Breaker Control and Relay Panel for feeder or with Auto Reclose	Nos	₹ 628,249	₹ 659,661
2	132 KVCircuit Breaker Control and Relay Panel for Transformer without Auto Reclose	Nos	₹ 482,917	₹ 507,063
3	132 KVCircuit Breaker Control and Relay Panel for TBC	Nos	₹ 460,018	₹ 483,019
4	132 KV Feeder Protection Panel or Distance Protection panel	Nos	₹ 762,552	₹ 800,680
5	132 KVTransformer Relay Panel (HV and LV)	Nos	₹ 955,738	₹ 1,003,525
<b>33 KV Equipments</b>				
1	33 KV Circuit Breaker control and relay Panel for feeder, Transformer and Bus Coupler( Tripple Feeder)	Nos	₹ 790,260	₹ 829,773
<b>J PLCC Equipments</b>				
<b>400 KV /220KV/132KV</b>				
1	Line Traps 2000A, 0.5 mH/1.0 mH, 40 kA	Nos	₹ 519,967	₹ 545,965
2	Coupling device ( Phase to Phase )	Nos	₹ 191,934	₹ 201,531
3	HF Cable	Km.	₹ 220,927	₹ 231,973
4	Protection Coupler	Nos	₹ 200,084	₹ 210,088
5	Carrier Equipment for speech+protection	Nos	₹ 512,831	₹ 538,473
6	Carrier Equipment for speech+data	Nos	₹ 456,973	₹ 479,821
7	EPAX (24/8) with 24 telephones, cables etc.	Set	₹ 519,904	₹ 545,899
8	Telephone set	Nos	₹ 5,677	₹ 5,961
9	Synchronizing Trolley	Set	₹ 221,115	₹ 232,171
10	Time synchronisation equipment	Set	₹ 330,000	₹ 346,500
11	EOT Crane 5T	Set	₹ 1,510,149	₹ 1,556,656
12	Movable Ladder	Nos	₹ 55,132	₹ 57,889
<b>K Bus Bar Material and Hardware</b>				
<b>400 KV Equipment</b>				
Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material(Al Pipe 4mm dia), cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay				
400 KV 2 Main+1 Transfer Bus Bar System				
1	Feeder Bay	Sets.	₹ 1,376,256	₹ 1,440,069
2	Transformer Bay	Sets.	₹ 1,376,256	₹ 1,440,069
3	TBC	Sets.	₹ 1,032,192	₹ 1,080,802
4	Bus Coupler for three bus system	Sets.	₹ 1,032,192	₹ 1,080,802
5	Bus Works (for three bus system)	Sets.	₹ 2,752,514	₹ 2,890,139

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>220 KV Equipment</b>				
	Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material (Al Pipe 4mm dia), cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay			
	220 KV 2 Main+1 Transfer Bus Bar System			
1	Feeder Bay	Sets.	₹ 917,504	₹ 963,379
2	Transformer Bay	Sets.	₹ 917,504	₹ 963,379
3	TBC	Sets.	₹ 688,128	₹ 722,534
4	Bus Coupler for three bus system	Sets.	₹ 688,128	₹ 722,534
5	Bus Works (for three bus system)	Sets.	₹ 1,835,009	₹ 1,926,759
<b>132 KV Equipment</b>				
	Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material, cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay			
	132KV 1 Main+1 Transfer Bus Bar System			
1	Feeder Bay	Sets.	₹ 752,679	₹ 790,313
2	Transformer Bay	Sets.	₹ 522,526	₹ 548,652
3	TBC	Sets.	₹ 417,246	₹ 438,108
4	Bus Works (for Two bus system)	Sets.	₹ 885,346	₹ 929,613
<b>L Batteries</b>				
1	220V, 500 AH VRLA Type	Sets.	₹ 1,106,222	₹ 1,161,533
2	110V, 500 AH VRLA Type	Sets.	₹ 786,167	₹ 825,475
3	48V, 300 AH VRLA Type	Sets.	₹ 261,153	₹ 274,211
<b>M Battery Charger</b>				
1	220V 500 AH	No	₹ 425,122	₹ 446,378
2	110 V 500 AH	No	₹ 472,749	₹ 496,386
3	48 V 300 AH	No	₹ 352,627	₹ 370,258
<b>N Steel Structures</b>				
1	Steel Structures Lattice Type with Bolts and nuts	MT	₹ 90,547	₹ 95,074
2	Steel Structures pipe Type with Bolts and nuts	MT	₹ 96,344	₹ 101,161
<b>O Testing &amp; Maintenance Equipments</b>				
1	Megger 5 KV (Motorized)	No	₹ 445,715	₹ 468,001
2	Megger 1 KV (Motorized)	No	₹ 97,542	₹ 102,419
3	Automatic capacitor and Tan Delta measuring kit	No	₹ 5,003,386	₹ 5,253,555
4	Digital Multi meter	No	₹ 51,251	₹ 53,814
5	Leakage tester (Tong type)	Nos.	₹ 125,647	₹ 131,929
6	Selective level meter	Nos.	₹ 330,649	₹ 347,181
7	Signal generator	No	₹ 330,649	₹ 347,181
8	Micro-ohm meter	No	₹ 826,623	₹ 867,954
9	D-Spanner set (Insulated)	No	₹ 41,331	₹ 43,398

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
10	Ring-Spanner set (Insulated)	Nos.	₹ 41,331	₹ 43,398
11	Torque wrench set	Nos.	₹ 41,331	₹ 43,398
12	Insulating gloves	Nos.	₹ 8,266	₹ 8,679
13	Helmets	Set	₹ 3,306	₹ 3,471
14	Spliced ladders 5mtr.	Set	₹ 19,839	₹ 20,831
15	Spliced ladders 10mtr.	Set	₹ 29,758	₹ 31,246
16	Spliced ladders 20mtr.	Set	₹ 41,331	₹ 43,398
17	Polyamide or Braided white nylon rope -12 mm	Set	₹ 827	₹ 868
18	Polyamide or Braided white nylon rope -14 mm	mtr	₹ 1,323	₹ 1,389
19	Polyamide or Braided white nylon rope -20 mm	mtr	₹ 1,653	₹ 1,736
20	Gapless zinc oxide LA tester	mtr	₹ 41,331	₹ 43,398
21	Oil BDV Kit 0-80 KV	No	₹ 1,375,501	₹ 1,444,276
22	Gas Evacuating and refilling device	No	₹ 41,331	₹ 43,398
23	Gas Leakage Monitor	Set	₹ 82,662	₹ 86,795
24	Circuit Breaker Analyser	Nos.	₹ 4,011,438	₹ 4,120,010
25	Portable Partial discharge monitoring system	No	₹ 462,909	₹ 486,054
26	Dew Point Meter	No	₹ 99,195	₹ 104,155
27	Gas Masks	No	₹ 8,266	₹ 8,679
28	Relay Test Kit	No	₹ 4,840,706	₹ 5,082,741
29	Primary Injection Set 1000 Amp	No	₹ 1,998,445	₹ 2,098,367
31	3 Phase Relay test	No	₹ 3,012,500	₹ 3,133,125
32	Contact resistance meter	No	₹ 1,048,013	₹ 1,100,413
33	Earth resistance tester	No	₹ 494,572	₹ 519,300
34	Transformer winding resistance	No	₹ 2,115,498	₹ 2,211,273
35	Battery impedance test kit	No	₹ 836,806	₹ 878,647
36	CT/PT analyser	No	₹ 2,229,250	₹ 2,340,713
37	Frequency Domain Spectroscopy	No	₹ 3,012,500	₹ 3,133,125
38	Multi-function kit for Transformer	No	₹ 3,735,500	₹ 3,922,275
39	Sweep Frequency Response analyser	No	₹ 1,506,250	₹ 1,561,563
40	Tan Delta and Capacitance kit	No	₹ 3,307,725	₹ 3,443,111
<b>P</b>	<b>LT Switchgear</b>			₹ -
1	415V Main switchboard	No	₹ 1,286,328	₹ 1,350,645
2	415V AC distribution board	No	₹ 1,069,639	₹ 1,123,121
3	415V MLDB	No	₹ 721,055	₹ 754,107
4	415V Emergency LDB	No	₹ 346,429	₹ 363,750
5	220V DCDB	No	₹ 308,251	₹ 321,663
6	110V DCDB	No	₹ 184,262	₹ 193,476
7	48V DCDB	No	₹ 219,678	₹ 230,662
8	33 KV fuse set	No	₹ 22,204	₹ 23,314
9	AC Board	No	₹ 282,491	₹ 296,616
<b>Q</b>	<b>DG Set along with control panel (250 KVA)</b>	No	₹ 2,702,573	₹ 2,837,701
<b>R</b>	<b>Air Conditioner 2T Split Type</b>	No.	₹ 63,234	₹ 66,395
<b>S</b>	<b>Lighting Arrangement</b>			
1	SY Lighting Points HPSV Lamp 250 W	No.	₹ 14,487	₹ 15,211
2	Control Room Lighting points roof type D/tubes suspension fitting	No.	₹ 4,397	₹ 4,517
<b>T</b>	<b>Mandatory Spares</b>			2.5% of total amount

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
U	<b>Bus bar material and Insulator</b>			
1	Bolted Type Tension Fitting for ACSR Twin 'Zebra' conductor	No.	₹ 8,400	₹ 8,820
2	Bolted Type Tension Fitting for ACSR 'Zebra' conductor	No.	₹ 4,200	₹ 4,410
3	Bolted Type Tension Fitting for ACSR 'Tarantulla' conductor	No.	₹ 4,321	₹ 4,537
4	Bolted Type Tension Fitting for ACSR 'Panther' conductor	No.	₹ 4,612	₹ 4,843
5	suspension fitting for ACSR Twin 'Zebra' conductor	No.	₹ 5,303	₹ 5,568
6	suspension fitting for ACSR 'Zebra' conductor	No.	₹ 3,413	₹ 3,583
7	Suspension fitting for ACSR 'Panther' conductor	No.	₹ 1,922	₹ 2,018
8	ACSR 'Zebra' Conductor	Mtr	₹ 347	₹ 364
9	ACSR 'Panther' Conductor	Mtr	₹ 215	₹ 226
10	ACSR 'Tarantulla' Conductor	Mtr	₹ 549	₹ 577
11	ACSR 'Moose' Conductor		₹ 425	₹ 447
12	Disc Insulator 70 KN	No.	₹ 819	₹ 860
13	Disc Insulator 120 KN	No.	₹ 980	₹ 1,029
13	22 KV Post Insulator	No.		
14	clamp & connector for 132KV Substation	LS	₹ 1,756,848	₹ 1,144,691
V	Operation, Trouble shooting and familiarization of PTCUL staff with the installed system for a period of 6 months	LS	₹ 1,204,676	₹ 1,234,909
W	<b>Substation Automation System</b>			
	Complete substation automation system including hardware and software for the substation & remote control stations alongwith associated equipments as per Technical Specifications	LS	₹ 5,414,242	₹ 5,614,954
A	<b>Bay Control Units</b>			
1	400 KV system	No.	₹ 519,460	₹ 5,54,433
2	220 KV system	No.	₹ 519,460	₹ 5,54,433
3	132 KV system	No.	₹ 519,460	₹ 5,54,433
4	33 KV system	No.	₹ 519,460	₹ 5,54,433
B	<b>AC Kiosks</b>			
1	400 KV system	No.	₹ 926,533	₹ 972,860
2	220 KV system	No.	₹ 617,689	₹ 643,573
3	132 KV system	No.	₹ 584,319	₹ 613,535
4	33 KV system	No.	₹ 495,425	₹ 521,196

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## Rate Schedule for GIS Equipment Supply

S.N.	Name Of Equipment	Unit	Unit FOR Rate(For Plain)	Unit FOR Rate(For Hills)
1	Oil Storage Tank	Nos.	₹ 5,061,481	₹ 5,314,555
2	Oil sampling Bottle	Nos.	₹ 37,905	₹ 39,800
3	Micro Gas Analyzer	Nos.	₹ 5,201,522	₹ 5,461,595
<b>4</b>	<b>420KV GIS Equipment</b>			
a	420KV, 2000A,40KA SF6 gas insulated transformer bay module	Nos.	₹ 65,800,000	₹ 69,090,000
b	400KV, 2000A,40KA SF6 gas insulated feeder bay module	Nos.	₹ 65,800,000	₹ 69,090,000
c	400KV, 2000A,40KA SF6 gas Busbar module	Nos.	Included in bay prices	Included in bay prices
d	400KV, 2000A,40KA Tie bay module	Nos.	₹ 65,800,000	₹ 69,090,000
e	Continuous Monitoring system for Partial discharge detection(UHF Detection)in 400 KV and 220KV Gas -Insulated substations	Nos.	₹ 60,400,000	₹ 63,420,000
<b>4</b>	<b>245KV GIS Equipment</b>			
a	245KV, 1600A, SF6 gas insulated transformer bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, surge arrestors (216KV), SF6 gas monitoring system for complete bay, LCC, three 1-phase SF6 ducts and SF6/Air Bushing to connect to 220/33KV, 50MVA transformer and accessories with GIS etc. to complete transformer bay module	Nos.	₹ 35,599,660	₹ 37,379,643
b	245KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, line disconnector with safety grounding switch, high speed fault making grounding switch, SF6 gas monitoring system for complete bay, LCC, GIS duct and Air/SF6 bushing termination enclosure and accessories with GIS etc. to complete feeder bay module	Nos.	₹ 34,211,722	₹ 35,922,308
c	245KV, 3 single phase (isolated) units, SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer complete with safety grounding switch.	Nos.	₹ 13,258,390	₹ 13,921,309
d	245KV, SF6 gas insulated bus coupler bay module comprising of SF6 gas insulated circuit breaker, current transformer, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 25,636,818	₹ 26,918,659
e	245KV, SF6 gas insulated bus Sectionalizer module comprising of SF6 gas insulated circuit breaker, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 23,682,842	₹ 24,866,985
<b>5</b>	<b>145 KV GIS Equipment</b>			
a	145KV, 1250A, SF6 gas insulated transformer bay module each comprising of SF6 gas insulated circuit breaker, current transformer, one bus-bar disconnectors with grounding switch, and one bus bar disconnector without grounding switch surge arrestors, SF6 gas monitoring system for complete bay, LCC, three 1-phase SF6 ducts and SF6/oil Bushing to connect to 132/33KV, 5 MVA 1 Φ transformer and accessories with GIS etc. to complete transformer bay module	Nos.	₹ 15,263,838	₹ 16,027,030

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S.N.	Name Of Equipment	Unit	Unit FOR Rate(For Plain)	Unit FOR Rate(For Hills)
b	145KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, one bus-bar disconnectors with grounding switch and one busbar disconnector without grounding switch, line disconnector with safety grounding switch, high speed fault making grounding switch, SF6 gas monitoring system for complete bay, LCC, GIS duct and Air/SF6 bushing termination enclosure and accessories with GIS etc. to complete feeder bay module.	Nos.	₹ 15,261,637	₹ 16,024,719
c	145KV, 3 phase units, SF6 gas insulated, bus coupler bay module comprising of SF6 gas insulated circuit breaker, current transformer, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 10,828,484	₹ 11,369,908
d	145 KV, 3 phase units, SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer complete with safety grounding switch. (included in item above)	Nos.	₹ 10,353,461	₹ 10,871,104
e	<b>36KV GIS Equipment</b>			
a	36KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, line disconnector with safety grounding switch, high speed fault making grounding switch, SF6 gas monitoring system for complete bay, LCC, cable termination and accessories with GIS etc. to complete feeder bay module.	Nos.	₹ 3,560,757	₹ 3,738,795
b	36KV, SF6 gas insulated bus coupler bay module comprising of SF6 gas insulated circuit breaker, current transformer, two nos. of disconnectors with earthing switch, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 4,642,093	₹ 4,874,193
c	36KV, SF6 gas insulated transformer bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two nos. of bus bar disconnectors with earthing switch, surge arrestors, SF6 gas monitoring system for complete bay, with cable termination	Nos.	₹ 4,506,561	₹ 4,731,889
d	36KV, 2500A, 3-phase or single phase encapsulated unit, SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer with safety.	Nos.	₹ 2,484,615	₹ 2,608,84E
e	36KV, SF6 gas insulated bus Sectionalizer module comprising of SF6 gas insulated circuit breaker, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 4,439,889	₹ 4,661,884
f	36KV, 1250A SF6 gas insulated bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, SF6 gas monitoring system for complete bay, cable termination and accessories with GIS etc. to complete feeder bay module and out door cable terminations with all accessories suitable 630 KVA 33/0.4 KV station transformer, control units, control, and protection along with associated equipment.	Nos.	₹ 3,600,458	₹ 3,780,481
7	<b>Air-conditioner</b>			
a	AC system for 400kV GIS Hall	LS	₹ 1,943,550	₹ 2,040,728
b	Ventillation system for 220kV & 33kV GIS Hall	LS	₹ 1,329,441	₹ 1,395,913
c	Ventillation system for 132 kV & 33kV GIS Hall	LS	₹ 737,053	₹ 773,905
8	<b>Fire prevention &amp; extinguishing system</b>			
1	Fire protection for GIS cum control room building, etc. (Portable type the extinguishers system)	Lot	₹ 336,601	₹ 353,431
9	<b>Illumination system</b>			
1	Control room/GIS building illumination	LS	₹ 1,728,185	₹ 1,814,594
2	Switchyard lightning	LS	₹ 908,717	₹ 954,153
3	Solar light system for street light	LS	₹ 645,904	₹ 678,200

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## Rate Schedule for XLPE Cables

### Supply

S.N.	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate(For Hills)
<b>A</b>	<b>Control /LT/Power cables</b>			
1	2.5 mmx 14 core	Km.	₹ 592,881	₹ 622,525
2	2.5mm x 10 core	Km.	₹ 268,883	₹ 281,907
3	2.5mm x 6 core	Km.	₹ 174,881	₹ 183,415
4	2.5mm x 4 core	Km.	₹ 129,688	₹ 136,046
5	2.5mm x 2 core	Km.	₹ 81,111	₹ 85,272
6	16 Sq.mm X 4 core	Km.	₹ 110,558	₹ 116,086
7	6 Sq.mm X 4 core	Km.	₹ 73,705	₹ 77,390
8	3.5 c x 400 Sq mm	Km.	₹ 1,176,395	₹ 1,235,215
9	3.5cx300 Sq.mm	Km.	₹ 949,594	₹ 997,073
10	3.5cx70Sq.mm	Km.	₹ 298,335	₹ 313,252
11	3.5cx35Sq.mm	Km.	₹ 155,579	₹ 163,357
<b>B</b>	<b>XLPE cables</b>			
	<b>400 KV</b>			
12	400 KV XLPE Cu cable size 1x800 sq.mm	Km.	₹ 15,670,998	₹ 16,454,548
a	400 KV indoor termination suitable for above cable	Nos	₹ 3,596,045	₹ 3,775,848
b	400 KV outdoor termination suitable for 800 sq.mm	Nos	₹ 3,596,045	₹ 3,775,848
	<b>220KV</b>			
13	220 KV XLPE Cu cable size 1x1600 sq.mm	Km.	₹ 25,558,569	₹ 26,846,998
a	220 KV indoor termination suitable for above cable	Nos	₹ 2,008,788	₹ 2,109,227
b	220 KV outdoor termination suitable for 1600 sq.mm	Nos	₹ 2,008,788	₹ 2,109,227
14	220 KV XLPE Cu cable size 1x1200 sq.mm	Km.	₹ 24,310,316	₹ 25,525,832
a	220 KV indoor termination suitable for above cable	Nos	₹ 1,760,644	₹ 1,848,676
b	220 KV outdoor termination suitable for 1200 sq.mm	Nos	₹ 1,760,644	₹ 1,848,676
	<b>132KV</b>			
15	132 KV XLPE cable Al size630 sq.mm	Km.	₹ 3,240,370	₹ 3,402,389
16	Straight through/Insulated joint suitable for 132 KV 630sq.mm	Nos	₹ 261,785	₹ 274,874
17	132 KV outdoor termination suitable for 630 sq.mm	Nos	₹ 370,147	₹ 388,654
18	132 KV XLPE cable Cu size630 sq.mm	Km.	₹ 10,74,130	₹ 11,279,237
a	132 KV indoor termination suitable for 630sq.mm	Nos	₹ 1,18,794	₹ 1,244,033
b	132 KV outdoor termination suitable for 630 sq.mm	Nos	₹ 1,10,808	₹ 1,161,098
19	132 KV XLPE cable size 400 sq.mm copper cable	Km.	₹ 5,17,420	₹ 5,432,091
20	Straight through/Insulated joint suitable for 132 KV 400sq.mm	Nos	₹ 271,779	₹ 287,468
21	132 KV outdoor termination suitable for 400 sq.mm	Nos	471827.5	₹ 495,419

