Annexure-9.1

TPCODL

Name of the Division :-	BCDD-1
Name of the Sub-Division : -	SDO-1
Name of the Section : -	PH-2
Name of Feeder:-	11kV OUAT
Name of the Work :-	Proposal for Construction of 0.35KM of 3CX400SQMM UG Cable New line from Unit-6 Feeder to Kalimandir Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU-2 nos.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 0.35KM of 3CX400SQMM UG Cable New line from Unit-6 Feeder to Kalimandir Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	26,13,309.67
2	PART-B: Installation of 2No of 11kV RMU for linking of line from Unit-6 Feeder to Kalimandir Line AB switch	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for 11kV line linking from Unit-6 Feeder to Kalimandir Line AB switch-4 nos	9,28,322.20
4	**Total Gross**	**73,48,219.31**

Total Estimated cost is Rs. 0.73Cr.

PART A: Construction of 0.35KM of 3CX400SQMM UG Cable New line from Unit-6 Feeder to Kalimandir Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***245***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***105***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	350.00	2,563.51	8,97,228.50
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	1	32,912.10	32,912.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	237.00	775.40	1,83,769.80
	Sub Total (Supply Portion) (in Rs.)				**11,44,442.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	245.00	94.50	23,152.50
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	2,400.00	2,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	105	2,800.00	2,94,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	237.00	300.00	71,100.00
	Sub Total (Erection Portion) (in Rs.)				**3,94,454.10**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	237		

1.1.a	Earth work excavation of **soil**	Cum	165.9	700.00	1,16,130.00
1.1.b	Earth work excavation of **hard rock**	Cum	71.1	1,720.00	1,22,292.00
1.2	Back filling with excavated soil outside and above the trench	Cum	237	202.00	47,874.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	71.1	2,643.67	1,87,964.98
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	12	1,012.00	12,144.00
	Sub Total (Civil Portion) (in Rs.)				**4,98,112.18**
A	**Sub Total (Supply Portion)**				**11,44,442.20**
B	Stock, Storage & Insurance @ 3 % of A				34,333.27
C	**Sub Total (A+B)**				**11,78,775.47**
D	Contingency @ 3 % of C				35,363.26
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				88,408.16
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**13,02,546.89**
I	Sub Total (Erection Portion + Civil Portion)				8,92,566.28
J	**Total Cost (H+I)**				**21,95,113.17**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				21,95,113.17
M	GST @ 18% of L				3,95,120.37
M1	Total CESS @ 1% of (L)				21,951.13
N	**Grand Total (L+M+M1)**				**26,12,184.67**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**26,13,309.67**

PART-B: Installation of 2No of 11kV RMU for linking of line from Unit-6 Feeder to Kalimandir Line AB switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for 11kV line linking from Unit-6 Feeder to Kalimandir Line AB switch-4 nos					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**9,28,322.20**

Annexure-9.2

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	PHULNAKHARA
11kV Feeder Name:-	11KV ATALA
Name of the Work :-	Proposal for Construction of 2.5KM of 3CX400SQMM UG Cable New line from Naharkanta PSS to Shiva Shakti Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 2.5KM of 3CX400SQMM UG Cable New line from Naharkanta PSS to Shiva Shakti Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	1,85,63,532.01
2	PART-B: Installation of 2No of 11kV RMU for new line from Naharkanta PSS to Shiva Shakti Line AB switch	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Naharkanta PSS to Shiva Shakti Line AB switch	2,32,080.55
4	**Total Gross**	**2,26,02,199.99**

Total estimated cost is Rs. 2.26Cr.

PART A: Construction of 2.5KM of 3CX400SQMM UG Cable New line from Naharkanta PSS to Shiva Shakti Line AB switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1750***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***750***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	2500.00	2,563.51	64,08,775.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	9	32,912.10	2,96,208.90
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1742.00	775.40	13,50,746.80
	Sub Total (Supply Portion) (in Rs.)				**80,86,262.50**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1750.00	94.50	1,65,375.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	9	2,400.00	21,600.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	750	2,800.00	21,00,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1742.00	300.00	5,22,600.00
	Sub Total (Erection Portion) (in Rs.)				**28,13,376.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1742		