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate(For Hills)
22	132 KV XLPE copper cable size 240 sq.mm	Km.	₹ 5,896,122	₹ 6,191,243
a	132 KV indoor termination suitable for 240sq.mm	Nos	₹ 1,105,679	₹ 1,160,858
b	132 KV outdoor termination suitable for 240 sq.mm	Nos	₹ 1,105,679	₹ 1,160,858
	<b>33KV</b>			₹ -
23	33KV XLPE cable Cu size 1x630sq.mm	Km.	₹ 3,556,500	₹ 3,734,325
a	33KV indoor termination suitable for 1x630sq.mm	Nos	₹ 66,334	₹ 69,650
b	33KV outdoor termination suitable for 1x630sq.mm	Nos	₹ 66,334	₹ 69,650
24	33KV XLPE Copper cable size 1x400 sq.mm	Km.	₹ 3,150,000	₹ 3,307,500
a	33KV indoor termination suitable for 1x400 sq.mm	Nos	₹ 56,334	₹ 69,650
b	33KV outdoor termination suitable for 1x400 sq.mm	Nos	₹ 56,334	₹ 69,650
25	33KV XLPE Al cable size 3x400 sq.mm	Km.	₹ 706,087	₹ 741,391
a	33KV indoor termination suitable for 3x400 sq.mm	Nos	₹ 16,138	₹ 16,945
b	33KV outdoor termination suitable for 3x400 sq.mm	Nos	₹ 16,138	₹ 16,945
26	33KV XLPE Copper cable size 185 sq.mm	Km.	₹ 2,351,569	₹ 2,476,497
a	33KV indoor termination suitable for 185sq.mm	Nos	₹ 66,334	₹ 69,650
b	33KV outdoor termination suitable for 185 sq.mm	Nos	₹ 66,334	₹ 69,650
27	Earth continuity conductor of 1.1KV ,1Cx240 square mm Copper Conductor XLPE Cable	Km.	₹ 1,551,510	₹ 1,630,136
28	Single phase earthing link box without SVL	Nos	₹ 1,750	₹ 16,538
29	Single phase earthing link box with SVL	Nos	₹ 3,500	₹ 33,075
30	HDPE pipe	Mtr.	₹ 1,638	₹ 1,719
31	Three phase link box with SVL	Nos	₹ 107,824	₹ 107,965
32	6.6KV Copper conductor XLPE PVC bonding cable	Km.	₹ 1,661,030	₹ 1,747,232
33	Route Marker @100 Mtr interval	Nos	₹ 568	₹ 596
34	Warning tape in buried trench	Mtr.	₹ 45	₹ 48
35	BMK	Nos	₹ 97,810	₹ 97,450
36	Lightning JB	Nos	₹ 25,352	₹ 27,669

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## Rate Schedule for Transformers

Supply					
S.N.	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate(For Hills)	
<b>A</b>	<b>Transformers</b>				
1	315 MVA 400/220 KV	No.	₹ 117,449,488	₹ 123,321,962	
2	3X105 MVA Single Phase 400/220 KV	No.	₹ 152,390,761	₹ 160,010,299	
3	160 MVA 220/132 KV	No.	₹ 78,945,193	₹ 82,892,452	
4	100 MVA 220/132 KV	No.	₹ 60,168,780	₹ 63,177,219	
5	80 MVA 132/33 KV	No.	₹ 68,812,821	₹ 72,253,462	
6	50 MVA 220/33 KV	No.	₹ 55,495,088	₹ 58,269,842	
7	40 MVA 132/33 KV	No.	₹ 34,473,581	₹ 36,197,260	
8	25 MVA 220/33 KV	No.	₹ 30,975,000	₹ 32,523,750	
9	25 MVA 132/33 KV	No.	₹ 20,185,588	₹ 21,194,868	
10	20 MVA 132/66 KV	No.	₹ 17,595,649	₹ 18,475,431	
11	10 MVA Single Phase 220/33 KV	No.	₹ 12,429,265	₹ 13,050,728	
12	5 MVA Single Phase 132/33 KV	No.	₹ 9,759,750	₹ 10,247,738	
13	7 MVA Single Phase 132/33 KV	No.	₹ 10,442,250	₹ 10,964,363	
14	800 KVA 33/44 KV	No.	₹ 1,341,759	₹ 1,408,847	
15	630 KVA 33/44 KV	No.	₹ 1,056,635	₹ 1,109,467	
16	630 KVA 11/44 KV	No.	₹ 727,650	₹ 704,033	
17	400 KVA 11/44 KV	No.	₹ 462,000	₹ 485,100	
18	250KVA 33/0.433KV	No.	₹ 539,324	₹ 566,290	

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## Rate Schedule for AIS Equipment

### Erection

S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
<b>A Circuit Breakers</b>				
1	420 KV circuit Breakers SF6 (3 Ph.) along with support structure)	NoS	₹ 93,631	₹ 98,312
2	245kV circuit breakers SF6 (3Ph.) (along with support structure)	NoS	₹ 62,421	₹ 78,026
3	145kV circuit breakers SF6 (3 Ph.), (along with support structure)	NoS	₹ 26,788	₹ 33,485
4	33 kV Circuit Breaker SF6 (3 Ph.), along with support structure)	NoS	₹ 19,184	₹ 23,980
5	33 kV Circuit Breaker VCB (3 Ph.), (along with support structure)	NoS	₹ 19,184	₹ 23,980
<b>B Isolators</b>				
<b>400KV</b>				
1	420kV,(3-phase) HDB Isolator with out Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 26,816	₹ 33,520
2	420 KV, (3-phase)HDB isolator with one Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 28,439	₹ 35,549
3	420 KV,(3-phase) HDB isolator with two Earthswitch including the cost of Mettalics & Insulator	NoS	₹ 29,264	₹ 36,581
4	420 KV,(3-phase) HDB Tandem Isolator including the cost of Mettalics & Insulator	NoS	₹ 27,459	₹ 34,324
<b>220KV</b>				
5	245kV 1600A, 40 KA,(3-phase) Horizontal Double break Isolator with out Earthswitch( Mettalic & Insulator)	NoS	₹ 17,877	₹ 22,347
6	245 KV, 1600A, 40 KA, (3-phase) (Horizontal Double break) isolator with one Earthswitch( Mettalic & Insulator)	NoS	₹ 18,960	₹ 23,700
7	245 KV1600A, 40 KA,(3-phase) (Horizontal Double break) isolator with two Earthswitch ( Mettalic & Insulator)	NoS	₹ 19,510	₹ 24,387
8	245 KV1600A, 40KA,(3-phase) (Horizontal Double break) Tandem Isolator ( Mettalic & Insulator)	NoS	₹ 18,306	₹ 22,883
<b>132KV</b>				
9	145kV ,(3-phase) (Horizontal Double break) Isolator without Earthswitch( Mettalic & Insulator)	NoS	₹ 13,134	₹ 16,418
10	145kV , (3-phase) (Horizontal Double break)isolator with one Earthswitch ( Mettalic & Insulator)	NoS	₹ 13,166	₹ 16,457

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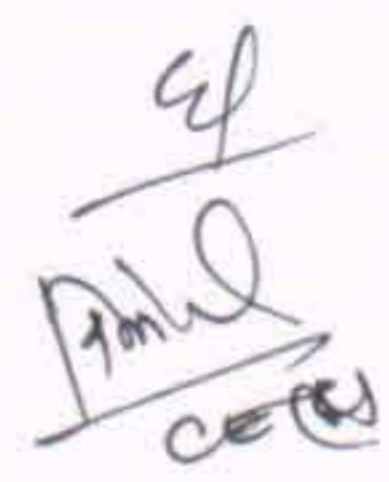
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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
11	145kV (3-phase) (Horizontal Double break) Tandem Isolator (Mettalic & Insulator)	NoS	₹ 13,272	₹ 16,589
	<b>33KV</b>			
12	33 KV Isolator HDB without Earthswitch (Mettalic & Insulator)	NoS	₹ 8,067	₹ 10,084
13	33 KV Isolator HDB with Earthswitch (Mettalic & Insulator)	NoS	₹ 8,686	₹ 10,857
<b>C</b>	<b>Current Transformers</b>			
1	420kV (5 Core) Current Transformer (1 Ph.) 2000/1000/1	NoS	₹ 10,067	₹ 12,584
2	245kV (5 Core) Current Transformer (1 Ph.) 1600/800/1	NoS	₹ 9,152	₹ 11,440
3	245kV (5 Core) Current Transformer (1 Ph.) 800/400/1	NoS	₹ 9,152	₹ 11,440
4	145kV (5 Core) Current Transformer (1 Ph.) 800/400/1	NoS	₹ 7,605	₹ 9,507
5	145kV (5 Core) Current Transformer (1 Ph.) 400/200/1	NoS	₹ 7,262	₹ 9,078
5	33 KV Current Transformer (1 Ph.) (1000/500/1) with Junction box	NoS	₹ 4,049	₹ 5,061
6	33 KV Current Transformer (1 Ph.) (800/400/1) with Junction box	NoS	₹ 4,049	₹ 5,061
7	33 KV Current Transformer (1 Ph.) (400/200/1) with Junction box	NoS	₹ 4,049	₹ 5,061
<b>D</b>	<b>CVT / Potential Transformers</b>			
1	420kV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 16,373	₹ 20,466
2	245kV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 10,915	₹ 13,644
3	145kV Capacitive Voltage Transformer (1 Ph.)	NoS	₹ 7,943	₹ 9,929
4	33 kV Potential Transformer (1 Ph.)	NoS	₹ 4,033	₹ 5,041
<b>E</b>	<b>Surge Arrestor / Lightning Arrester</b>			
1	400 KV Lightning Arrester	NoS	₹ 8,940	₹ 11,175
2	220 KV Lightning Arrester	NoS	₹ 5,960	₹ 7,450
3	132 KV Lightning Arrester	NoS	₹ 4,899	₹ 6,124
4	33 KV Lightning Arrester	NoS	₹ 1,918	₹ 2,398
<b>F</b>	<b>Fire Fighting Equipments</b>			
1	45 Ltr. Foam Type	NoS	₹ 1,260	₹ 1,574

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
2	20 Kg CO2 Type	NoS	₹ 1,384	₹ 1,730
3	10 Kg ABC Type	NoS	₹ 1,384	₹ 1,730
4	4.5 Kg CO2 Type	NoS	₹ 1,384	₹ 1,730
5	2 Kg CO2 Type	NoS	₹ 626	₹ 782
6	6 Fire Bucket with stand	Set	₹ 1,038	₹ 1,298
7	Sand Drum (half size) filled with stand	NoS	₹ 542	₹ 678
8	Fire Hut and sand pit	Set	₹ 1,847	₹ 2,309
9	Nitrogen Injection Fire Prevention and Extinguishing System	Set	₹ 105,120	₹ 131,401
10	Smoke detection system	Set	₹ 17,256	₹ 21,570
<b>G Bus Post/Support Insulator</b>				
1	420 kV Bus Post Insulators Solid core Type	NoS	₹ 9,024	₹ 11,280
2	245 kV Bus Post Insulators Solid core Type	NoS	₹ 6,016	₹ 7,520
3	145 KV Bus post Insulator Solid core Type	NoS	₹ 3,075	₹ 3,843
4	33 KV Bus Post Insulators Solid core Type	NoS	₹ 1,003	₹ 1,254
<b>H Earthing Material</b>				
1	MS Round 40 mm dia	MT	₹ 16,136	₹ 20,170
2	MS Round 36 mm dia	MT	₹ 16,136	₹ 20,170
3	MS Flat 75 x 12 mm	MT	₹ 12,328	₹ 15,410
4	MS Flat 50 x 6 mm	MT	₹ 12,328	₹ 15,410
5	Pipe electrode meter (Treated Pit)	Nos	₹ 3,234	₹ 4,043
6	3 mtr deep driven earth electrode	No	₹ 2,890	₹ 3,612
7	3mtr deep driven pipe electrode	No	₹ 2,890	₹ 3,612
8	GS shield wire	Km.	₹ 13,142	₹ 16,427
<b>I Control and Relay panels</b>				
<b>400 KV Equipment</b>				
1	400 KVCircuit Breaker Control and Relay Panel			
a	With Auto Reclose	Nos	₹ 24,200	₹ 30,250
b	With out Auto Reclose	Nos	₹ 24,200	₹ 30,250
2	400 KVFeeder Protection Panel (Main 1 + Main 2)	Nos	₹ 24,200	₹ 30,250
3	400 KVTransformer Protection Panel (HV and LV)	Nos	₹ 24,200	₹ 30,250
4	400 KVBus Bar Protection Panel Singal Bus Bar main and back up	Nos	₹ 24,200	₹ 30,250
E	TBC control panel	Nos	₹ 24,200	₹ 30,250
<b>220 KV Equipment</b>				

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
1	220 KVCircuit Breaker Control and Relay Panel			
e	With Auto Reclose	Nos	₹ 22,000	₹ 27,500
t	With out Auto Reclose	Nos	₹ 22,000	₹ 27,500
2	220 KVFeeder Protection Panel (Main 1 + Main 2)	Nos	₹ 22,000	₹ 27,500
3	220 KVTransformer Protection Panel (HV and LV)	Nos	₹ 22,000	₹ 27,500
4	220 KVBus Bar Protection Panel Singal Bus Bar main and back up	Nos	₹ 22,000	₹ 27,500
5	TBC control panel	Nos	₹ 22,000	₹ 27,500
6	Event Logger panel	Nos	₹ 22,000	₹ 27,500
	<b>132 KV Equipment</b>			
1	132 KVCircuit Breaker Control and Relay Panel for feeder or with Auto Reclose	Nos	₹ 19,028	₹ 23,785
2	132 KVCircuit Breaker Control and Relay Panel for Transformer without Auto Reclose	Nos	₹ 19,028	₹ 23,785
3	132 KVCircuit Breaker Control and Relay Panel for TBC	Nos	₹ 19,028	₹ 23,785
4	132 KV Feeder Protection Panel or Distance Protection panel	Nos	₹ 19,028	₹ 23,785
5	132 KVTransformer Relay Panel (HV and LV)	Nos	₹ 19,028	₹ 23,785
	<b>33 KV Equipments</b>			
1	33 KV Circuit Breaker control and relay Panel for feeder,Transformer and Bus Coupler( Tripple Feeder)	Nos	₹ 16,105	₹ 20,131
J	<b>PLCC Equipments</b>			
	<b>400 KV /220KV/132KV</b>			
1	Line Traps 2000A, 0.5 mH/1.0 mH, 40 kA	Nos	₹ 21,948	₹ 27,435
2	Coupling device ( Phase to Phase )	Nos	₹ 8,269	₹ 10,336
3	HF Cable	Km.	₹ 21,060	₹ 26,324
4	Protection Coupler	Nos	₹ 11,699	₹ 14,623
5	Carrier Equipment for speech+protection	Nos	₹ 18,172	₹ 22,715
6	Carrier Equipment for speech+data	Nos	₹ 14,020	₹ 17,524
7	EPAX (24/8) with 24 telephones, cables etc.	Set	₹ 9,048	₹ 11,309
8	Telephone set	Nos	₹ 600	₹ 749
10	Time synchronisation equipment	Set	₹ 7,494	₹ 9,368
11	EOT Crane 5T	Set	₹ 76,272	₹ 95,340

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
K	<b>Bus Bar Material and Hardware</b>			
	<b>400 KV Equipment</b>			
	Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material(Al Pipe 4mm dia), cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay	LS		
	<b>400 KV 2 Main+1 Transfer Bus Bar System</b>			
1	Feeder Bay	Sets.	₹ 137,115	₹ 171,394
2	Transformer Bay	Sets.	₹ 121,176	₹ 151,470
3	TBC	Sets.	₹ 92,511	₹ 115,638
4	Bus Coupler for three bus system	Sets.	₹ 92,511	₹ 115,638
5	Bus Works (for three bus system)	Sets.	₹ 118,960	₹ 148,700
	<b>220 KV Equipment</b>			
	Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material(Al Pipe 4mm dia), cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay			
	<b>220 KV 2 Main+1 Transfer Bus Bar System</b>			
1	Feeder Bay	Sets.	₹ 91,410	₹ 114,263
2	Transformer Bay	Sets.	₹ 80,784	₹ 100,980
3	TBC	Sets.	₹ 61,674	₹ 77,092
4	Bus Coupler for three bus system	Sets.	₹ 61,674	₹ 77,092
5	Bus Works (for three bus system)	Sets.	₹ 79,307	₹ 99,133

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S.N	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
	<b>132 KV Equipment</b>			
	Insulator strings, Disc Insulators, Hardware, conductor, bus-bar material, cable trays, Bay MB, clamps, connectors, earthwire, earthing material etc. for the following/Per feeder bay			
	132KV 1 Main+1 Transfer Bus Bar System			
1	Feeder Bay	Sets.	₹ 59,533	₹ 74,416
2	Transformer Bay	Sets.	₹ 45,274	₹ 56,592
3	TBC	Sets.	₹ 36,494	₹ 45,617
4	Bus Works (for Two bus system)	Sets.	₹ 82,872	₹ 103,590
<b>L</b>	<b>Batteries</b>			
1	220V, 500 AH VRLA Type	Sets.	₹ 45,329	₹ 56,661
2	110V, 500 AH VRLA Type	Sets.	₹ 19,675	₹ 24,593
3	48V, 300 AH VRLA Type	Sets.	₹ 15,364	₹ 19,205
<b>M</b>	<b>Battery Charger</b>			
1	220V 500 AH	No	₹ 10,833	₹ 13,541
2	110 V 500 AH	No	₹ 15,972	₹ 19,965
3	48 V 300 AH	No	₹ 8,569	₹ 10,711
<b>N</b>	<b>Steel Structures</b>			
1	Steel Structures Lattice Type with Bolts and nuts	MT	₹ 11,000	₹ 13,750
2	Steel Structures pipe Type with Bolts and nuts	MT	₹ 11,000	₹ 13,750
<b>P</b>	<b>LT Switchgear</b>			
1	415V Main switchboard	No	₹ 16,632	₹ 20,790
2	415V AC distribution board	No	₹ 16,933	₹ 21,167
3	415V MLDB	No	₹ 12,539	₹ 15,674
4	415V Emergency LDB	No	₹ 8,466	₹ 10,582
5	220V DCDB	No	₹ 14,981	₹ 18,726
6	110V DCDB	No	₹ 14,981	₹ 18,726
7	48V DCDB	No	₹ 6,189	₹ 7,736
8	33 KV fuse set	No	₹ 3,519	₹ 4,399
9	AC Board	No	₹ 25,962	₹ 32,453
<b>Q</b>	DG Set along with control panel (250 KVA)	No	₹ 68,130	₹ 85,162
<b>R</b>	Air Conditioner 2T Split Type	No.	₹ 3,301	₹ 4,126
<b>S</b>	<b>Lighting Arrangement</b>			

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S.N.	Name Of Equipment	UNITS	Unit FOR Rate (For Plain)	Unit FOR Rate (For Hills)
1	SY Lighting Points HPSV Lamp 250 W	No.	₹ 1,161	₹ 1,451
2	Control Room Lighting points roof type D/tubes suspension fitting	No.	₹ 794	₹ 993
<b>T</b>	<b>Mandatory Spares</b>		2.5% of total amount	
<b>U</b>	<b>Bus bar material and Insulator</b>			
1	Bolted Type Tension Fitting for ACSR Twin 'Zebra' conductor	No.	₹ 1,804	₹ 2,255
2	Bolted Type Tension Fitting for ACSR 'Zebra' conductor	No.	₹ 1,338	₹ 1,672
3	Bolted Type Tension Fitting for ACSR 'Tarantulla' conductor	No.	₹ 604	₹ 755
4	Bolted Type Tension Fitting for ACSR 'Panther' conductor	No.	₹ 1,258	₹ 1,573
5	suspension fitting for ACSR Twin 'Zebra' conductor	No.	₹ 1,804	₹ 2,255
6	suspension fitting for ACSR 'Zebra' conductor	No.	₹ 988	₹ 1,235
7	Suspension fitting for ACSR 'Panther' conductor	No.	₹ 956	₹ 1,195
8	ACSR 'Zebra' Conductor	Mtr	₹ 198	₹ 248
9	ACSR 'Panther' Conductor	Mtr	₹ 132	₹ 165
10	ACSR 'Tarantulla' Conductor	Mtr	₹ 218	₹ 272
11	ACSR 'Moose' Conductor	Mtr	₹ 363	₹ 454
12	Disc Insulator 70 KN	No.	₹ 53	₹ 66
13	Disc Insulator 120 KN	No.	₹ 53	₹ 66
13	22 KV Post Insulator	No.	₹ 165	₹ 206
14	clamp & connector	LS	₹ 17,650	₹ 22,062
<b>V</b>	Operation, Trouble shooting and familiarization of PTCUL staff with the installed system for a period of 6 months	LS	₹ 757,459	₹ 946,824
<b>W</b>	<b>Substation Automation System</b>			
	Complete substation automation system including hardware and software for the substation & remote control stations alongwith associated equipments as per Technical Specifications	LS	₹ 153,644	₹ 192,055
<b>A</b>	<b>Bay Control Units</b>			
1	400 KV system	No.	₹ 34,206	₹ 42,758
2	220 KV system	No.	₹ 22,804	₹ 28,505
3	132 KV system	No.	₹ 20,790	₹ 25,988
4	33 KV system	No.	₹ 18,389	₹ 22,986
<b>B</b>	<b>AC Kiosks</b>			
1	400 KV system	No.	₹ 42,290	₹ 52,862
2	220 KV system	No.	₹ 38,445	₹ 48,056
3	132 KV system	No.	₹ 34,277	₹ 42,846
4	33 KV system	No.	₹ 28,164	₹ 35,206

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## Rate Schedule for GIS Equipment Erection

S.N.	Name Of Equipment	Unit	Unit FOR Rate(For Plain)	Unit FOR Rate(For Hills)
1	Oil Storage Tank	Nos.	₹ 54,506	₹ 68,133
2	<b>420KV GIS Equipment</b>			
a	420KV, 2000A, 40KA SF6 gas insulated transformer bay module	Nos.	₹ 2,435,857	₹ 3,107,321
b	400KV, 2000A, 40KA SF6 gas insulated feeder bay module	Nos.	₹ 2,306,782	₹ 2,995,977
c	400KV, 2000A, 40KA SF6 gas Busbar module	Nos.	₹ 1,534,597	₹ 1,918,247
d	400KV, 2000A, 40KA Tie bay module	Nos.	₹ 1,779,715	₹ 2,224,643
e	Continuous Monitoring system for Partial discharge detection(UHF Detection)in 400 KV and 220KV Gas -Insulated substations	Nos.	₹ 1,000,000	₹ 1,250,000
3	<b>245KV GIS Equipment</b>			
a	245KV, 1600A, SF6 gas insulated transformer bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, surge arrestors (216KV), SF6 gas monitoring system for complete bay, LCC, three 1-phase SF6 ducts and SF6/Air Bushing to connect to 220/33KV, 50MVA transformer and accessories with GIS etc. to complete transformer bay module	Nos.	₹ 1,657,238	₹ 2,071,548
b	245KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, line disconnector with safety grounding switch, high speed fault making grounding switch, SF6 gas monitoring system for complete bay, LCC, GIS duct and Air/SF6 bushing termination enclosure and accessories with GIS etc. to complete feeder bay module.	Nos.	₹ 1,597,855	₹ 1,997,318
c	245KV, 3 single phase (isolated) units, SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer complete with safety grounding switch.	Nos.	₹ 1,020,065	₹ 1,278,831
d	245KV, SF6 gas insulated bus coupler bay module comprising of SF6 gas insulated circuit breaker, current transformer, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 1,186,477	₹ 1,483,096
e	245KV, SF6 gas insulated bus Sectionalizer module comprising of SF6 gas insulated circuit breaker, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 1,320,318	₹ 1,654,147
4	<b>145 KV GIS Equipment</b>			

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S.N.	Name Of Equipment	Unit	Unit FCR Rate(For Plain)	Unit FOR Rate(For Hills)
a	145KV, 1250A, SF6 gas insulated transformer bay module each comprising of SF6 gas insulated circuit breaker, current transformer, one bus-bar disconnectors with grounding switch, and one bus bar disconnector without grounding switch surge arrestors, SF6 gas monitoring system for complete bay, LCC, three 1-phase SF6 ducts and SF6/oil Bushing to connect to 132/33KV, 5 MVA 1 Φ transformer and accessories with GIS etc. to complete transformer bay module	Nos.	₹ 2,304,654	₹ 2,880,818
b	145KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, one bus-bar disconnectors with grounding switch and one busbar disconnector without gronding switch, line disocnector with safety grounding switch, high speed fault making grounding switch, SF6 gas monitoring system for complete bay, LCC, GIS duct and Air/SF6 bushing termination enclosure and accessories with GIS etc. to complete feeder bay module.	Nos.	₹ 2,304,654	₹ 2,880,818
c	145KV, 3 phase units,SF6 gas insulated, bus coupler bay module comprising of SF6 gas insulated cirucit breaker, current transformer, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 2,304,654	₹ 2,880,818
d	145 KV, 3 phase units,SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer complete with safety grounding switch. (included in item above)	Nos.	₹ 2,304,654	₹ 2,880,818
5	<b>36KV GIS Equipment</b>			
a	36KV, SF6 gas insulated feeder bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, line disocnector with safety grounding switch, high spped fualt making gruounding switch, SF6 gas monitoring system for complete bay, LCC, cable termination and accessories with GIS etc. to complete feeder bay module.	Nos.	₹ 10,943	₹ 113,678
b	36KV, SF6 gas insualted bus coupler bay module comprising of SF6 gas insulated cirucit breaker, current transformer, two nos. of disconnectors with earthing switch, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 103,367	₹ 129,209
c	36KV, SF6 gas insulated transforemr bay module each comprising of SF6 gas insualted cirucit breaker, current transformer, two nos. of bus bar disconnectors with earthing switch, surge arrestors, SF6 gas monitoring system for complete bay, with cable termination	Nos.	₹ 119,046	₹ 148,808

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S.N.	Name Of Equipment	Unit	Unit FOR Rate(For Plain)	Unit FOR Rate(For Hills)
d	36KV, 2500A, 3-phase or single phase encapsulated unit, SF6 gas insulated, metal enclosed bus bars each enclosed in bus enclosures running along the length of the switchgear to interconnect each of circuit breaker bay module. Each bus bar set shall be complete with voltage transformer with safety.	Nos.	₹ 46,217	₹ 57,771
e	36KV, SF6 gas insulated bus Sectionalizer module comprising of SF6 gas insulated circuit breaker, two disconnectors with safety grounding switches, SF6 gas monitoring system for complete bay, LCC etc.	Nos.	₹ 32,431	₹ 115,539
f	36KV, 1250A SF6 gas insulated bay module each comprising of SF6 gas insulated circuit breaker, current transformer, two bus-bar disconnectors with grounding switch, SF6 gas monitoring system for complete bay, cable termination and accessories with GIS etc. to complete feeder bay module and out door cable terminations with all accessories suitable 630 KVA 33/0.4 KV station transformer, control units, control, and protection along with associated equipment.	Nos.	₹ 102,928	₹ 128,660
6	<b>Air-conditioner</b>			
a	AC system for 400kV GIS Hall	LS	₹ 379,238	₹ 474,047
b	Ventillation system for 220kV & 33kV GIS Hall	LS	₹ 252,825	₹ 316,031
c	Ventillation system for 132 kV & 33kV GIS Hall	LS	₹ 76,822	₹ 96,027
8	<b>Fire prevention &amp; extinguishing system</b>			
a	Fire protection for GIS cum control room building, etc. (Portable type the extinguishers system)	Lot	₹ 28,436	₹ 35,545
9	<b>Illumination sytem</b>			
1	Control room/GIS building illumination	LS	₹ 131,018	₹ 238,773
2	Switchyard lightning	LS	₹ 112,063	₹ 140,078
3	Solar light system for street light	LS	₹ 30,189	₹ 100,236

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## Rate Schedule for XLPE Cables

### Erection

S.N	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate For Hills)
<b>A</b>	<b>Control /LT/Power cables</b>			
1	2.5 mmx 14 core	Km.	₹ 27,550	₹ 34,438
2	2.5mm x 10 core	Km.	₹ 25,046	₹ 31,307
3	2.5mm x 6 core	Km.	₹ 21,738	₹ 27,173
4	2.5mm x 4 core	Km.	₹ 16,056	₹ 20,070
5	2.5mm x 2 core	Km.	₹ 14,990	₹ 18,737
6	16 Sq.mm X 4 core	Km.	₹ 38,411	₹ 48,014
7	6 Sq.mm X 4 core	Km.	₹ 38,411	₹ 48,014
8	3.5 c x 400 Sq mm	Km.	₹ 83,310	₹ 104,137
9	3.5cx300 Sq.mm	Km.	₹ 52,459	₹ 65,574
10	3.5cx70Sq.mm	Km.	₹ 41,021	₹ 51,277
11	3.5cx35Sq.mm	Km.	₹ 25,479	₹ 31,849
<b>B</b>	<b>XLPE cables</b>			
	<b>400 KV</b>			
12	400 KV XLPE cable size 1x800 sq.mm	Km.	₹ 1,382,792	₹ 1,728,491
a	400 KV indoor termination suitable for above cable	Nos	₹ 153,644	₹ 192,055
b	400 KV outdoor termination suitable for 800 sq.mm	Nos	₹ 153,644	₹ 192,055
	<b>220KV</b>			
13	220 KV XLPE Cu cable size 1x1600 sq.mm	Km.	₹ 1,014,048	₹ 1,257,560
a	220 KV indoor termination suitable for above cable	Nos	₹ 153,644	₹ 192,055
b	220 KV outdoor termination suitable for 1600 sq.mm	Nos	₹ 153,644	₹ 192,055
14	220 KV XLPE Cu cable size 1x1200 sq.mm	Km.	₹ 921,862	₹ 1,152,327
a	220 KV indoor termination suitable for above cable	Nos	₹ 153,644	₹ 192,055
b	220 KV outdoor termination suitable for 1200 sq.mm	Nos	₹ 153,644	₹ 192,055
	<b>132KV</b>			
16	132 KV XLPE cable Al size 630 sq.mm	Km.	₹ 921,862	₹ 1,152,327
17	Straight through/Insulated joint suitable for 132 KV 630sq.mm	Nos	₹ 153,644	₹ 192,055
18	132 KV outdoor termination suitable for 630 sq.mm	Nos	₹ 153,644	₹ 192,055
19	132 KV XLPE cable Cu size 630 sq.mm	Km.	₹ 921,862	₹ 1,152,327
a	132 KV indoor termination suitable for 630sq.mm	Nos	₹ 153,644	₹ 192,055
b	132 KV outdoor termination suitable for 630 sq.mm	Nos	₹ 153,644	₹ 192,055
20	132 KV XLPE cable size 400 sq.mm copper cable	Km.	₹ 829,675	₹ 1,037,094
21	Straight through/Insulated joint suitable for 132 KV 400sq.mm	Nos	₹ 153,644	₹ 192,055

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S.N	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate For Hills)
22	132 KV outdoor termination suitable for 400 sq.mm	Nos	₹ 153,644	₹ 132,055
23	132 KV XLPE Cu cable size 240 sq.mm	Km.	₹ 746,708	₹ 913,385
a	132 KV indoor termination suitable for 240sq.mm	Nos	₹ 153,644	₹ 132,055
b	132 KV outdoor termination suitable for 240 sq.mm	Nos	₹ 153,644	₹ 132,055
<b>33KV</b>				
24	33KV XLPE cable Cu size 1x630sq.mm	Km.	₹ 149,884	₹ 137,355
a	33KV indoor termination suitable for 1x630sq.mm	Nos	₹ 15,364	₹ 19,205
b	33KV outdoor termination suitable for 1x630sq.mm	Nos	₹ 15,364	₹ 19,205
25	33KV XLPE copper cable size 1x400 sq.mm	Km.	₹ 134,895	₹ 138,619
a	33KV indoor termination suitable for 1x400 sq.mm	Nos	₹ 15,364	₹ 19,205
b	33KV outdoor termination suitable for 1x400 sq.mm	Nos	₹ 15,364	₹ 19,205
26	33KV XLPE Al cable size 3x400 sq.mm	Km.	₹ 149,884	₹ 137,355
a	33KV indoor termination suitable for 3x400 sq.mm	Nos	₹ 15,364	₹ 19,205
b	33KV outdoor termination suitable for 3x400 sq.mm	Nos	₹ 15,364	₹ 19,205
27	33KV XLPE Cu cable size 185 sq.mm	Km.	₹ 121,406	₹ 131,757
a	33KV indoor termination suitable for 185sq.mm	Nos	₹ 15,364	₹ 19,205
b	33KV outdoor termination suitable for 185 sq.mm	Nos	₹ 15,364	₹ 19,205
28	Single phase earthing link box without SVL	Nos	₹ 5,773	₹ 7,216
29	Single phase earthing link box with SVL	Nos	₹ 5,773	₹ 7,216
30	HDPE pipe	Mtr.	₹ 2,340	₹ 2,925
31	Three phase link box with SVL	Nos	₹ 5,773	₹ 7,216
32	Route Marker @100 Mtr interval	Nos	₹ 257	₹ 322
33	Detailed Survey, Laying of Double Circuit 132 kV, 400 sq.mm. Copper Cable. 132 KV cable in trefoil formation with one spare including excavation of ground for min. 1.2 metre depth and max. depth as per the site requirements in Normal or Hard soil/ Sand /Roads or any other site condition/ underground conditions, refilling, ramming to earth etc and with suitable size of HDPE pipes as cover on strategic locations for complete Mechanical protections of the cable showing all danger signs etc in the Ground and above on the route, complete Civil works in all respect, including installation of end termination structures with foundation for cable rise with all necessary clips & clamp and all accessories for cable rise on Tower, Earthing of system with suitable earthing rod, Bonding shielding, making of joint bay	Mtr.	5543.421	₹ 6,929
34	Installation of straight through Joint with all associated works	No.	171000	₹ 213,750
35	Installation of End Terminations with all associated works	No.	159600	₹ 139,500
36	Installation of LA with all associated works	No.	57000	₹ 71,250
37	Installation of link boxes with all associated works	Nos.	11400	₹ 14,250

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# Rate Schedule for Transformers

## Erection

S.N.	Name Of Equipment	UNITS	Unit FOR Rate in Rs.(For Plain)	Unit FOR Rate (For Hills)
<b>A</b>	<b>Transformers</b>			
1	315 MVA 400/220 KV	No.	₹ 3,489,770	₹ 4,362,212
2	3X105 MVA Single Phase 400/220 KV	No.	₹ 5,234,655	₹ 6,543,318
3	160 MVA 220/132 KV	No.	₹ 1,268,447	₹ 1,585,559
4	100 MVA 220/132 KV	No.	₹ 880,000	₹ 1,100,000
5	80 MVA 132/33 KV	No.	₹ 699,961	₹ 874,951
6	50 MVA 220/33 KV	No.	₹ 606,937	₹ 758,671
7	40 MVA 132/33 KV	No.	₹ 660,000	₹ 825,000
8	25 MVA 220/33 KV	No.	₹ 660,000	₹ 825,000
10	25 MVA 132/33 KV	No.	₹ 462,000	₹ 577,500
9	20 MVA 132/66 KV	No.	₹ 153,644	₹ 192,055
11	10 MVA Single Phase 220/33 KV	No.	₹ 153,644	₹ 192,055
12	5 MVA Single Phase 132/33 KV	No.	₹ 169,007	₹ 211,259
13	7 MVA Single Phase 132/33 KV	No.	₹ 37,079	₹ 46,349
14	800 KVA 33/.44 KV	No.	₹ 37,079	₹ 46,349
15	630 KVA 33/.44 KV	No.	₹ 37,079	₹ 46,349
16	630 KVA 11/.44 KV	No.	₹ 25,431	₹ 31,789
17	400 KVA 11/.44 KV	No.	₹ 23,046	₹ 28,808
18	250KVA 33/0.433KV	No.		







### Rate Schedule for 400/220/132KV lines

#### SUPPLY

Sl No.	Item Description	Unit	Unit FOR rate in Rs.(For Plain)	Unit FOR rate in Rs.(For Hills)
1	Fabricated Galvanized Structure(HT)	MT	96157.95	100066
2	Fabricated Galvanized Structure(MS)	MT	90546.75	95074
3	Galvanised Template of A,B,C Type Tower	MT	90546.75	95074
4	<b>Conductor &amp; Earthwire</b>			
a	ACSR Bersimis	KM	498750	523088
b	ACSR Moose	KM	425250	446013
c	ACSR Zebra	KM	346500	363025
d	ACSR Panther	KM	215250	226013
e	GS Earthwire-7/3 66 mm or 7/9 SWG	KM	81476.85	85551
f	GS Earthwire-7/3 15 mm or 7/10 SWG	KM	62282.85	65337
5	<b>Insulators</b>			
a	160 KN standard Disc insulators	Nos	1417.5	1408
b	120 KN standard Disc insulators	Nos	979.65	1009
c	90 KN standard Disc insulators	Nos	929.25	970
d	70 KN standard Disc insulators	Nos	819	860

*Kanchan*  
A/E (costing)

*SE*  
EE (costing)

*SE*  
SE (Engg.)