1.1.a	Earth work excavation of **soil**	Cum	1219.4	700.00	8,53,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	522.6	1,720.00	8,98,872.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1742	202.00	3,51,884.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	522.6	2,643.67	13,81,582.27
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	83	1,012.00	83,996.00
	Sub Total (Civil Portion) (in Rs.)				**35,81,621.47**
A	**Sub Total (Supply Portion)**				**80,86,262.50**
B	Stock, Storage & Insurance @ 3 % of A				2,42,587.88
C	**Sub Total (A+B)**				**83,28,850.38**
D	Contingency @ 3 % of C				2,49,865.51
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				6,24,663.78
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**92,03,379.66**
I	Sub Total (Erection Portion + Civil Portion)				63,94,998.07
J	**Total Cost (H+I)**				**1,55,98,377.74**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,55,98,377.74
M	GST @ 18% of L				28,07,707.99
M1	Total CESS @ 1% of (L)				1,55,983.78
N	**Grand Total (L+M+M1)**				**1,85,62,069.51**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				337.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,85,63,532.01**

PART-B: Installation of 2No of 11kV RMU for new line from Naharkanta PSS to Shiva Shakti Line AB switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Naharkanta PSS to Shiva Shakti Line AB switch					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				1	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

Annexure-9.3

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	PHULNAKHARA
11kV Feeder Name:-	11KV TRINATH BAZAR
Name of the Work :-	Proposal for Construction of 3.5KM of 3CX400SQMM UG Cable New line from Phulnakhara PSS to Jagannath Nagar Line AB Switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Phulnakhara PSS to Jagannath Nagar Line AB Switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	2,59,96,721.23
2	PART-B: Installation of 2No of 11kV RMU at Phulnakhara PSS and near Saicon DTR .	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Phulnakhara PSS to near Saicon 100 KVA DTR	4,64,161.10
4	**Total Gross**	**3,02,67,469.76**

Total estimated cost is Rs. 3.03Cr.

PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Phulnakhara PSS to Jagannath Nagar Line AB Switch using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***2450***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***1050***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	3500.00	2,563.51	89,72,285.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	13	32,912.10	4,27,857.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2442.00	775.40	18,93,526.80
	Sub Total (Supply Portion) (in Rs.)				**1,13,24,200.90**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	2450.00	94.50	2,31,525.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	13	2,400.00	31,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	1050	2,800.00	29,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2442.00	300.00	7,32,600.00
	Sub Total (Erection Portion) (in Rs.)				**39,39,126.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2442		

1.1.a	Earth work excavation of **soil**	Cum	1709.4	700.00	11,96,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	732.6	1,720.00	12,60,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2442	202.00	4,93,284.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	732.6	2,643.67	19,36,753.10
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	117	1,012.00	1,18,404.00
	Sub Total (Civil Portion) (in Rs.)				**50,16,800.30**
A	**Sub Total (Supply Portion)**				**1,13,24,200.90**
B	Stock, Storage & Insurance @ 3 % of A				3,39,726.03
C	**Sub Total (A+B)**				**1,16,63,926.93**
D	Contingency @ 3 % of C				3,49,917.81
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				8,74,794.52
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,28,88,639.25**
I	Sub Total (Erection Portion + Civil Portion)				89,55,926.90
J	**Total Cost (H+I)**				**2,18,44,566.16**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				2,18,44,566.16
M	GST @ 18% of L				39,32,021.91
M1	Total CESS @ 1% of (L)				2,18,445.66
N	**Grand Total (L+M+M1)**				**2,59,95,033.73**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				562.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**2,59,96,721.23**

PART-B: Installation of 2No of 11kV RMU at Phulnakhara PSS and near Saicon DTR .					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Phulnakhara PSS to near Saicon 100 KVA DTR					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.4

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	RASULGARH
11kV Feeder Name:-	11KV RASULGARH
Name of the Work :-	Proposal for Construction of 2.5KM of 3CX400SQMM UG Cable New line from Rasulgarh PSS to Palasuni PHD DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 2.5KM of 3CX400SQMM UG Cable New line from Rasulgarh PSS to Palasuni PHD DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	1,85,63,532.01
2	PART-B:Installation of 2No of 11kV RMU at Palasuni PHD DTR	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Rasulgarh PSS to Palasuni PHD DTR	4,64,161.10
4	**Total Gross**	**2,28,34,280.54**

Total estimated cost is Rs. 2.28Cr.