*Ram*  
15-9-16  
S.E (Engg-line)

*EP*  
15/9/16

*AM*  
15/09/16  
CE (OLM)  
Maldhari

*AM*  
15.09.16  
CE (Civil)

*Suyant*  
CE (P)

Sl. No.	Item Description	Unit	Unit FOR rate in Rs.(For Plain)	Unit FOR rate in Rs.(For Hills)
6	<b>Tension Fittings for conductor</b>			
a	Single Tension fitting (160 KN) Quad Bersimis	Sets	60900	63445
b	Single Tension fitting (160 KN) Quad Moose	Sets	57750	60438
c	Single Tension fitting (160 KN) Triad Moose	Sets	53151	55409
d	Double Tension fitting (160 KN) Twin Moose	Sets	36750	38488
e	Single Tension fitting (160 KN) Twin Moose	Sets	31500	33475
f	Double Tension fitting (160 KN) Twin Zebra	Sets	21000	22450
g	Double Tension fitting (160 KN) for single Zebra	Sets	14700	15435
h	Single Tension fitting (160 KN) Quad Zebra	Sets	51822.75	54414
i	Single Tension fitting (160 KN) Twin Zebra	Sets	16800	17640
j	Single Tension fitting (160 KN) Single Zebra	Sets	8400	8840
k	Double Tension fitting (120 KN) for Panther	Sets	7687.05	8041
l	Single Tension fitting (120 KN) for Panther	Nos.	4611.6	4842
7	<b>Tension/Suspension Fittings for Earthwire</b>			
a	Tension fitting for GS Earthwire-7/3, 15 mm or 7/10 SWG	Sets	1229.55	1291
b	Suspension fitting for GS Earthwire-7/3, 15 mm or 7/10 SWG	Sets	1229.55	1291
c	Tension fitting for GS Earthwire-7/3, 6.6 mm or 7/9 SWG	Sets	1691.55	1773
d	Suspension fitting for GS Earthwire-7/3, 6.6 mm or 7/9 SWG	Sets	1691.55	1773
e	Tension clamp for GS Earthwire-7/3, 15 mm or 7/10 SWG		862.05	904
8	<b>Suspension/Pilot Fittings for conductor</b>			
a	Single   Suspension fitting (120KN) for Quad Bersimis	Sets	27576.15	28945
b	Single   Suspension fitting (120KN) for Quad Moose	Sets	22981.35	24130
c	Single   Suspension fitting (120KN) for Triad Moose	Sets	17677.8	18562
d	Single   Suspension fitting (120KN) for Twin Moose	Sets	14141.4	14843
e	Single   Suspension fitting (120KN) for Quad Zebra	Sets	17235.75	18093
f	Single   Suspension fitting (120KN) for Twin Zebra	Sets	10606.05	11133
g	Single   Suspension fitting (120KN) for Single Zebra	Sets	6825	7164
h	Single   Suspension fitting (90KN) for Single Zebra	Sets	6300	6614
i	Single   Suspension fitting (70KN) for Panther	Sets	3843	4034

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EE (casting)

SE (Erg)

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CE (atg)  
Halduwa

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CE (atg)

16/9/16

CE (P)

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Sl. No.	Item Description	Unit	Unit FOR rate in Rs.(For Plain)	Unit FOR rate in Rs.(For Hills)
a	Mid span compression joint for ACSR Bersimis	Nos.	1926.75	2023
b	Mid span compression joint for ACSR Moose	Nos.	1605.45	1686
c	Mid span compression joint for ACSR Zebra	Nos.	1239	1301
d	Mid span compression joint for ACSR Panther	Nos.	1076.25	1130
<b>Mid span compression joint for Earthwire</b>				
e	Midspan compression joint for 7/3.66 mm GS Earthwire or 7/9 SWG	Nos.	577.5	606
f	Midspan compression joint for 7/3.15 mm GS Earthwire or 7/10 SWG	Nos.	451.5	474
<b>Repair sleeve</b>				
a	Repair sleeve for ACSR Bersimis	Nos.	1383.9	1453
b	Repair sleeve for ACSR Moose	Nos.	1152.9	1211
c	Repair sleeve for ACSR Zebra	Nos.	921.9	963
d	Repair sleeve for ACSR Panther	Nos.	460.95	484
e	Repair sleeve for Earth wire	Nos.	446.25	463
<b>Flexible copper Bonds</b>				
a	Flexible copper Bonds for 7/3.15 mm GS Earthwire or 7/10 SWG	Nos.	1152.9	1211
b	Flexible copper Bonds For 7/3.66 mm GS Earthwire or 7/9 SWG	Nos.	1441.65	1511
<b>Bundle spacer Damper</b>				
a	Bundle spacer Damper for ACSR Quad Bersimis	Nos.	2175.6	2284
b	Bundle spacer Damper for ACSR Quad Moose	Nos.	1812.3	1903
c	Bundle spacer Damper for ACSR Triad Moose	Nos.	1394.4	1464
d	Bundle spacer Damper for ACSR Twin Moose	Nos.	1116.15	1172
e	Bundle spacer Damper for ACSR Quad Zebra	Nos.	1358.7	1427
f	Bundle spacer Damper for ACSR Twin Zebra	Nos.	835.8	878
<b>Vibration Damper</b>				
a	Vibration Damper For Panther Conductor	Nos.	1207.5	1268
b	Vibration Damper For Zebra Conductor	Nos.	1470	1544
c	Vibration Damper For 7/3.15 mm GS Earthwire or 7/10 SWG	Nos.	908.25	954
d	Vibration Damper For 7/3.66 mm GS Earthwire or 7/9 SWG	Nos.	1155	1213

*Sanjay AE*

*Sanjay EE (casting)*

*Sanjay SE (Engg)*

*Sanjay 15.09.2016 SE (Engg mt)*

*Sanjay 15/9/16*

*Sanjay 15/09/16 CE (O&A) Hal Khan*

*Sanjay 15.09.2016 CE (Final)*

*Sanjay*

*Sanjay CE (S)*



Sl. No.	Item Description	Unit	Unit FOR rate in Rs.(For Plain)	Unit FOR rate in Rs.(For Hills)
<b>Rigid spacer</b>				
5	Rigid spacer for ACSR Quad Bersimis	Nos.	988.05	1037
6	Rigid spacer for ACSR Quad Moose	Nos.	824.25	865
7	Rigid spacer for ACSR Triad Moose	Nos.	633.15	665
8	Rigid spacer for ACSR Twin Moose	Nos.	507.15	533
9	Rigid spacer for ACSR Twin Zebra	Nos.	472.5	496
10	Armour Rod For Panther	Nos.	1229.55	1271
11	Counterpoise Type(set of 4 No. for each tower)	Sets	10761.45	11300
12	Pipe type(set of 2 No. for each tower)	Sets	7687.05	8071
13	Danger Plate	Nos.	460.95	48
14	Number Plate	Nos.	460.95	48
15	Phase plate (set of three)	Sets	484.05	508
16	Circuit plate (set of two)	Sets	460.95	484
17	Anti-climbing device barbed wire type	Sets	10761.45	11300
18	Bird Guard	Nos.	537.6	564

Note: Hill Index for Supply items has been taken @ 5%.

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EE (Gating)

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SE (Engg)

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15-9-16  
SIB (Cable)

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16/9/16

*15/09/16*  
CE (Adm)  
Haldwan

*Adm*  
15.09.2016  
CE (Adm)  
Dio

*Adm*  
CE (P)

### Rate Schedule for 400/220/132 KV lines Erection

Sl. No.	Description	Unit	Unit FOR rate in Rs.(for Plains)	Unit FOR rate in Rs.(for Hills)
<b>1 Survey</b>				
i) a)	Survey including profiling, tower spotting , optimisation of tower locations, prepration of tower schedule for 400 KV Line	kms	22990	28737.5
i) b)	Survey including profiling, tower spotting , optimisation of tower locations, prepration of tower schedule for 220 KV Line	kms	22990	28737.5
i) c)	Survey including profiling, tower spotting , optimisation of tower locations, prepration of tower schedule for 132 KV Line	kms	22990	28737.5
ii) a)	Check Survey including peg marking for 400 KV Line	kms	17036.8	21296
ii) b)	Check Survey including peg marking for 220 KV Line	kms	17036.8	21296
ii) c)	Check Survey including peg marking for 132 KV Line	kms	17036.8	21296
<b>2 Laying, Stringing Tensioning, clamping, jointing etc. complete with single ACSR conductor including hoisting of insulators and fitting of vibration dampers etc. for complete route .</b>				
i) a)	400 KV D/C Quad Moose Line	kms	555500	971300
i) b)	400 KV D/C Triad Moose Line	kms	445500	778800
i) c)	400 KV D/C Twin Moose Line	kms	370700	649000
i) d)	220 KV D/C Quad Zebra Line	kms	445500	778800
ii) a)	220 KV D/C Twin Zebra Line	kms	297000	519200
ii) b)	220 KV D/C single Zebra Line	kms	198000	346500
ii) c)	132 KV D/C single Panther Line	kms	132000	231000
iii) a)	220 KV S/C single Zebra Line on D/C Tower	kms	138600	242550
iii) b)	132 KV S/C single Panther Line on D/C Tower	kms	92400	161700
<b>3 Laying, Stringing Tensioning, clamping, jointing etc. complete with earth wire including fixing of clamps and all accessories.</b>				
i) a)	Laying, Stringing Tensioning, clamping, jointing etc. complete with single earth wire 7/9 SWG including fixing of clamps and all accessories.	kms	13141.7	16427.125
i) b)	Laying, Stringing Tensioning, clamping, jointing etc. complete with Double earth wire 7/9 SWG including fixing of clamps and all accessories.	KMs	24158.2	30197.75
i) c)	Laying, Stringing Tensioning, clamping, jointing etc. complete with single earth wire 7/10 SWG including fixing of clamps and all accessories.	KMs	13420	16775
<b>4 Tag welding on bolts &amp; nuts on first section of Tower</b>				
i	132KV tower	No.	13420	16775
ii	220KV tower	No.	19800	24750
iii	400KV tower	No.	27500	34375
<b>5 Soil investigation</b>				
a	Detailed soil investigation in all type of soil.	loc	49500	61875
<b>6 Erection of various type of towers, tower parts and tower extension (complete) and leg extension with bolts &amp; nuts</b>				
		MT	11000	13750

*Lachar*  
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*Singh*  
EE (Casting)

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SE (Engg.)

*Panigrahi*  
15.9.2016  
SE (Cable line)

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CB (Civil)

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CE (P)

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Sl. No.	Description	Unit	Unit FOR rate in Rs.(for Plains)	Unit FOR rate in Rs.(for Hills)
	<b>Installation of Earthing of Towers</b>			0
i)	Counterpoise Type Earthing(set of 4 No. for each tower)	Set	7453.6	9317
ii)	Pipe Type Earthing (set of 2 No. for each tower)	Set	2665.3	3331.625
	<b>Installation of tower accessories</b>			0
i)	Danger Plate	No.	160.6	200.75
ii)	Number Plate	No.	160.6	200.75
iii)	Phase Plate	Set	160.6	200.75
iv)	Circuit Plate (Set of two)	Set	160.6	200.75
v)	Anti-Climbing Device( barbed wire type )	Set	695.2	869
vi)	Birds Guards (set of six)	Set	482.9	603.625
9)	Painting of Towers (above 45m from ground level)	No.	34074.7	42593.37
	Setting of Stubs, including all foundation work but excluding the cost of concreting and excavation			
	<b>132KV tower</b>			
i)	A type (0°- 2°) tower	Nos.	5745.3	7181.625
ii)	B type (2°- 15°) tower	Nos.	9224.6	11530.75
iii)	C type (15°- 30°) tower	Nos.	10963.7	13704.625
iv)	D type (30°- 60°) tower	Nos.	11550	14437.5
	<b>220KV tower</b>			0
i)	A type (0°- 2°) tower	Nos.	6319.83	7899.7375
ii)	B type (2°- 15°) tower	Nos.	10147.06	12683.325
iii)	C type (15°- 30°) tower	Nos.	12060.07	15075.0875
iv)	D type (30°- 60°) tower	Nos.	12705	15881.25
	<b>400 KV tower</b>			0
i)	A type (0°- 2°) tower	Nos.	6951.813	8689.76625
ii)	B type (2°- 15°) tower	Nos.	11161.766	13952.2075
iii)	C type (15°- 30°) tower	Nos.	13266.077	16582.59625
iv)	D type (30°- 60°) tower	Nos.	13975.5	17469.375
	MS Steel Bar	MT	71500	89375

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*AE*

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*CE (OR M)*  
*Headwani*

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*SE (C&T line)*

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*CE (EIL)*

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*15/09/16*  
*CE (P)*

### Rate Schedule for Civil works

Sl. No.	Description	Unit	Unit FOR rate (for Plain)	Unit FOR rate (for Hills)
			(Rs.)	(Rs.)
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or pits of any size, including dressing of sides and ramming of bottoms, including getting out the excavated soil and disposal of surplus excavated soil as directed, including all leads & lifts.			
a)	In ordinary soil/earth mixed with boulders	cum	264	375.1
b)	In ordinary Rock/DFR/SFR	cum	445.5	631.4
c)	In Hard Rock	cum	903.1	1282.6
2	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means in benching/revetment work including disposal of surplus excavated soils as directed, with all leads and lifts, disposed earth to be neatly levelled and dressed. Hard rock IIR (Hills)	cum		
a)	In ordinary soil/earth mixed with boulders	cum	261.8	371.8
b)	In ordinary Rock/DFR/SFR	cum	421.3	598.4
c)	In Hard Rock	cum	899.8	1278.2
3	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	140.8	200.2
4	Supply and spreading of earth by earth work in excavation by mechanical means (Hydraulic excavation)/ manual means over surface areas, in trenches, plinth, sides of foundation etc., in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50m and all lift (land of earth supply to be arranged by the contractor at his own cost)	cum	652.3	926.2
5	<b>Protection work of Tower Footings and foundation works including supply of all materials, labour, T&amp;P etc. complete.</b>			
(i)	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with :Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	4745.4	6740.8
(ii)	Providing and laying in position cement concrete of specified grade including the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	7885.9	11201.3
(iii)	Providing and laying boulders apron for protection with stone boulders weighing not less than 25 kg each complete including excavation as per drawing and technical specification. Boulder Laid Dry with wire crates of 8 gauge 3WG G.I. wire conforming to IS:280 & IS:4826 in 150mm x 150mm mesh.	cum	2011.9	2857.8

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CE (12M)  
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CE (Civil)

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CE (C)

Sl. No.	Description	Unit	Unit FOR rate (for Plain)	Unit FOR rate (for Hills)
(iv)	Providing and laying in position specified grade of reinforced cement concrete, including the cost of centering, shuttering, finishing. All work up to plinth level : 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	8763.7	12447.6
(v)	Providing and laying in position cement concrete of specified grade including the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	cum	7172	10187.1
(vi)	12 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	Sqm	214.5	303.6
(vii)	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate)	cum	6493.3	9222.4
(viii)	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	6465.8	9183.9
(ix)	Providing weep hole with 75 mm PVC pipe (pressure 6 kg/sqcm in proper slope)	RM	278.3	394.9
(x)	Providing and laying in position specified grade of reinforced cement concrete, including the cost of centering, shuttering, finishing. All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	8212.6	1664.4

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SE (Civil)

16/9/16

15/9/16  
CE (OR)  
Haldwari

Am  
15.9.2016  
CE (Civil)

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CE (P)

**Cost Estimate (Supply)**

Name of Work: ULDC Phase-II RTU, APS & Communication Network.

S. No.	Description of Item	Unit	Unit FOR price
<b>A Remote Terminal Units Cabinet including CPU, Power Supply, I/O Modules along with interface Cabinets relay, transducers, Modems, Terminal Blocks, Cabinet, Switches etc.)</b>			
1	RTU base equipment racks, sub-racks, Power Supply modules, Communication Modules, interfacing equipment, required converters & all other required items/accessories including complete wiring for all modules	No.	20,88,797.65
2	SIC panel	Set	3,46,372.85
3	Multi Function Transducer (MFT)	No.	15,797.58
4	OLTC Transducer	No.	11,567.88
5	DC Transducers	No.	10,885.23
6	Contract Multiplying Relay (CMR)	No.	734.46
7	Interposing Relays	No.	2,128.55
8	Dummy Breaker Relay	No.	2,128.55
9	Modem along with rack & power supply (PLCC)	No.	1,42,808.75
<b>B PLCC Equipment</b>			
1	Digital PLCC terminal Equipment -40 W	No.	10,30,813.02
2	Coupling Device Suitable for 220/132 KV System (Phase-Phase consisting of two Box)	Set	1,90,634.00
3	Coupling Device Suitable for 220/132 KV System (Phase-Ground consisting of one Box)	Set	1,03,233.63
4	VT Suitable for 132 KV (Rated Voltage 145 KV)	Nos.	6,20,878.97
5	Line Trap 1250A/0.5mH/40KA suitable for 132 KV	Nos.	4,16,661.84
6	RF Co-axial Cable (75 Ohm)	Meter	176.72
7	Laptop based NMS software for Digital PLCC (1 set each at Rishikesh and Kashipur)	Set	22,27,971.00
<b>C Auxiliary Power Supply</b>			
<b>a) Batteries</b>			
1	-8 V, 300AH Tubler Type	No.	2,61,153.00
<b>b) Battery Charger</b>			
1	-8 V 300 AH	No.	3,52,627.00

*Anshu AE*  
*SECEngs SL EE (cashy)*  
*15-9-16 SE (SCADA)*  
*Ram 15-9-16 SE (Cable line)*  
*15/09/16 CE (O&M) Haldergami*  
*15.09.2016 CE (cashy)*  
*16/9/16*  
*CE (B)*

Cost Estimate (Erection)

Name of Work: ULDC Phase-II RTU, APS & Communication Network.

S. No.	Description of Item	Unit	Unit FOI Charges
A	Remote Terminal Units Cabinet including CPU, Power Supply, I/O Modules along with interface Cabinets relay, transducers, Modems, Terminal Blocks, Cabinet, Switches etc.)		
1	RTU base equipment racks, sub-racks, Power Supply modules, Communication Modules, interfacing equipment, required converters & all other required items/accessories including complete wiring for all modules	No.	1,46,436.85
2	SIC panel	Set	-
3	Multi Function Transducer (MFT)	No.	6,066.32
4	CTC Transducer	No.	7,258.84
5	EC Transducers	No.	7,258.85
6	Contract Multiplying Relay (CMR)	No.	741.32
7	Interposing Relays	No.	3,177.18
8	Dummy Breaker Relay	No.	3,833.00
9	Modem along with rack & power supply (PLCC)	No.	36,425.40
B	PLCC Equipment		
1	Digital PLCC terminal Equipment -40 W	No.	1,07,950.31
2	Coupling Device Suitable for 220/132 KV System (Phase-Phase consisting of two Box)	Set	20,036.00
3	Coupling Device Suitable for 220/132 KV System (Phase-Ground consisting of one Box)	Set	10,657.47
4	CVT Suitable for 132 KV (Rated Voltage 145 KV)	Nos.	66,158.81
5	Line Trap 1250A/0.5mH/40KA suitable for 132 KV	Nos.	43,461.64
6	HF Co-axial Cable (75 Ohm)	Meter	32.11
7	Laptop based NMS software for Digital PLCC (1 set each at Rishikesh and Kashipur)	Set	2,37,354.50
C	Auxiliary Power Supply		
a)	Batteries		
1	48 v. 300AH Tubler Type	No.	17,459.00
b)	Battery Charger		
1	48 v. 300 AH	No.	9,738.00

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*SE (Engg) 5/6*  
*SE (Engg)*  
*15-9-16*  
*SE (SCADA)*  
*15-9-16*  
*SE (Engg-line)*  
*15-9-16*  
*CE (C&D)*  
*15-9-16*  
*CE (P)*

Note & Order

**Subject:- Regarding approval of Rate Schedule for "OPGW and Associated Hardware items under OPGW connectivity in PTCUL under phase-II of ULDC Projects".**

The tender for "OPGW and Associated Hardware items under OPGW connectivity in PTCUL under phase-II of ULDC Projects" against specification no. PTCUL/E-Tender/C&P-II/OPGW-13/2013-14 was invited by C&P wing.

Subsequently on the basis of budgetary offers received from various manufacturers/firms of OPGW, Hardware and OLTE equipments and the price offers received in PTCUL OPGW tender in year 2008 suitably brought forward on grounds of prices escalations, the cost estimate for the subject tender was reviewed and framed by EE(SCADA), EE(Costing) & EE(Engg.) amounting to Rs. 31,97,27,428.80 (Rs. Thirty One Crore Ninety Seven Lacs Twenty Seven Thousand Four Hundred Twenty Eight and Paise Eighty only) **(Annexure-1)** and submitted to SE(Engg.) vide letter no. 41/SE(SCADA)/PTCUL dated 09.03.2015 **(Annexure-2)** for finalization by Rate Finalization Committee.

As per SE(Engg.) letter no. 12/SE(Engg.)/PTCUL dated 09.03.2015 **(Annexure-3)** a meeting was held on 09.03.2015 on which rate schedule of OPGW and Associated Hardware Items was finalized by Rate Finalization Committee.

The finalized rate schedule of "OPGW and Associated Hardware items under OPGW connectivity in PTCUL under phase-II of ULDC Projects" was submitted to this office by SE(Engg.) vide letter no. 180/SE(Engg.)/PTCUL dated 07.04.2015**(Annexure-4)** which is same as rates submitted for review vide letter no. 41/SE(SCADA)/PTCUL dated 09.03.2015.

In light of above, may kindly like to approve the Rate Schedule for OPGW and Associated Hardware Items as finalized by the Rate Finalization Committee and enclosed herewith as **Annexure-5**.

Submitted for kind approval.

(Anupam Sharma)  
Superintending Engineer (I/C) (SCADA)

*Recommended*  
*[Signature]*

CE(Projects)/Director(Project)/MD, PTCUL

*MD, PTCUL*

*May like to Ely approve*  
*[Signature]*  
*17/4/15*

No. 531/MD/PTCUL/A-1/DE. 18/04/15

*Agreed as above*  
*[Signature]*  
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## Rate Schedule for OPGW and Associated Hardware items

### Supply

Sl. No	Description of Items	Unit	Unit FOR rate
<b>A- OPGW</b>			
1	OPGW 24 Fibre - 132 & 220KV	Kms.	162907
2	OPGW 24 Fibre - 400KV	Kms.	162907
3	OPGW 48 Fibre - 132KV	Kms.	206022
4	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 24 Fibre OPGW on 132/220KV lines	Nos.	10918
5	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 48 Fibre OPGW on 132/220KV lines	Nos.	11747
6	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 24 Fibre OPGW on 400KV lines	Nos.	10918
7	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 24 Fibre OPGW on 132/220KV Lines	Nos.	4695
8	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 48 Fibre OPGW	Nos.	5435
9	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 24 Fibre OPGW on 400KV lines	Nos.	4695
10	Vibration Damper	Nos.	1780
11	Reinforcing rod	Nos.	2142
12	Splice enclosure along with the downlead clamps as needed for 24 Fiber OPGW	Nos.	12207
13	Splice enclosure along with the downlead clamps as needed for 48 Fiber OPGW	Nos.	14209
14	Approach Cable 24 Fibre	Kms.	94500
15	Approach Cable 48 Fibre	Kms.	126563
16	Junction Box(OPGW-Approach cable) along with downlead clamp for 24 Fibre	Nos.	12207
17	Junction Box(OPGW-Approach cable) along with downlead clamp for 48 Fibre	Nos.	14209
18	FODP 24F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	2646.91
19	FODP 48F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	30744.83
20	FODP 96F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	425929.98
21	Galvanized steel structure required for strengthening of towers	MT	86235

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**Rate Schedule for OLTE and Associated Hardware items**

**Supply**

I	SDH/MUX EQUIPMENT consisting of	Unit	Unit FOR rates
1	Steel Cabinet with all internal wiring/terminations/MDF and arrangement for dual 48V Power supply input	Nos.	156726.91
2	SDH/MUX base 19" equipment rack (incl. front cover, cable tray, common cards such as redundant CPU) with arrangement for dual input power supply.	Nos.	434535.88
3	OLTE - 4 Port STM-1 (155 Mbps) Card excluding SFPs	Nos.	427530.16
4	SFP module to support upto 50 km	Nos.	51835.35
5	SFP module to support upto 100 km	Nos.	242178.30
6	SFP module to support upto 150 km	Nos.	380555.90
7	Optical Amplifier/Booster equipment	Nos.	206560
8	OFC Patch Cords - (Set of 12 Nos.)	Set	1081.08
9	Ethernet over SDH transport card (with eight 10/100/1000BaseT interfaces)	Nos.	173409.13
10	8 Port E1 interface card	Nos.	105797.91
11	8 Port 4w E&M Interface card	Nos.	91834.96
12	12 Port FXO interface card	Nos.	51384.38
13	10 Port FXS interface card	Nos.	55799.77
14	4 Port programmable data interface card	Nos.	68836.59
15	Teleprotection card (4 Commands each)	Nos.	494833.84
16	Engineering Order Wire Phone	Nos.	39731.11
17	GPS Clock (1+0) including all hardware and accessories.	Set	192619.80
<b>II</b>	<b>Network Management System:</b>		
i	System hardware and software	Set	2255125.30
ii	Logger	Nos.	
iii	Printer	Nos.	
iv	Furniture for above NMS	Set	
19	Craft Terminal Laptop with configuration software for above SDH/Multiplexer	Nos	316089.11
20	Interface cables for Power, data, voice, teleprotection, time synchronisation etc as per respective site requirement	Lot	50064.70

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III		Mandatory Spares for SDH/MUX		
1		SDH/MUX base 19" equipment rack (incl. front cover, cable tray, common cards such as redundant CPU) with arrangement for dual input power supply.	Nos.	1567 6.91
2		OLTE - 4 Port STM-1 (155 Mbps) Card excluding SFPs	Nos.	4275 0.16
3		SFP module to support upto 50 km	Nos.	518 5.35
4		SFP module to support upto 100 km	Nos.	242 78.3
5		SFP module to support upto 150 km	Nos.	380 65.9
6		Optical Amplifier/Booster equipment	Nos.	23 560
7		OFC Patch Cords - (Set of 12 Nos.)	Set	10 1.08
8		Ethernet over SDH transport card (with eight 10/100/1000BaseT interfaces)	Nos.	1734 9.13
9		8 Port E1 interface card	Nos.	1057 7.91
10		8 Port 4w E&M Interface card	Nos.	918 4.96
11		12 Port FXO interface card	Nos.	513 4.38
12		10 Port FXS interface card	Nos.	557 9.77
13		4 Port programmable data interface card	Nos.	688 6.59
14		4 Command Integrated Teleprotection card	Nos.	4948 3.84
15		Engineering Order Wire Phone	Nos.	392 1.11
IV		Testing and maintenance equipment (for SDH/MUX)		0
i		SDH Analyser with Jitter and Wander Options	Nos.	29199 2.55
ii		Handheld 2Mbps BER Tester	Nos.	4234 5.16
iii		Digital Multimeter	Nos.	686 1.54
iv		Ethernet Tester (with dual port, 10/100 ports Mbps Ethernet option, layer-1 & layer-2 functionality)	Nos.	9148 3.70

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# Rate Schedule for OPGW and Associated Hardware items

## Erection

Sl. No	Description of Items	Unit	Unit FOR rates
<b>A- OPGW</b>			
1	OPGW 24 Fibre - 132 & 220KV	Kms.	27675.5
2	OPGW 24 Fibre - 400KV	Kms.	27675.5
3	OPGW 48 Fibre - 132KV	Kms.	27675.5
4	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 24 Fibre OPGW on 132/220KV lines	Kms.	11827.56
5	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 48 Fibre OPGW on 132/220KV lines		
6	All required hardware such as Tension assemblies, earthing bond and downlead clamps as needed for a tension tower suitable for 24 Fibre OPGW on 400KV lines		
7	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 24 Fibre OPGW on 132/220KV Lines		
8	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 48 Fibre OPGW		
9	Suspension assembly and any other hardware as needed for a Suspension tower suitable for 24 Fibre OPGW on 400KV lines		
10	Vibration Damper		
11	Reinforcing rod		
12	Splice enclosure along with the downlead clamps as needed for 24 Fiber OPGW		
13	Splice enclosure along with the downlead clamps as needed for 48 Fiber OPGW		
14	Approach Cable 24 Fibre	Kms.	80730.96
15	Approach Cable 48 Fibre	Kms.	91305.96
16	Junction Box(OPGW-Approach cable) along with downlead clamp for 24 Fibre	Nos.	14100
17	Junction Box(OPGW-Approach cable) along with downlead clamp for 48 Fibre	Nos.	14100
18	FODP 24F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	22098.93
19	FODP 48F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	36198.93
20	FODP 96F : Indoor Type, rack mounted with FCPC coupling and pig tails (5 mtrs each).	Nos.	72197.86
21	Galvanized steel structure required for strengthening of towers	MT	10000

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## Rate Schedule for OLTE and Associated Hardware items

### Erection

I	SDH/MUX EQUIPMENT consisting of	Unit	Qty.		Jnit FOR rates
1	Steel Cabinet with all internal wiring/terminations/MDF and arrangement for dual 48V Power supply input	Nos.	14		821968
2	SDH/MUX base 19" equipment rack (incl. front cover, cable tray, common cards such as redundant CPU) with arrangement for dual input power supply.	Nos.	14		
3	OLTE - 4 Port STM-1 (155 Mbps) Card excluding SFPs	Nos.	28		
4	SFP module to support upto 50 km	Nos.	38		
5	SFP module to support upto 100 km	Nos.	6		
6	SFP module to support upto 150 km	Nos.	4		
7	Optical Amplifier/Booster equipment	Nos.	4		
8	OFC Patch Cords - (Set of 12 Nos.)	Set	17		
9	Ethernet over SDH transport card (with eight 10/100/1000BaseT interfaces)	Nos.	14		
10	8 Port E1 interface card	Nos.	14		
11	8 Port 4w E&M Interface card	Nos.	14		
12	12 Port FXO interface card	Nos.	4		
13	10 Port FXS interface card	Nos.	14		
14	4 Port programmable data interface card	Nos.	10		
15	Teleprotection card (4 Commands each)	Nos.	21	23191	
16	Engineering Order Wire Phone	Nos.	14		
17	GPS Clock (1+0) including all hardware and accessories.	Set	1	110301	
<b>II</b>	<b>Network Management System:</b>				232116
i	System hardware and software	Set	1		
ii	Logger	Nos.	1		
iii	Printer	Nos.	1		
iv	Furniture for above NMS	Set	1		
19	Craft Terminal Laptop with configuration software for above SDH/Multiplexer	Nos.	6		
20	Interface cables for Power, data, voice, teleprotection, time synchronisation etc as per respective site requirement	Lot	13		
<b>III</b>	<b>Training</b>				
1	Training on Fibre Optic Cabling (OPGW) system including splicing of F.O. cable during installation	Mandays	50		
2	Training on Telecom Equipment (SDH, MUX & DACS) including TMN	Mandays	100	18119	

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IV	Maintenance Charges				
1	Maintenance Charges for Communication System for two (2) year during Warranty period	Year	2		2811985
2	Maintenance Charges for Communication System (excluding FO Cabling) for Five (5) years after Warranty period				
	1st Year	LS	1		
	2nd year	LS	1		
	3rd Year	LS	1		
	4th Year	LS	1		
	5th Year	LS	1		3463082

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POWER TRANSMISSION CORPORATION OF UTTARAKHAND LIMITED

LIST OF NON-SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/Remark
			In Figures	In Words	
1.	Supply, installation, testing & commissioning of 1x40 watt fluorescent tube light fitting of Super strip "Havells" make with requisite accessories like copper ballast, starter, tube etc. including supply of all materials labour T&P etc. required for proper completion of work (Based on market rate+DSR 2014-14)	No	551.00	Rs. Five Hundred Fifty One Only	Based on market rate +DSR 2014-1.41
2.	Supply, installation, testing & commissioning of ceiling fan "Havells" make ES - 50 5 tar rating model fan sweep - 200 mm, including wiring the down rods of standard length (up to 30 cm with 1.5 sqmm FR PVC insulated copper conductor, single core cable, including providing & fixing phenolic laminated sheet cover on the fan box etc as required. (Based on market rate + DSR 2014-1.45)	No	2284.00	Rs. Two Thousand Two Hundred Eighty Four Only	Based on market rate + DSR 2014-1.45
3.	S/F of Ventilating fan 300 mm dia, Havells make "Ventil Air-DB" including supply of all materials, labour T&P etc. required for proper completion of work (Based on market rate+DSR 2014-1.50.1)	No	2325.00	Rs. Two Thousand Three Hundred Twenty Five Only	Based on market rate+DSR 2014-1.50.1
4.	Providing and fixing 25 mm thick wood finish aluminium alloy curtain rod with wooden brackets & gully (weight of curtain rod shall not be less than 240 gm per metre) including all fixtures and labour charges complete.	Metre	214.00	Rs. Two Hundred Fourteen Only	Based on market rate
5.	P/F Havells or equivalent make C.F.L 23 watt including installation, testing and commissioning complete in all respect.	Each	291.00	Rs. Two Hundred Ninety One Only	Do.....
6.	P/F Havells or equivalent make C.F.L 15 watt including installation, testing and commissioning complete in all respect.	Each	205.00	Rs. Two Hundred Five Only	Do.....
7.	Supply and spreading of earth in trenches, plinth, sides of foundation etc., in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering to obtain 95% proctor density (supply of earth to be arranged by the contractor at his own cost from out side of the corporation property)	Cum	490.00	Rs. Four Hundred Ninety Only	Do.....
8.	Providing and fixing pressed steel window frames, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead (if required), mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed cut hinges 2.5 mm thick with mortar guards as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge. Modified profile B having single rebate on both side.	Rm	495.00	Rs. Four Hundred Ninety Five Only	Based on DSR 2014 Item no 10.14.1.1

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
9.	Providing and fixing pressed steel window frames, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead ( if required ), mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge. Modified Profile E having double rebate on both side.	Rm	640.00	Rs. Six Hundred Forty Only	Based on DSR 2014 Item no. 10.14.3.1
10.	Supplying, installation, testing & commissioning of automatic Sludge pumps ( submersible) Make Kirloskar /crompton, made of C.I., Sewage/ storm water pump - 2.0 HP, 6.0 m head, 4.45 lps i.e 16000 lph discharge , rpm 2900 as per direction of Engineer-in-charge complete with connecting lines (pipe of required dia approx length 80 m & including specials like tee, bend, socket, union etc.).	Each	44268.00	Rs. Fort Four Thousand Two Hundred Sixty Eight Only	Based on Ag. no. 01/DGMC/DD N/PTCUL/2010 -11 Dt: 04.01.2011 + applicable index
11.	P/F of stainless steel Jet spray for European type WC pan including necessary PVC connection complete.	No.	664.02	Rs. Six Hundred Sixty Four & Paise Two Only	.....Do.....
12.	Providing and fixing 63 mm. dia PVC pipe 4 kg/Sqcm including, cutting, placing and fixing in position all complete	RM	152.72	Rs. One Hundred Fifty Two & Paise Seventy Two Only	.....Do.....
13.	Supply of 50 pair 0.5 mm tinned copper armoured cable (Kalinga make) including necessary fastner and labour required for proper completion of work.	Rm	593.19	Rs. Five Hundred Ninety Three & Paise Nineteen Only	.....Do.....
14.	Supply and fixing of Blanking plates of Roma make including necessary fastner and labour required for proper completion of work.	No.	60.87	Rs. Sixty & Paise Eighty Seven Only	.....Do.....
15.	Supply and fixing of khaprell tiles on roof in cement mortar of 1:4 over a 20mm. Thick bed including all T&P and labour required for proper completion of work.	SqM	843.31	Rs. Eight Hundred forty three and paise thirty one only	.....Do.....
16.	Supply and fixing of Khaprell Ridges on roof in cement mortar of 1:4 over a 20mm. Thick bed including all T&P and labour required for proper completion of work.	Rm	135.02	Rs. One Hundred thirty five and paise two Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/R emark
			In Figures	In Words	
17.	Extra for Trimix Concrete including vacuum dewatering & floater, channels etc. complete	Sqm	84.11	Rs. Eighty Four & Eleven Only	.....Do.....
18.	Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete.	Kg.	42.61	Rs. Forty Two & Paise Sixty One	.....Do.....
19.	Supply and filling loose boulders 10-30 cm in Rain water harvesting ponds including all labour, material, T&P complete.	Cum	719.36	Rs. Seven Hundred Nineteen & Paise Thirty Six Only	.....Do.....
20.	Supply and filling Gravels 5 - 10 mm size in Rain water harvesting ponds including all labour, material, T&P complete.	CuM	830.03	Rs. Eight Hundred Thirty & Paise Three Only	.....Do.....
21.	Supply and filling Coarse sand in Rain water harvesting ponds including all labour, material, T&P complete.	CuM	830.03	Rs. Eight Hundred Thirty & Paise Three Only	.....Do.....
22.	Supply and filling rounded Pea gravel in bore hole including all labour, material, T&P complete.	CuM	1992.06	Rs. One Thousand Nine Hundred Ninety Two & Paise Six Only	.....Do.....
23.	Supply and lowering 160 mm outer dia (6kg/cm2) conforming to IS: 498S/1988 UPVC slotted pipe with all specials complete.	Rmt	1110.02	Rs. One Thousand One Hundred Ten & Paise Two Only	.....Do.....
24.	Supply and lowering 160 mm outer dia (6kg/cm2) conforming to IS: 498S/1988 UPVC pipe with all specials complete.	Rmt	917.45	Rs. Nine Hundred Seventeen & Paise Forty Five Only	.....Do.....
25.	Drilling bore of 250 mm dia or as required vertical bore by Reverse Rotary/Odex Drilling machine, depth approximately 45 m, as per direction of Engineer-in-charge including cost of all labour, T&P etc. required for proper completion of work.	Rmt	2766.75	Rs. Two Thousand Seven Hundred Sixty Six & Paise Seventy Five Only	.....Do.....
26.	Transportation of Excess excavated Soil outside the premises filling/spreading the same including the cost of loading/unloading complete upto to a lead for Outside the premises in any authorised dumping area upto any lead.	Cum	130.08	Rs. One Hundred Thirty & Paise Eight Only	Based on Ag. no. 01/DGMC/DDN/PTCUL/2007-08 Dt. 10.04.2007