PART A: Construction of 2.5KM of 3CX400SQMM UG Cable New line from Rasulgarh PSS to Palasuni PHD DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1750***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***750***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	2500.00	2,563.51	64,08,775.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	9	32,912.10	2,96,208.90
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1742.00	775.40	13,50,746.80
	Sub Total (Supply Portion) (in Rs.)				**80,86,262.50**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1750.00	94.50	1,65,375.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	9	2,400.00	21,600.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	750	2,800.00	21,00,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1742.00	300.00	5,22,600.00
	Sub Total (Erection Portion) (in Rs.)				**28,13,376.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1742		

1.1.a	Earth work excavation of **soil**	Cum	1219.4	700.00	8,53,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	522.6	1,720.00	8,98,872.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1742	202.00	3,51,884.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	522.6	2,643.67	13,81,582.27
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	83	1,012.00	83,996.00
	Sub Total (Civil Portion) (in Rs.)				**35,81,621.47**
A	**Sub Total (Supply Portion)**				**80,86,262.50**
B	Stock, Storage & Insurance @ 3 % of A				2,42,587.88
C	**Sub Total (A+B)**				**83,28,850.38**
D	Contingency @ 3 % of C				2,49,865.51
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				6,24,663.78
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**92,03,379.66**
I	Sub Total (Erection Portion + Civil Portion)				63,94,998.07
J	**Total Cost (H+I)**				**1,55,98,377.74**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,55,98,377.74
M	GST @ 18% of L				28,07,707.99
M1	Total CESS @ 1% of (L)				1,55,983.78
N	**Grand Total (L+M+M1)**				**1,85,62,069.51**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				337.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,85,63,532.01**

PART-B:Installation of 2No of 11kV RMU at Palasuni PHD DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Rasulgarh PSS to Palasuni PHD DTR					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.5

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	MANCHESWAR
Name of the Feeder : -	MANCHESWAR FEEDER-3
Name of the Work :-	Proposal for Construction of 0.7KM of 3CX400SQMM UG Cable New line from Mancheswar PSS to Existing 11kV RMU Samgadiya DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 0.7KM of 3CX400SQMM UG Cable New line from Mancheswar PSS to Existing 11kV RMU Samgadiya DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	51,47,358.36
2	PART-B: Installation of 2 No of 11kV RMU at Mancheswar PSS and near Mancheswar Enclave DTR .	38,06,587.43
3	PART C: 11kV Line DP with AB Switch -3 nos.	6,96,241.65
4	**Total Gross**	**96,50,187.44**

Total estimated cost is Rs. 0.96Cr.

PART A: Construction of 0.7KM of 3CX400SQMM UG Cable New line from Mancheswar PSS to Existing 11kV RMU Samgadiya DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***490***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***210***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	700.00	2,563.51	17,94,457.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	1	32,912.10	32,912.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	482.00	775.40	3,73,742.80
	Sub Total (Supply Portion) (in Rs.)				**22,31,643.70**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	490.00	94.50	46,305.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	2,400.00	2,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	210	2,800.00	5,88,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	482.00	300.00	1,44,600.00
	Sub Total (Erection Portion) (in Rs.)				**7,85,106.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	482		

1.1.a	Earth work excavation of **soil**	Cum	337.4	700.00	2,36,180.00
1.1.b	Earth work excavation of **hard rock**	Cum	144.6	1,720.00	2,48,712.00
1.2	Back filling with excavated soil outside and above the trench	Cum	482	202.00	97,364.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	144.6	2,643.67	3,82,274.77
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	23	1,012.00	23,276.00
	Sub Total (Civil Portion) (in Rs.)				**9,99,513.97**
A	**Sub Total (Supply Portion)**				**22,31,643.70**
B	Stock, Storage & Insurance @ 3 % of A				66,949.31
C	**Sub Total (A+B)**				**22,98,593.01**
D	Contingency @ 3 % of C				68,957.79
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				1,72,394.48
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**25,39,945.28**
I	Sub Total (Erection Portion + Civil Portion)				17,84,620.57
J	**Total Cost (H+I)**				**43,24,565.85**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				43,24,565.85
M	GST @ 18% of L				7,78,421.85
M1	Total CESS @ 1% of (L)				43,245.66
N	**Grand Total (L+M+M1)**				**51,46,233.36**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**51,47,358.36**

PART-B: Installation of 2 No of 11kV RMU at Mancheswar PSS and near Mancheswar Enclave DTR .					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch -3 nos.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

Annexure-9.6

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	BADAGADA
11kV Feeder Name:-	11KV RAJARANI
Name of the Work :-	Proposal for Construction of 2KM of 3CX400SQMM UG Cable New line from Badagada PSS to Gauri Nagar using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 2KM of 3CX400SQMM UG Cable line from Badagada PSS to near Jyoti Tranjan DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	1,48,48,141.67
2	PART-B: Installation of 2No of 11kV RMU at Badagada PSS and Jyoti Ranjan Pati DTR	36,86,972.04
3	PART C: 11kV Line DP with AB Switch for new line from Badagada PSS to Gauri Nagar	4,64,161.10
4	**Total Gross**	**1,89,99,274.81**

Total estimated cost is Rs. 1.90Cr.