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
27.	Injecting of chemical after diluting the same as per the manufacturers specification for pre-constructional-antitermite treatment and making a chemical barrier against the termite by applying the diluted chemical below the foundation, subbase of floor, sides of building and below the plinth protection complete in all respect	sqm	28.91	Rs. Twenty Eight & paisa ninety one only	.....Do.....
28.	Extra over quoted rate for designed mix concrete, for transportation of concrete from plant to site, for using ready mixed concrete from approved available make.	Cum	289.06	Rs. Two Hundred Eighty Nine & Paise Six Only	.....Do.....
29.	Providing and fixing B Class G.I. pipes complete with G.I. fittings including trenching and refilling etc.(for External Work) 100 mm Nominal dia. bore (NSI)	metre	725.20	Rs. Seven Hundred Twenty Five & Paise Twenty only	Based on market rate + DSR
30.	Making drip course (25x12) mm in 1:2 cement and sand mortar and cutting drip notch with simple moulding as required and including, supply all materials, labour, T&P required for proper completion of work.	metre	62.00	Rs. Sixty two Only	.....Do.....
31.	S/F water proof craft paper in double layers with grease in between over C.C. 1:1.5:3 under slab	metre	34.85	Rs. Thirty Four & Paise Eighty Five Only	.....Do.....
32.	Supply and fixing of 10 H.P 415 V AC Three phase monoblock pump set with a discharge of 250 LPM on a head of 50 meter (suction and delivery size 50x40 mm) of KSB/Kirloskar make as approved by Engineer-in-charge including all labour and T&P etc. required for proper completion of work.	Nos	44200.00	Rs. Forty Four Thousand Two Hundred Only	Based on market rate
33.	Supply & fixing of Panel for with 1.6 mm. CRCA sheet including interconnection, fixing of Switch gear/MCCB etc. with copper bus bar including painting complete as required in size of (800 x 600) mm.	No.	40582.69	Rs. Forty Thousand Five Hundred Eighty Two & Paise Sixty Nine Only	Based on Ag. no. 01/DGMC/DD N/PTCUL/2010-11 Dt. 04.01.2011
34.	Supply & fixing of Panel for All floors above G.F. with 1.6 mm. CRCA sheet including interconnection, fixing of switch gear/MCCB etc. with copper bus bar including painting complete as required in size of 800x1040 mm	No.	81445.37	Rs. Eighty One Thousand Four Hundred Forty Five & Paise Thirty Seven Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
35.	Supply & fixing of Panel for light and power main with 1.6 mm. CRCA sheet including interconnection, fixing of switch gear/MCCB etc. with copper bus bar including painting complete as required in size of 1700x1840 mm	No.	237673.79	Rs. Two Lac Thirty Seven Thousand Six Hundred Seventy Three & Paise Seventy Nine Only	.....Do.....
36.	Supply & fixing of Panel for UPS with 1.6 mm. CRCA sheet including interconnection, fixing of switch gear/MCCB etc. with copper bus bar including painting complete as required in size of 1700x1840 mm	No.	264777.98	Rs. Two Lac Sixty Four Thousand Seven Hundred Seventy Seven & Paise Ninety Eight Only	.....Do.....
37.	Supply & fixing of Panel for Main L.T. line with 2.0 mm. CRCA sheet including interconnection, fixing of Switch gear/MCCB etc. with Aluminium bus bar including painting complete as required in size of (5500 x 1900x1000) mm.	No.	1830225.05	Rs. Eighteen Lac Thirty Thousand Two Hundred Twenty Five & Paise Five Only	.....Do.....
38.	supply and fixing 150 watt SV Street light fitting.	No.	9612.80	Rs. Nine Thousand Six Hundred Twelve & Paise Eighty Only	.....Do.....
39.	Supply and fixing of 400 watt flood light fitting of Bajaj make (Model No. BJFL 400 T S/AS complete) including necessary fastner and labour required for proper completion of work.	No.	13663.32	Rs. Thirteen Thousand Six Hundred Sixty Three & Paise Thirty Two Only	.....Do.....
40.	<p><b>Distribution Panels:</b></p> <p>Supply, installation, testing and commissioning of LT Panel Boards of 2 mm thick sheet steel cubical design for indoor mounting factory fabricated suitable for operation on 440 V 3 phase, 50 Hz, A.C. supply with ACB as incomer and MCCBs, MCBs and other ac</p> <p><b>Main Electrical Panel (Incoming:-)</b></p> <p>One (1) 1250 A TPN 3 Phase 415V manually operated, Air Circuit Breaker</p> <p>Bus Bar:- 1 Set of 1500 Amps. TPN busbars of aluminium alloy with colour coded heat PVC shrinkable sleeves.</p> <p>Outgoing:- Two (2) Nos. 400A TPN MCCB with ELR and extended handle (25 KA)</p> <p>Three (3) Nos. 300 A TPN MCCB with ELR and extended handle (25 KA)</p> <p>Two (2) Nos. 200 A TPN MCCB with ELR and extended handle (25 KA)</p> <p>Three (3) Nos. 63 A TPN MCCB with ELR and extended handle (25 KA)</p> <p>Two (2) Nos. 32 A 4P MCB (10 KA)</p> <p><b>Metering and Indications:</b></p> <p>The incomer MCCB shall be provided with the following:</p> <p>One (1) No. Moving Iron Voltmeter (144 mm x 144 mm) (0-500V) with SPMCBs &amp; 3 way ON &amp; OFF selector switch. One (1) No. Moving Iron Ammeters (0-500-630A) CT. operated with 3 way ON/OFF selector switch with 1 set (3 Nos.) of CTs (15VA, CL-1, 630/5A).</p> <p>Three (3) Nos. LED type Phase indicating lamps with protection 2A SP MCBs.</p>	Set	391676.30	Rs. Three lac Ninety One Thousand Six Hundred Seventy Six & Paise Thirty Only	Based on Ag. no. 01/DGMC/DD N/PTCUL/200 7-08 Dt: 10.04.2007

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LIST OF NON- SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
41.	<b>Power Factor correction Panel :</b> 150 KVAR, 6 step Automatic power factor correction Panel with 6 Nos. 60 A 3P contractors and 60 A HRC Fuses. Complete as required.	Each	137303.50	Rs. One Lac Thirty Seven Thousand Three Hundred Three & Paise Fifty Only	.....Do.....
42.	<b>Capacitor Banks</b> 25 KVAR	Each	13007.70	Rs. Thirteen Thousand Seven & Paise Seventy Only	.....Do.....
43.	<b>Floor Panels:</b> Incoming:- One (1) No. 200A TPN MCCB with ELR and extended handle (25KA) Bus Bars:- 1 Set of 300 Amps. 4 Strip busbars of aluminium alloy with colour coded heat PVC shrinkable sleeves. Outgoing:- Five (5) Nos. 32A 4P MCB (10 KA). Five (5) Nos. 63A 4P MCB (10 KA). Metering and Indications:- Three (3) Nos. LED type Phase indicating lamps with protection 2A SP MCBs.	Set	36132.50	Rs. Thirty Six Thousand One Hundred Thirty Two & Paise Fifty Only	.....Do.....
44.	<b>Floor Panels:</b> Incoming:- One (1) No. 300A TPN MCCB(10 KA) Bus Bars:- 1 Set of 400 Amps. 4 Strip busbars of aluminium alloy with colour coded heat PVC shrinkable sleeves. Outgoing:- Ten (10) Nos. 63A 4P MCB (10 KA) Metering and Indications:- Three (3) Nos. LED type Phase indicating lamps with protection 2A SP MCBs.	Set	37577.80	Rs. Thirty Seven Thousand Five Hundred Seventy Seven & Paise Eighty Only	.....Do.....

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LIST OF NON-SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs)		Reference/Remark
			In Figures	In Words	
45	<b>Floor Panels:</b>	Set	14453.00	Rs. Fourteen Thousand Four Hundred Fifty Three Only	.....Do.....
	Incoming:				
	One (1) No. 32 A TPN MCB (10 KA)				
	Bus Bars:-				
	1 Set of 100 Amps. 4 Strip busbars of aluminium alloy with colour coded heat PVC shrinkable sleeves.				
	Outgoing:-				
	Four (4) No. 32 A 4P MCB (10 KA)				
46	Two (2) No. 163 A 4P MCB (10 KA)	Mtrs.	104.06	Rs. One Hundred Four & Paise Six Only	.....Do.....
	Metering and Indications: Three (3) Nos. LED type Phase indicating lamps with protection 2A SP MCBs.				
	Supply of following sizes of 1.1 KV grade multicore aluminium conductor XLPE insulated Al. armoured cable conforming to IS:1554 (Part - I) 1988.				
a)	2 C X 6 Sq. mm	Mtrs.	104.06	Rs. One Hundred Four & Paise Six Only	.....Do.....
b)	2 C x 10 Sq. mm	Mtrs.	125.74	Rs. One Hundred Twenty Five & Paise Seventy Four Only	.....Do.....
c)	4 C X 16 Sq. mm	Mtrs.	195.12	Rs. One Hundred Ninety Five & Paise Twelve Only	.....Do.....
d)	4 C x 25 Sq mm	Mtrs.	248.59	Rs. Two Hundred Forty Eight & Paise Fifty Nine Only	.....Do.....
e)	3.5 C x 50 Sq. mm	Mtrs.	362.77	Rs. Three Hundred Sixty Two & Paise Seventy Seven Only	.....Do.....
f)	3.5 C x 70 Sq. mm	Mtrs.	463.94	Rs. Four Hundred Sixty Three & Paise Ninety Four Only	.....Do.....
g)	3.5 C x 120 Sq. mm	Mtrs.	735.66	Rs. Seven Hundred Thirty Five & Paise Sixty Six Only	.....Do.....
h)	3.5 C x 185 Sq. mm	Mtrs.	1063.74	Rs. One Thousand Sixty Three & Paise Seventy Four Only	.....Do.....
i)	3.5 C x 240 Sq. mm	Mtrs.	1352.80	Rs. One Thousand Three Hundred Fifty Two & Paise Eighty Only	.....Do.....

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**LIST OF NON-SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
47	Supplying of 9 mtr. High (above ground) single dip Galvanized Octagonal steel poles with welded base plate (400 x 400 x 20 mm.). Integrated connector box inside the pole containing one no. 6A SPMCB, neutral link and earth terminal i/c transportation w	Nos.	23173.94	Rs. Twenty Three Thousand One Hundred Seventy Three & Paise Eighty Only	.....Do.....
48	Supply of 5.5 long MS tubular pole light pole standard pole fabricated out of 60 mm dia. pipe 4.5 metre long and bottom dia of 140 mm 1.0 meter long complete with 300 mm x 300 mm x 20 mm thick MS plate welded at bottom including welding of 1 no. earth stu	Nos.	11868.80	Rs. Eleven Thousand Eight Hundred Sixty Eight & Paise Eighty Only	.....Do.....
49	Supplying, installation, testing & commissioning of Pole light fitting with 150 watt MH lamp (K-Lite, 6917 KL-MHPL PM IG 150 louvre clear).		9742.77	Rs. Nine Thousand Seven Hundred Forty Two & Paise Seventy Seven Only	.....Do.....
<b>DISTRIBUTION BOARDS:</b>					
50	Supply, installation, testing and commissioning of wall mounted sub distribution boards of 16 SWG sheet steel cubical design, double door, dust and vermin proof suitable for operation on 415 volts, 50 Hz three phase A.C. supply system, IP-42 protection, c	Set	6503.85	Rs. Six Thousand Five Hundred Three & Paise Eighty Five Only	.....Do.....
	<b>4 Way TPN DB</b>				
	<b>Incoming:</b>				
	40 A FP MCB - 1 No.				
	40 A DP ELCB (100mA)-3 Nos.				
51	<b>6 Way TPN DB</b>	Set	8238.21	Rs. Eight Thousand Two Hundred Thirty Eight & Paise Twenty One Only	.....Do.....
	<b>Incoming:</b>				
	63A FP MCB - 1 No.				
	40 A DP ELCB (100mA)-3 Nos.				
	<b>Outgoings:</b>				
52	<b>8 Way TPN DB</b>	Set	9972.57	Rs. Nine Thousand Nine Hundred Seventy Two & Paise Fifty Seven Only	.....Do.....
	<b>Incoming:</b>				
	63A FP MCB - 1 No.				
	40 A DP ELCB (100mA)-3 Nos.				
	<b>Outgoings:</b>				
53	<b>12 Way TPN DB</b>	Set	14453.00	Rs. Fourteen Thousand Four Hundred Fifty Three Only	.....Do.....
	<b>Incoming:</b>				
	63A FP MCB - 1 No.				
	40 A DP ELCB (100mA)-3 Nos.				
	<b>Outgoings:</b>				
	10/20 A SP MCB- 36 Nos. B Series				

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
54	24 Way SPN MCB DB	Set	7226.50	Rs. Seven Thousand Two Hundred Twenty Six & Paise Fifty Only	.....Do.....
	<u>Incoming:</u>				
	63A DP MCB and RCCB/ELCB (10 KA) - 1 No.				
	<u>Outgoings:</u>				
	6A/10/20/32 A SP MCB- 24 Nos. B Series				
55	Supplying and fixing of <b>RJ-11 telephone socket outlet</b> with GI sheet box and cover plate complete as required:-				
a)	Single RJ-11 in One Plate.	Nos.	232.69	Rs. Two Hundred Thirty Two & Paise Sixty Nine Only	.....Do.....
b)	Double RJ-11 in One Plate.	Nos.	277.50	Rs. Two Hundred Seventy Seven & Paise Fifty Only	.....Do.....
56	Supplying, drawing and wiring with soldered terminals on both ends of 0.61 mm dia. <b>annealed tinned electrolytic</b> grade copper conductor, PVC insulated, twisted pairs bunched together in concentric layers so as to minimize crosstalk and wrapped with meline				
a)	1 x 2 Pair	Mtrs.	14.45	Rs. Fourteen & Paise Four Five Only	.....Do.....
57	Supply and installation of <b>KRONE connector</b> type main telephone tag block of following sizes in sheet metal enclosure of suitable dimensions fabricated out of 16 SWG sheet steel with castle key lock, hinged type cover including termination of telephone cab				
a)	5 Pairs	Nos.	635.93	Rs. Six Hundred Thirty Five & Paise Ninety Three Only	.....Do.....
b)	10 Pairs	Nos.	737.10	Rs. Seven Hundred Thirty Seven & Paise Ten Only	.....Do.....
c)	20 Pairs	Nos.	1033.39	Rs. One Thousand Thirty Three & Paise Thirty Nine Only	.....Do.....
d)	50 Pairs	Nos.	2085.57	Rs. Two Thousand Eighty Five & Paise Fifty Seven Only	.....Do.....
e)	100 Pairs	Nos.	3895.08	Rs. Three Thousand Eight Hundred Ninety Five & Paise Eight Only	.....Do.....

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**LIST OF NON-SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
58	Supply, installation of following sizes of type class "A" G.I. Pipes for cable sleeves in recess on surface / Ground complete with all accessories, pull boxes wherever required, G.I. Fish wire, fixing hard ware etc, including the chasing of wall/floor and				
a)	150 mm dia	Mtrs.	310.74	Rs. Three Hundred Ten & Paise Seventy Four Only	.....Do.....
b)	100 mm dia	Mtrs.	238.47	Rs. Two Hundred Thirty Eight & Paise Forty Seven Only	.....Do.....
59	Supply and fixing of FIRE PUMPS FOR HYDRANT AND SPRINKLER SYSTEMS (Electrical) Type of Pump - single/multistage Centrifugal pump Capacity - 2280 LPM Head - 50 WMC H.P - To suit power requirement as per Fire Protection Manual and rechecked with Characteristic Curve of pump RPM - 2900 Total	Set	359677.50	Rs. Three Lacs Fifty Nine Thousand and Six Hundreds Seventy Seven & Paise Fifty Only	Based on. Ag. no. 07/DGMC/DD N/2010-11 Dt 15.11.2011
60	Supply and fixing of JOCKEY PUMP (Electrical) Type of Pump - single/multistage Centrifugal pump Capacity - 180 LPM Head - 50 WMC Engine HP - As required To be checked from Pumps RPM - 2900	Set	138337.50	Rs. One Lac Thirty Eight Thousand Three Hundreds Thirty Seven & Paise Fifty Only	.....Do.....
61	Supply and fixing of Standby Fire Pump (diesel operated) Diesel operated single/multistage Centrifugal pumping set with CI body, bronze impeller, Material of construction of Shaft SS-410, line shaft bearing - cutless rubber, & nuts as per AISI-410 with mechanical seal and connected by a flexible coupling to a suitable HP of engine alongwith battery charger panel including MS base plate and mounting (vibration eliminators pad) on the RCC concrete base foundations as required, desal tank, exhaust piping etc. Complete with all accessories and spare parts as described in technical specifications. Type of Pump - Centrifugal pump Capacity - 2280 LPM Head - 50 WMC Engine HP - As required as per clause No.7.4.5.2.3 of TAC'S Fire Protection Manual to be checked from pumps characteristic Curves RPM - 1500	Set	686154.00	Rs. Six Lac Eighty Six Thousand One Hundred Fifty Four Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
62	Providing and fixing of double flanged vertical air vessel fabricated from 6mm MS plate with dished ends 450mm dia and 2M high common for main fire pump, diesel engine operated pump and jockey pump. Complete with pressure switches (for every individual pump to operate at drop of pressure set for Air release valve and GM gate valve).	Each	60868.50	Rs. Sixty Thousand Eight Hundred Sixty Eight & paise Fifty Only	.....Do.....
63	<p><b>Supply and fixing of Dust and vermine proof cubical type motor control centre ( for the fire pumps in pump room) fabricated from 2mm thick CRCA sheet duly powder coated in approved shade and comprising of :</b></p> <p>INCOMING One TP MCCB of 400 Amps rating with rotary operating handle</p> <p>One 144x 144 mm panel type voltmeter of suitable range with rotary selector switch for reading voltage between phases. One set of indicating lamp (RBY)</p> <p>BUS BAR TPN fully taped aluminium bus-bar of 500 Amps capacity in separate bus-bar chamber</p> <p>OUTGOING One isolation switch fuse unit with MCCB of suitable rating for main fire pumps.</p> <p>One isolation switch fuse unit with MCCB suitable rating for jockey pump One fully automatic star delta starter with push bottoms and ON/OFF/TRIP indicating light for main fire pump</p> <p>One 'DOL' starter with push buttons and ON/OFF/TRIP indicating light for jockey pump</p> <p>One rotary heavy duty auto/manual selector switch for main fire pump</p> <p>One 144x144mm panel type ampere meter reading 0-300 Amps for fire pump.</p> <p>One 144X144mm panel type ampere meter reading 0-50 Amps for jockey pump.</p> <p>2 nos Single phase preventors one for each 2 phase motor.</p> <p>Colour coded internal wiring from incoming main to bus-bar switchgear, starters, meters indicating lamps complete in all respects.</p> <p>Space for spare outgoing (1 no)</p> <p>Appropriate etched plastic plate for each stater/switch/light etc.</p> <p>Circuit for automatic startup of the diesel engine operated fire pump and for battery charging</p>	Set	320943.00	Rs. Three Lac TwentyThousand Nine Hundred Forty Three Only	.....Do.....
64	Electrical Work: (Including supply, laying and termination of Aluminium power control cables of suitable size as per HP of fire pumps with all structural supports, clamps and cable trays as per approved design/specifications alongwith control cable of suitable size. Earthing of all motors and panel by GI flat of suitable size to the nearest earthing grid/pit.	Lot	71935.50	Rs. Seventy One Thousand Nine Hundred Thirty Five & Paise Fifty only	.....Do.....

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**LIST OF NON-SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
35	Providing and fixing of Mild Steel black pipes (IS:1239 Part- I heavy class including cutting , welding/threaded joints and all fittings viz. flanges, bends, tees, elbows, reducers, clamps, hangers, structural supports, nuts and bolts, gasket etc. with one coat of primer (red oxide) and two or more coat of synthetic enamel paint to give an even shade of approved shade (for above ground piping inside pump room)				
(a)	50 mm	Metre	608.69	Rs. Six hundred Eight & Paise Sixty Nine Only	.....Do.....
(b)	80 mm	Metre	719.36	Rs. Seven Hundred Nineteen & Paise Thirty Six Only	.....Do.....
(c)	150 mm	Metre	857.69	Rs. Eight Hundred Fifty Seven & Paise Sixty Nine Only	.....Do.....
(d)	200 mm	Metre	2766.75	Rs. Two Thousand Seven Hundred Sixty Six & Paise Seventy Five Only	.....Do.....
66	Providing and fixing of Wafer type horizontal non-return valve PN-1.6 as per IS including nuts, bolts, 1.5 mm thick gasket sheets				
a	50 mm		3320.10	Rs. Three Thousand Three Hundred Twenty & Paise Ten Only	.....Do.....
b	150 mm	Each	83002.50	Rs. Eighty Three Thousand Two & Paise Fifty Only	.....Do.....
67	Providing and fixing of pressure gauge dial size 100mm, range 0-10 kg/Cm sq. complete with isolation valve and syphon.	Each	1660.05	Rs. One Thousand Six Hundred Sixty & Paise Five Only	.....Do.....
68	Providing and fixing of cast iron flanged butterfly valve/ gate valve ( ball valve for 50NB and below) including nuts, bolts/ screw filling, 1.5 mm thick gasket sheets complete in all respect.				
(a)	50 mm	Each	3320.10	Rs. Three Thousand Three Hundred Twenty & Paise Ten Only	.....Do.....
(b)	80 mm	Each	4980.15	Rs. Four Thousand Nine Hundred Eighty & Paise Fifteen Only	.....Do.....
(c)	150 mm	Each	8300.25	Rs. Eight Thousand Three Hundred & Paise Twenty Five Only	.....Do.....
(d)	200 mm	Each	11067.00	Rs. Eleven Thousand Sixty Seven Only	.....Do.....

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LIST OF NON- SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
69	Providing and fixing of cast iron flanged foot valve with nuts, bolts, 1.5 mm thick gasket complete with all accessories as per IS : 4038.				
(a)	100 mm	Each	17707.20	Rs. Seventeen Thousand Seven Hundred Seven & Paise Twenty Only	.....Do.....
(b)	150 mm	Each	22134.00	Rs. Twenty Two Thousand One Hundred Thirty Four Only	.....Do.....
70	Providing and fixing of gunmetal four way collecting head with 63mm dia instantaneous type inlet with built in check valve and isolation valve for fire brigade connection to underground tanks.	Each	8853.60	Rs. Eight Thousand Eight Hundred Fifty Three & Paise Sixty Only	.....Do.....
71	Providing and fixing of standard draw out connection with 63mm dia instantaneous type coupling with all accessories as approved by fire authorities for installation at under ground tank.	Each	6640.20	Rs. Six Thousand Six Hundred Forty & Paise Twenty Only	.....Do.....
72	Providing and fixing of of G.I. pipes conforming to IS : 1239 Heavy class including all fittings like couplings, bends, elbows, tee, flanges etc. welding/threaded joint and Paintings, as required, with one coat of red oxide primer and two or more coats of synthetic enamel paint to give an even shade and structural supports with anchor fastner/grouting in walls/ concrete as required.				
(a)	25 mm	Metre	304.34	Rs. Three Hundred Four & Paise Thirty Four Only	.....Do.....
(b)	32 mm	Metre	359.68	Rs. Three Hundred Fifty Nine & Paise Sixty Eight Only	.....Do.....
(c)	50 mm	Metre	625.29	Rs. Six Hundred Twenty Five & Paise Twenty Nine Only	.....Do.....
(d)	80 mm	Metre	885.36	Rs. Eight Hundred Eighty Five & Paise Thirty Six Only	.....Do.....
(e)	100 mm	Metre	1328.04	Rs. One Thousand Three Hundred Twenty Eight & Paise Four Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
73	Providing and fixing of of G.I. pipes conforming to IS : 1239 Heavy class including all fittings like couplings, bends, elbows, tee, flanges etc. welding/threaded joint and laying underground under 1 mtr depth including 4 mm thick bituman sheets wrapping coating as required including excavation of soft soil and back filling with proper arrangment as approved by site incharge.				
a	100 mm	Metre	1438.71	Rs. One Thousand Four Hundred Thirty Eight & Paise Seventy One Only	.....Do.....
b	150 mm	Metre	1881.39	Rs. One Thousand Eight Hundred Eighty One & Paise Thirty Nire Only	.....Do.....
74	Providing and fixing of stainless steel pendant type Sprinkler	No.s	249.01	Rs. Two Hundred Forty Nine & Paise One Only	.....Do.....
75	Providing and fixing of Sprinkler cancelled pendant type with white cap on below false ceiling	No.s	276.68	Rs. Two Hundred Seventy Six & Paise Sixty Eight Only	.....Do.....
76	Providing of Single headed 63 mm dia gunmetal landing valve, flenged inlet with 63 mm female instantaneous outlet confirming to IS :5290 including nuts, bolts, gasket, cap & chain etc.	Nos.	8853.60	Rs. Eight Thousand Eight Hundred Fifty Three & Paise Sixty Only	.....Do.....
77	Providing and fixing of 20mm bore 30 mtrs. Long hose (Rubber lined dunlop pipe) and hose reel drum for first aid fire fighting confirming to IS:884 withh full swing drum fixing brackets, shutoff nozzle, glove valve connection to landing valve through adoptor or directly from the riser through 25 mm dia G.I. pipe as required with all socket, elbow, nipple etc.	Nos.	11067.00	Rs. Elever Thousand Sixty Seven Only	.....Do.....
78	Providing and fixing of Gun metal ISI marked 63 mm dia Branch Pipe and 25 mm dia Nozzle near wet riser/yard hydant	Nos	2434.74	Rs. Two Thousand Four Hundred Thirty Four & Paise Seventy Four Only	.....Do.....
79	Providing and fixing of ISI marked fire RRL Hose Pipe 15 mtrs. Long including Gun metal ISI marked IS:903 Male/Female coupling	Nos.	6418.86	Rs. Six Thousand Four Hundred Eighteen & Paise Eighty Six Only	.....Do.....
80	Providing and fixing draining arrangement to the vertical wet riser system with necessary 50 mm Dia G.I. pipe with stop valve to drain the riser for cleaning	Nos.	49801.50	Rs. Forty Nine Thousand Eight Hundrec One & Paise Firty Only	.....Do.....

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LIST OF NON- SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
81	Providing and fixing of standard Fire Hose Cabinet door (1.0 mtr.X1.8 Mtr. Suitable to fit in the duct. The door should be of 18 swg ms sheet having central opening glass door (5 mm thick plane glass) including necessary locking arrangement, handle and paint by fire red colour. The door shall be fixed in the duct. the words "FIRE HOSE CABINET" to be painted on the door.	Nos.	16600.50	Rs. Sixteen Thousand Six Hundred & Paise Fifty Only	.....Do.....
82	RRL Hose Box made of 18 swg MS sheet central glass door lock handle and support including ancker/ fastners, nut bolts etc of a size of 600 mm X 750 mm X 250 mm	Nos.	4426.80	Rs. Four Thousand Four Hundred Twenty Six & Paise Eighty Only	.....Do.....
83	Providing and fixing of Air Release Valve Gun metal with rubber ring	Nos.	1106.70	Rs. One Thousand One Hundred Six & Paise Seventy Only	.....Do.....
84	Supply and fixing of double chamber ionization smoke detector with blinking LED having current rating from 9v-33 v conventional type with mounting base	Nos.	3596.78	Rs. Three Thousand Five Hundred Ninety Six & Paise Seventy Eight Only	.....Do.....
85	Supply and fixing of Micro processor based Fire Control panel having LCD display, RS-485 communicator facility conventional type 10 Zone, UL/LPCD/ERTL Approved panel with zone on/off display, fault indication display to work as local panel	Nos.	166005.00	Rs. One Lac Sixty Six Thousand Five Only	.....Do.....
86	Supply and fixing of Manual Call Point for manual operation Break Glass type	Nos.	3984.12	Rs. Three Thousand Nine Hundred Eighty Four & Paise Twelve Only	.....Do.....
87	Supply and fixing of 24 Volts Hooter /Siren with pvc body including cost of mounting	Nos.	4426.80	Rs. Four Thousand Four Hundred Twenty Six & Paise Eighty Only	.....Do.....
88	Supply and fixing of 2 core 1.5 sq. mm Armed FRLS PVC insulated Copper Cable	R.M.	138.34	Rs. One Hundred Thirty Eight & Paise Thirty Four Only	.....Do.....
89	Supply and fixing of HD make control valve assembly of 150 mm complete with accessories as required UL for proper completion of work.	Nos.	393188.38	Rs. Three Lac Ninety Three Thousand One Hundred Eighty Eight & Paise Thirty Eight Only	.....Do.....
90	Supply and fixing of ISI marked polypack make of 20 mm dia PVC conduit with bend, Junction,fitting and fixtures as required for proper completion of work	Rmt.	76.36	Rs. Seventy Six & Paise Thirty Six Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
91	Supply and fixing of Kirlosker Make Terrace Pump mono block type of capacity 730 LPM, head 56/70 mt. 10 H.P.	Nos.	208311.93	Rs. Two Lac Eight Thousand Three Hundred Eleven & Paise Ninety Three Only	.....Do.....
92	Supply and fixing of Kirlosker Make foot valves of 8" size including all fittings.	Nos.	58697.15	Rs. Fifty Eight Thousand Six Hundred Ninety Seven & Paise Fifteen Only	.....Do.....
93	Supply and fixing of Priming system, comprising water tank 750 Liters (transparent) syantax make with a single stage feeder pump, NRV and ball valve with all fittings.	Nos.	30977.64	Rs. Thirty Thousand Nine Hundred Seventy Seven & Paise Sixty Four Only	.....Do.....
94	Supply and fixing of ISI marked CI flanged butterfly valve /gate valve including nut,bolt, gasket sheet and fixtures as required for proper completion of work. (for 100 mm.)	Nos.	6856.01	Rs. Six Thousand Eight Hundred Fifty Six & Paise One Only	.....Do.....
95	Supply and fixing of ISI marked wafer type horizontal non-return valve (PN-1.6 including nut,bolt, gasket sheet and fixtures as required for proper completion of work. (for 200 mm.)	Nos.	91225.28	Rs. Ninety One Thousand Two Hundred Twenty Five & Paise Twenty Eight Only	.....Do.....
96	Supply and fixing of ISI marked wafer type horizontal non-return valve (PN-1.6 including nut,bolt, gasket sheet and fixtures as required for proper completion of work. (for 80 mm.)	Nos.	19052.95	Rs. Nineteen Thousand Fifty Two & Paise Ninety Five Only	.....Do.....
97	Supply & laying of ISI marked 19 core 1.5 sq.mm. FRLS insulated cable as required for proper completion of work.	Rmt	585.44	Rs. Five Hundred Eighty Five & Paise Forty Four Only	.....Do.....
98	Supply and fixing of Minimax Make ISI marked First aid Fire Extinguishers:ABC range S/P type as per IS:15683 of 6 Kg.	Nos.	7532.20	Rs. Seven Thousand Five Hundred Thirty Two & Paise Twenty Only	.....Do.....
99	Construction of sewage treatment plant for 1000 users inclusive supplies installation/Erection Commissioning with all civil, mechanical & electrical job/ items as per scheme & detail given in specifications.	JOB	4500000.00	Rs. Forty Five Lac Only	Wetted rate from consultant

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LIST OF NON- SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
100	supply, installation, commissioning of lifts with a capacity of 13 passengers in the Residence Blocks for Colony at Majra, Dehradun For G+5 storeyed building.	Each	2400000.00	Rs. Twenty Four Lac Only	As per DPR plinth area rate - 2012
101	supply, installation, commissioning of lifts with a capacity of 13 passengers in the Residence Blocks for Colony at Majra, Dehradun For G+6 storeyed building.	Each	2525000.00	Rs. Twenty Five Lac Twenty Five Thousand Only	.....Do.....
102	Additional price for each additional floor of lifts with a capacity of 13 passengers in the Residence Blocks for Colony at Majra, Dehradun For G+5 storeyed building.	Each	125000.00	Rs. One Lac Twenty Five Thousand Only	.....Do.....
103	Providing & Erecting 250 KVA Generator set with AMF Panel Make-Jacksons Ltd./Sudhir Genset with Cummins Engine & Stamford Alternator .	Nos.	3000000.00	Rs. Thirty Lac Only	.....Do.....
104	Operation of tube well daily by a suitable and experienced operator continuously or in different intervals as per program fixed by E/I including opening and closing of valve , changing of fuse wire etc. as required for proper running of tube well. Approximate running 6 hour/day.	day	248.00	Rs. Two hundred forty eight only	Based on DSR
105	Operation of tube well daily by a suitable and experienced operator continuously or in different intervals as per program fixed by E/I including opening and closing of valve, changing of fuse wire etc. as required for proper running of tube well. Approximate running 8 hour/day.	day	331.00	Rs. Three Hundred Thirty One Only	.....Do.....
106	Sweeping of colony roads and surrounding area of residences and disposal of debris/garbage upto nearest dustbin as per time schedule approved by E/I including cost of all labour T&P etc. required for proper completion of work	%sqm	22.00	Rs. Twenty Two Only	.....Do.....
107	Cleaning of drains up to 0.30m wide and disposal of debris / garbage up to nearest dustbin including sprinkling of lime powder near drain as per schedule approved by E/I including all labour, material and T&P etc. required for proper completion of work.	RM	1.60	Rs. One & Paise Sixty Only	.....Do.....

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LIST OF NON- SCHEDULE CIVIL ITEMS

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/Remark
			In Figures	In Words	
112	Cleaning of nala more than 0.30m wide and disposal of debris / garbage up to nearest dustbin including sprinkling of lime powder near drain as per schedule approved by E/I including all labour, material and T&P etc. required for proper completion of work.	RM	8.00	Rs. Eight Only	.....Do.....
113	Cleaning of Over Head Tank Capacity up to 100000.00 litre with brush, scraping of wall and bottom, and disposal of rubbish outside the tank including all labour and T&P etc. required for proper completion of work .	Job	1345.00	Rs. One Thousand Three Hundred Forty Five Only	.....Do.....
114	Cleaning of Over Head Tank / Underground water tank capacity ranging from 30001 to 50000 litre with brush, scraping of wall and bottom, and disposal of rubbish outside the tank including all labour and T&P etc. required for proper completion of work .	Job	962.00	Rs. Nine Hundred Sixty Two Only	.....Do.....
115	Cleaning of Over Head Tank/Underground water tank Capacity ranging from 1001 to 30000 litre with brush, scraping of wall and bottom, and disposal of rubbish outside the tank including all labour and T&P etc. required for proper completion of work .	Job	642.00	Rs. Six Hundred Forty Two Only	.....Do.....
116	Cleaning of Over Head Tank Capacity ranging from 1000 litre with brush, scraping of wall and bottom, and disposal of rubbish outside the tank including all labour and T&P etc. required for proper completion of work .	Job	164.00	Rs. One Hundred Sixty Four Only	.....Do.....
117	Disposal of debris/garbage from dustbins of places as directed by E/I outside the substation area including sprinkling of lime powder near dustbins and surrounding area, including all labour T&P etc required for proper completion of work.	Cart.	332.00	Rs. Three Hundred Thirty Two Only	.....Do.....
118	Manual Chlorination of water by adding bleaching powder as per direction by Engineer in charge including all labour T&P etc. required of proper completion work.	Kg.	44.00	Rs. Forty Four Only	Based on DSR + maket rate
119	Providing water proofing treatment on roof and wall by Doctor Fixit Pidicrete URP compound of pidilite make cleaning of surface with wire brush. Mixing of Pidicrete URP compound (1 part of compound 1.50 part of cement as per manufacture instruction ) and apply its two coats on leaky surface @ average 0.50 kg/sqm for two coats by skilled labour as per instruction of manufacturer and applying top coat of 12 mm cement plaster 1:4 cement and coarse sand mortar including cost of all material labour T&P etc required proper completion of the work.	Sqm	378.00	Rs. Three Hundred Seventy Eight Only	.....Do.....
120	Antiweed treatment in switch yard area .	Sqm	4.00	Rs. Four Only	.....Do.....
121	Supply of Gravel & spreading in switch yard area with 20 mm nominal size in required thickness. As directed by Engineer-in-charge.	Cum	1608.00	Rs. One Thousand Six Hundred Eight Only	.....Do.....
122	Providing Fruit Bearing plants including cost of plant, cartage, etc.	Each	174.00	Rs. One Hundred Seventy Four Only	.....Do.....
123	Providing Service of Mali for per day.	Day	417.00	Rs. Four Hundred Seventeen Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
124	First Class for making Kyari laid diagonally. Including excavation, refilling, consolidation with hand packing.	RM	38.00	Rs. Thirt Eight Only	.....Do.....
125	Providing & Injecting Chemical emulsion pre non structural for antitermite treatment-7.5 liter/100 sqm	Sqm	62.00	Rs. Sixt Two Only	.....Do.....
126	Rewinding of burnt exhaust fan with approved copper wire including cost of all material, labour, T&P etc. complete (Burnt wire shall not be taken back)	Each	1150.00	Rs. One Thousand One Hundred Fifty Six Only	.....Do.....
127	Rewinding of burnt celing fan with approved copper wire including cost of all material, labour, T&P etc. complete (Burnt wire shall not be taken back)	Each	621.00	Rs. Six Hundred Twenty One Only	.....Do.....
128	Supply and replacing of broken bearing of ceiling fan, including all material T&P and labour etc. required for proper completion of work.	Each	305.00	Rs. Thre Hundred Five Only	.....Do.....
129	Taking off the defective ceiling fan from position and rehangng after receiving the repaired fan and proper connection etc.	Each	116.00	Rs. One Hundred Sixteen Only	.....Do.....
130	Supply and replacing of 16 A 240V, cutout of approved make on board, including all material, T&P and labour etc. required for proper completion of work.	Each	161.00	Rs. One Hundred Sixty One Only	.....Do.....
131	Supply and replacing of 32 A 240V, cutout of approved make on board, including all material, &P and labour etc. required for proper completion of work.	Each	213.00	Rs. Two Hundred Thirteen Only	.....Do.....
132	Supply and replacing of wooden board 8"x10" approved Quality including all material, Labour , T&P & Polishing etc. required for proper completion of work.	Each	121.00	Rs. One Hundred Twenty One Only	.....Do.....
133	Supply and replacing of wooden board 4"x7" approved Quality including all material, Labour , T&P & Polishing etc. required for proper completion of work.	Each	103.00	Rs. One Hundred Three Only	.....Do.....
134	Supply and replacing of 15 mm dia tee/socket/elbow/bend/nipple etc. for repair of pipeline complete. Including supply of all material, labour , T&P & Polishing etc. required for proper completion of work.	Each	109.00	Rs. One Hundred Nire Only	.....Do.....
135	Easing door and windows. Including supply of all labour , T&P & Polishing etc. required for proper completion of work.	Each	68.00	Rs. Sixty Eight Only	.....Do.....
136	Supply and laying chicken mesh of 20 mm hexagonal heavy quality over roofs of joints as per direction of E/I including supply of all labour , T&P & Polishing etc. required for proper completion of work.	Sqm	87.00	Rs. Eight Seven Or y	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
137	Supply and Fixing of 22 gauge aluminum sheet of approved quality including cutting, wastage and fixing the same over wooden door shutters by nails including cost of all materials, Labour, T&P & Polishing etc. required for proper completion of work.	Sqm	876.00	Rs. Eight Hundred Seventy Six Only	.....Do.....
138	Supply and laying of welded mesh (75 mm x 75 mm) of 10 gauge wire over roofs of joints as per direction of E/I. Including supply of all, Labour, T&P etc. required for proper completion of work.	Sqm	211.00	Rs. Two Hundred Eleven Only	.....Do.....
139	Cleaning of septic tank by removal of sludge through sludge pump attached with tractor /Manually including disposal of waste outside the corporation area as per direction of Engineer-in-charge including cartage, labour and T&P ( for a septic tank of 5 cum)	Job	5060.00	Rs. Five Thousand Sixty Only	.....Do.....
140	Providing and fixing 100 mm. size C.I Foot valve of heavy quality with nuts, rubber packing etc. including supply all material, labour and T&P etc. required for proper completion of the work(for 100 mm inlet pipe.)	Each	2616.00	Rs. Two Thousand Six Hundred Sixteen Only	.....Do.....
141	Hiring Charges of welding machine for 8 hours. Per day including all T&P, labour as required for proper completion of work. including welding rod.	Job	1133.00	Rs. One Thousand One Hundred thirty three Only	.....Do.....
142	Supplying of Drinking water (5000 liter water tanker) at substation from source of Municipal water Supply including all T&P, labour as required for proper completion of work.	Each	1150.00	Rs. One Thousand One Hundred Fifty Only	.....Do.....
143	Hiring Charges of JCB/Crane for 1 hours. Per day including all T&P, labour as required for proper completion of work.	Hour	1336.00	Rs. One Thousand Three Hundred Thirty Six Only	.....Do.....
144	P/F 750mmx20 mm size Brass towel rail of approved quality (weight - 275 gram including brackets) with a pair C.P. Brass brackets (to fit the size of tower rail) fixed on the wall on wooden cleats with C.P. Brass screws including supply of all material, labour, T&P required for proper completion of work. Cutting & Marking wood the wall plaster etc. required for work	Each	1057.00	Rs. One Thousand Fifty Seven Only	.....Do.....
145	Supply & Installation L & T make /Havell's make panel board as approved by Engineer-In-charge. 3 phase direct on line starter with panel suitable up to 5 HP motor with timer relay ampere, meter volt meter i/e supply & fixing wooden board of required size on wall complete in all respect.	Each	8844.00	Rs. Eight Thousand Eight Hundred Forty Four Only	.....Do.....
146	Extraction of defective submersible pump and motor upto 5 HP with 32mm PVC/ G.I. pipe and then lowering of the repaired pump and motor with pipe and testing the same, including checking mains cut outs fuses and operation of tube well for 24 hrs for its smooth working with all cost of material, labour T&P etc. required for proper completion of the work.	Job	2828.00	Rs. Two Thousand Eight Hundred Twenty Eight Only	.....Do.....
147	Winding of submersible pump of motor upto 5HP vertical type or horizontal type, including cleaning, oiling, greasing, drying etc. with cost of all material, labour, T&P etc. complete Burnt copper wire shall not be taken back from the contractor, approved make copper wire shall be used.	Job	6785.00	Rs. Six Thousand Seven Hundred Eight Five Only	.....Do.....
148	Disassembling of up to 5 HP submersible pump. Replacing of damaged bush, impeller nut & bolts turning of shaft including complete overhauling oiling and greasing the pump as required, testing and reassembling the same. Including cost of all materials, labour, T&P etc. required for proper completion of the work.	Job	4370.00	Rs. Four Thousand Three Hundred Seventy Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
149	Supplying & Fixing KSB make sludge pump ( with 5 HP, 415 V AC, 3 Phase induction motor) with 75 mm/75 mm outlet dia including making connection & testing of pump complete in all respect.	Each	37505.00	Rs. Thirty Seven Thousand Five Hundred Five Only	.....Do.....
150	Extraction of defective submersible pump and motor with 60'-150' column pipe and then lowering of the repaired pump and motor with pipe and testing the same, including checking mains cut outs, fuses and operation of tube well for 24 hrs for its smooth working with all cost of materials, labour T&P etc. required for proper completion of the work.	Job	5934.00	Rs. Five Thousand Nine Hundred Thirty Four Only	.....Do.....
151	Disassembling of 7.5 HP to 25 H.P submersible pump, replacing of damaged bush, impeller, nut & bolt, turning of shaft including complete overhauling and oiling and greasing the pump as required complete job and reassembling the same	Job	8050.00	Rs. Eight Thousand Fifty Only	.....Do.....
152	Disassembling of 7.5 HP to 25 H.P Submersible motor from pump and opening its casing, taking out burnt copper PVC wire from its slots and cleaning of slots with sand paper, rewinding with 1.00 Sq.mm, PVC insulated wire of approved make including cost of PVC insulated wire PVC sheet, labour, cartage, etc. required proper completion of job work (burnt wire shall not be taken back from contractor)	job	16790.00	Rs. Sixteen Thousand Seven Hundred Ninety Only	.....Do.....
153	Supply & installation 3 phase L & T make/Havell's make panel board containing contact relay, auto start, ammeter, volt meter, volt selector, rotary on-off switch lane, kit Kat, HRC fuse, start/ stop button, push button for volt meter, indicator, connector strip housing lock sheet metal housing for 7.5 HP to 25 H.P pump including supply of all material, labour and T&P etc. required for proper completion of the work.	Each	15454.00	Rs. Fifteen Thousand Four Hundred Fifty Four Only	.....Do.....
154	Supply and installation of 12.5 H.P Sludge/ sewage pump 100 mm suction & 100 mm delivery Kirlosker/ABB/Crompton. And equivalent make as approved by engineer-in-charge. including drilling, cutting holes and proper alignment, wiring up to control panel with all cost of material, labour and T&P etc. required for proper completion of the work.	Each	107707.00	Rs. One Lacs Seven Thousand Seven Hundred Seven Only	.....Do.....
155	Disassembling of 5 H.P to 15 HP Sludge pump from sump house and including cartage up to workshop and refixing of sludge pump to its original position including connection of all pipes after winding of pump.	Job	1544.00	Rs. One Thousand Five Hundred Forty Four Only	.....Do.....
156	Winding of motor of 5 H.P sludge pump with required size of winding copper wire of approved make including cleaning, oiling greasing drying etc with cost of all material, labour, T&P etc complete, burnt copper wire shall be not taken back.	Job	5060.00	Rs. Five Thousand Sixty Only	.....Do.....
157	Winding of motor of 12.5 H.P sludge pump with required size of winding copper wire of approved make including cleaning, oiling greasing drying etc with cost of all material, labour, T&P etc complete, burnt copper wire shall be not taken back.	Job	9545.00	Rs. Nine Thousand Five Hundred Forty Five Only	.....Do.....
158	Supply and Fixing of 4 H.P, 415 V AC, three phase submersible pump & motor with a discharge of 75-80 LPM on a head of 80 meter of KSB make as approved by engineer -in-charge including all labour & T&P etc required for proper completion of work.	Each	31222.00	Rs. Thirty One Thousand Two Hundred Twenty Two Only	.....Do.....
159	Supply and fixing star-delta starter with single phase preventer suitable for 10 HP submersible motor - pump of SIEMENS make model no.-3TE0290-OA.7A Ranging from 12.5-20.00 Amp including all labour material cartage etc. required for proper completion of the work.	Each	10129.00	Rs. Ten Thousand One Hundred Twenty Nine Only	.....Do.....

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**LIST OF NON-SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
160	Supplying & Fixing flat submersible cable of superior quality as directed by engineer-in-charge. (3x2.5) sq.mm approved make including all material and T&P etc. Complete.	meter	101.00	Rs. One Hundred One Only	Do.....
161	Supplying & Fixing flat submersible cable of superior quality as directed by engineer-in-charge. (3x4.0) sq.mm approved make including all material and T&P etc. Complete.	meter	153.00	Rs. One Hundred Fifty Three Only	Do.....
162	Supplying & Fixing flat submersible cable of superior quality as directed by engineer-in-charge. (3x6.0) sq.mm approved make including all material and T&P etc. Complete.	meter	222.00	Rs. Two Hundred Twenty Two Only	Do.....
163	Replacing of plastic mesh with new one to cover the strainer (filter) including dismantling of old damaged plastic mesh cleaning of the strainer holes etc. complete	Each	429.00	Rs. Four Hundred Twenty Nine Only	Do.....
164	Extraction of defective choked hand pump machine with variable length of pipe and strainer and reinsertion of complete assembly after its repairing such as welding of pipe handle jhoola and strainer, bolts, nuts washers, rubber seats etc. and also cleaning bore hole by boring etc. if necessary.	Job	1959.00	Rs. One Thousand Nine Hundred Fifty Nine Only	Do.....
165	S/F 65mm dia GI cap.	Each	210.00	Rs. Two Hundred Ten Only	Do.....
166	S/F 65mm dia GI socket	Each	98.50	Rs. Ninety Eight & Paise Fifty Only	Do.....
167	S/F MS handle set of heavy quality	Each	407.00	Rs. Four Hundred Seven Only	Do.....
168	S/F 40mm dia GI socket	Each	73.00	Rs. Seventy Three Only	Do.....
169	S/F 12mm dia bolts with nuts	Each	22.00	Rs. Twenty Two Only	Do.....
170	S/F MS dolchi	Each	83.00	Rs. Eighty Three Only	Do.....
171	S/F Leather washer	Each	34.00	Rs. Thirty Four Only	Do.....
172	Development of hand pump by operating 24 hours or as required continuously with testing and commissioning etc.	job	943.00	Rs. Nine Hundred Forty Three Only	Do.....
173	Providing & Fixing C.P Brass Pillar Cock of approved quality 15 mm nominal bore (weight not less than 400 grms)	Each	688.00	Rs. Six Hundred Eighty Eight Only	Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
174	Cleaning of Inspection Chamber including disposal of waste outside the corporation area as per direction of E/I including cartage, labour and T&P. (chamber below 1.00 cum )	job	153.00	Rs. One Hundred Fifty Three Only	.....Do.....
175	Galvanised Steel wire crates of mesh size 150mm x 150 mm with a 8 gauge BWG G.I wire conforming to IS:280& IS:4826 in 150 mm x 150 mm	Sqm	188.00	Rs. One Hundred Eight Eight	Based on market rate
176	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less then 25 kg each complete(size 3x1.5x1.5) as per drawing and technical specification. Boulder laid dry without wire crate.PWD SOR Road & Bridge(16-9-2-1)	cum	810.00	Rs. Eight Hundred Ten Only	Based on PWD SOR Road & Bridge(16-9-2-1)
177	Supply and Fixing of 5.0 H.P., 415 V AC, three phase monobloc pump set with a discharge of 150 LPM on a head of 50 metre (Suction and Delivery size 50x40 mm) of KSB/Kirloskar make as approved by Engineer in charge including all labour and T&P etc. required for proper completion of work. (Based on market rate)	Each	23727.00	Rs. Twenty Three Thousand seven Hundred twenty seven Only	Based on market rate
178	Supply and Installation approved make control panel board as approved by Engineer in charge. 3 phase direct on line starter with panel suitable for 5.0 H.P. motor with timer relay ampere, motor volt meter including supply and fixing wooden board of required size on wall complete in all respect. (Based on market rate)	Each	2299.00	Rs. Two Thousand Two Hundred ninety nine only	.....Do.....
179	Construction of water proof expansion joint in flood protection wall, including all material, labour & T&P etc. complete as per direction of Engineer-in-charge	Rm	1152.00	Rs. One Thousand One Hundred Fifty Two Only	.....Do.....
180	Random rubble masonry with hard stone laid dry in foundation and plinth including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level. Based on DSR – 2014 (Item No. 7.1.1)	cum	2599.50	Rs. Two thousand five hundred ninety nine and paise fifty only	Based on DSR 2014 Item no. 7.1.1
181	Sinking of 4.5 m external diameter well (other than pneumatic method of sinking) through sandy soil. Depth of sinking is reckoned from bed level. Diameter of well – 4.5 m.				
(i)	0.0 m to 3.0 m	RM	2210.00	Rs. Two Thousand Two Hundred Ten Only	Based on PWD SOR
(ii)	3.0 m to 10.0 m	RM	3307.00	Rs. Three Thousand Three Hundred Seven Only	.....Do.....
(iii)	10.0 m to 20.0 m	RM	4365.00	Rs. Four Thousand Three Hundred Sixty Five Only	.....Do.....

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**LIST OF NON- SCHEDULE CIVIL ITEMS**

S. No.	Particular of Item	Unit	Rate (Rs.)		Reference/ Remark
			In Figures	In Words	
182	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	7282.00	Rs. One Hundred Fifty Three Only	Based on DSR-2014(5.3)
183	Supply and filling of brick bats in sock well etc. complete as per Engineer in charge.	cum	774.00	Rs. One Hundred Eighty Eight	Based on market rate
184	Fixing of template for stub of tower in proper position, level and alignment including placing of stub including cartage of template from departmental store and taking back to departmental store after completion of work including cost of all labour, T&P etc. required for proper completion of work.. (Stub and template will be provided by the department free of cost.)	job	33438.00	Rs. Eight Hundred Ten Only	.....Do.....
185	Supplying good quality Earth brought from outside & filling in layers as per advise of engineer-in-charge, including watering, ramming, consolidating and complete. (To be measured after compaction)	Cum	513.00	Rs. Five Hundred Thirteen Only	Based on DSR-2014
186	Earth Filling in under floors and in substation area. i/e cost of earth earth to be obtained from outside of cooporaion area..	Sqm	490.00	Rs. Four Hundred Ninety Only	Based on DSR-2014
187	Providing and Fixing Bajaj / Philiphs or equivalent make Regular ballast dichroic reflector 1x40 w Including installation, testing and commissioning complete in all respect.	each	287.00	Rs. Two hundred Eighty Seven Only	Based on market rate
188	Providing and Fixing Bajaj / Philiphs or equivalent make 36 w CFL Including installation, testing and commissioning complete in all respect.	each	345.00	Rs. Three Hundred Forty Five Only	Based on market rate
189	Providing and Fixing Bajaj / Philiphs or equivalent make LED lights 6 v for false ceiling. ncluding installation, testing and commissioning complete in all respect.	each	632.00	Rs. Three Hundred Thirty Two Only	Based on market rate
190	Providing and Fixing Bajaj / Philiphs or equivalent make Regular ballast dichroic reflector 2x 36 w Including installation, testing and commissioning complete in all respect.	each	506.00	Rs. Five Hundred Six Only	Based on market rate
191	Providing and Fixing Call bell system electronic panel board of philiphs /Cona or equivalent make with complete installation and equipments complete	each	1840.00	Rs. One Thousand Eight Hundred Forty Only	Based on market rate
192	Providing and Fixing automatic Sensor for Hindware or equivalent sensor based urinals with complete installation and equipments complete	each	7477.00	Seven Thousand Four Hundred Seventy Seven Only	Based on market rate
193	S/F of Polycarbonate sheet 5 mm thick solid in fixed area with all fixtures T&P etc. Complete	sqm	50.00	Rs. Fifty Only	Based on market rate
194	P/F extension Board 15 - 20 Amp with 04+1 sockets of Haveels or equivalent make with complete installation and equipments complete	each	700.00	Rs. Seven Hundred Only	Based on market rate
195	Reinforced Cement Concrete in well steining excluding the cost of centering & shuttering, Finishing reinforcement with 1:1.5:3 (1 cement : 1.5 Coarse Sand : 3 Stone aggregate) 20 mm nominal size	Cum	5436.20	Rs. Five Thousand Four Hundred Thirty Six and Paise Twenty Only	Based on DSR 5.7 but In RCC (1:1.5:3)

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			In Figures	In Words	
196	Filling of sand in empty sand bags sticking its mouth and proper laying as per direction Engineer-in-charge complete all respect including head load and cost of labour & T&P etc.	Bags	22.50	Rs. Twenty Two and Paise Fifty Only	Rates are based on the work executed on last year river gaula
197	Fixing of template with transportation of template from store to site with specialised Engineer & Skilled Labour for proper completion of work with all angles & levels as desired by engineer-in-charge including transportation of template from site to store and keeping the template in proper position at store including head load and cost of labour & T&P etc.	Job	31540.00	Thirty One Thousand Five Hundred Forty Only	Rates are based on the work executed on last year river Koshi
198	Sinking of well 6 meter external dia in all kind of strata below ground level including supply erection and unit per running meter.				
(i)	0.0 m to 3.0 m	RM	27229.00	Rs. Twenty Seven Thousand Two Hundred Twenty Nine Only	.....Do.....
(ii)	3.0 m to 6.0 m	RM	32712.00	Rs. Thirty Two Thousand Seven Hundred Twelve Only	.....Do.....
(iii)	6.0 m to 10.0 m	RM	36797.00	Rs. Thirty Six Thousand Seven Hundred Ninety Seven Only	.....Do.....
(iv)	10.0 m to 12.0 m	RM	42213.00	Rs. Forty Two Thousand Two Hundred Thirteen Only	.....Do.....
(v)	12.0 m to 15.0 m	RM	50277.00	Rs. Fifty Thousand Two Hundred Seventy Seven Only	.....Do.....
(vi)	15.0 m to 20.0 m	RM	59880.00	Fifty Nine Thousand Eight Hundred Eighty Only	.....Do.....
(vii)	20.0 m to 21.0 m	RM	72212.00	Seventy Two Thousand Two Hundred Twelve Only	.....Do.....
(viii)	21.0 m to 24.0 m	RM	90519.00	Ninety Thousand Five Hundred Nineteen Only	.....Do.....
(ix)	24.0 m to 27.0 m	RM	112452.00	One Lac Twelve Thousand Four Hundred Fifty Two Only	.....Do.....
(x)	27.0 m to 30.0 m	RM	139699.00	One Lac Thirty Nine Thousand Six Hundred Ninety Nine Only	.....Do.....
199	Providing and Fixing Bajaj / Philips or equivalent make 36 w LED Including installation, testing and commissioning complete in all respect.	each	1100.00	Rs. One Thousand One Hundred Only	Based on market rate
200	S/F of wall swing fan 300 mm dia, Hevell's make speed 1360 RPM, Pull cord control for speed & oscillation On-Off including supply of all materials, labour T&P etc. required for proper completion of work	each	2709.00	Rs. Twenty Seven Thousand Nine Only	(Based on market rate+DSR 2014-1.50.1)
201	Providing and fixing C .P. brass Swan neck tap spout of approved quality 15 mm nominal bore)	each	1299.00	Rs. One Thousand Two hundred Ninety Nine only	Based on market rate

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