PART A: Construction of 2KM of 3CX400SQMM UG Cable line from Badagada PSS to near Jyoti Tranjan DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1400***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***600***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	2000.00	2,563.51	51,27,020.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	7	32,912.10	2,30,384.70
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1392.00	775.40	10,79,356.80
	Sub Total (Supply Portion) (in Rs.)				**64,67,293.30**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1400.00	94.50	1,32,300.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	7	2,400.00	16,800.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	600	2,800.00	16,80,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1392.00	300.00	4,17,600.00
	Sub Total (Erection Portion) (in Rs.)				**22,50,501.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1392		

1.1.a	Earth work excavation of **soil**	Cum	974.4	700.00	6,82,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	417.6	1,720.00	7,18,272.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1392	202.00	2,81,184.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	417.6	2,643.67	11,03,996.86
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	67	1,012.00	67,804.00
	Sub Total (Civil Portion) (in Rs.)				**28,65,044.06**
A	**Sub Total (Supply Portion)**				**64,67,293.30**
B	Stock, Storage & Insurance @ 3 % of A				1,94,018.80
C	**Sub Total (A+B)**				**66,61,312.10**
D	Contingency @ 3 % of C				1,99,839.36
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				4,99,598.41
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**73,60,749.87**
I	Sub Total (Erection Portion + Civil Portion)				51,15,545.66
J	**Total Cost (H+I)**				**1,24,76,295.52**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,24,76,295.52
M	GST @ 18% of L				22,45,733.19
M1	Total CESS @ 1% of (L)				1,24,762.96
N	**Grand Total (L+M+M1)**				**1,48,46,791.67**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,48,48,141.67**

PART-B: Installation of 2No of 11kV RMU at Badagada PSS and Jyoti Ranjan Pati DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	12,456.60	74,739.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	18,075.20	1,08,451.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,07,677.28**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**77,867.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	48	1,463.40	70,243.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,76,345.80**
A	**Sub Total (Supply Portion)**				**24,07,677.28**
B	Stock, Storage & Insurance @ 3 % of A				72,230.32
C	**Sub Total (A+B)**				**24,79,907.60**
D	Contingency @ 3 % of C				74,397.23
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,85,993.07
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**27,40,616.04**
I	Sub Total (Erection Portion + Civil Portion)				3,54,213.40
J	**Total Cost (H+I)**				**30,94,829.44**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				30,94,829.44
M	GST @ 18% of L				5,57,069.30
M1	Total CESS @ 1% of (L)				30,948.29
N	**Grand Total (L+M+M1)**				**36,82,847.04**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**36,86,972.04**

PART C: 11kV Line DP with AB Switch for new line from Badagada PSS to Gauri Nagar					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.7

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	DHAULI
11kV Feeder Name:-	11KV BHIMTANGI LINGRAJ
Name of the Work :-	Proposal for Construction of 1KM of 3CX400SQMM UG Cable New line from Bhimtangi PSS to using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Bhimtangi PSS to NANDA ENCLAVE DTR (Azad Nagar Sqare) using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	75,09,929.15
2	PART-B: Construction of 2No of 11kV RMU at Bhimtangi PSS &NANDA ENCLAVE DTR (Azad Nagar Square)	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Bhimtangi PSS to Shankar Bazar	4,64,161.10
4	**Total Gross**	**1,17,80,677.68**

Total estimated cost is Rs. 1.17Cr.

PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Bhimtangi PSS to NANDA ENCLAVE DTR (Azad Nagar Square) using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	5	32,912.10	1,64,560.50
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,95,179.10**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	5	2,400.00	12,000.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,29,551.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		
1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00

1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,95,179.10**
B	Stock, Storage & Insurance @ 3 % of A				98,855.37
C	**Sub Total (A+B)**				**33,94,034.47**
D	Contingency @ 3 % of C				1,01,821.03
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,54,552.59
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**37,50,408.09**
I	Sub Total (Erection Portion + Civil Portion)				25,59,416.82
J	**Total Cost (H+I)**				**63,09,824.92**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				63,09,824.92
M	GST @ 18% of L				11,35,768.48
M1	Total CESS @ 1% of (L)				63,098.25
N	**Grand Total (L+M+M1)**				**75,08,691.65**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				112.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**75,09,929.15**

PART-B: Construction of 2No of 11kV RMU at Bhimtangi PSS &NANDA ENCLAVE DTR (Azad Nagar Square)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00

4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-

1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Bhimtangi PSS to Shankar Bazar					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.8

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	GOUTAM NAGAR
Name of the Feeder:-	11kV GOUTAM NAGAR
Name of the Work :-	Proposal for Construction of 1.5KM of 3CX400SQMM UG Cable Feeder linking from Gautam nagar feeder to Ratharoad UG Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1.5KM of 3CX400SQMM UG Cable Feeder linking from Mausima Chhak to Maa gouri Hellow world Shop of Ratharoad UG Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	1,11,79,046.66
2	PART-B: Installation of 2No of 11kV RMU at Mausima Chhak of goutam Nagar Feeder & near Maa gouri Hellow world Shop of Ratharoad UG feeder	36,86,972.04
3	PART C: 11kV Line DP with AB Switch for new Feeder linking from Gautam nagar feeder to Ratharoad UG Feeder	4,64,161.10
4	**Total Gross**	**1,53,30,179.80**

Total estimated cost is Rs. 1.53Cr.

PART A: Construction of 1.5KM of 3CX400SQMM UG Cable Feeder linking from Mausima Chhak to Maa gouri Hellow world Shop of Ratharoad UG Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1050***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***450***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1500.00	2,563.51	38,45,265.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	6	32,912.10	1,97,472.60
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1042.00	775.40	8,07,966.80
	Sub Total (Supply Portion) (in Rs.)				**48,81,236.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1050.00	94.50	99,225.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	2,400.00	14,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	450	2,800.00	12,60,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1042.00	300.00	3,12,600.00
	Sub Total (Erection Portion) (in Rs.)				**16,90,026.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1042		

1.1.a	Earth work excavation of **soil**	Cum	729.4	700.00	5,10,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	312.6	1,720.00	5,37,672.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1042	202.00	2,10,484.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	312.6	2,643.67	8,26,411.44
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	50	1,012.00	50,600.00
	Sub Total (Civil Portion) (in Rs.)				**21,47,454.64**
A	**Sub Total (Supply Portion)**				**48,81,236.20**
B	Stock, Storage & Insurance @ 3 % of A				1,46,437.09
C	**Sub Total (A+B)**				**50,27,673.29**
D	Contingency @ 3 % of C				1,50,830.20
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,77,075.50
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**55,55,578.98**
I	Sub Total (Erection Portion + Civil Portion)				38,37,481.24
J	**Total Cost (H+I)**				**93,93,060.22**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				93,93,060.22
M	GST @ 18% of L				16,90,750.84
M1	Total CESS @ 1% of (L)				93,930.60
N	**Grand Total (L+M+M1)**				**1,11,77,741.66**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				180.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,11,79,046.66**

PART-B: Installation of 2No of 11kV RMU at Mausima Chhak of goutam Nagar Feeder & near Maa gouri Hellow world Shop of Ratharoad UG feeder.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	12,456.60	74,739.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	18,075.20	1,08,451.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00

4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,07,677.28**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**77,867.60**
Civil Portion					

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	48	1,463.40	70,243.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,76,345.80**
A	**Sub Total (Supply Portion)**				**24,07,677.28**
B	Stock, Storage & Insurance @ 3 % of A				72,230.32
C	**Sub Total (A+B)**				**24,79,907.60**
D	Contingency @ 3 % of C				74,397.23
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,85,993.07
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**27,40,616.04**
I	Sub Total (Erection Portion + Civil Portion)				3,54,213.40
J	**Total Cost (H+I)**				**30,94,829.44**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				30,94,829.44
M	GST @ 18% of L				5,57,069.30
M1	Total CESS @ 1% of (L)				30,948.29
N	**Grand Total (L+M+M1)**				**36,82,847.04**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**36,86,972.04**

PART C: 11kV Line DP with AB Switch for new Feeder linking from Gautam nagar feeder to Ratharoad UG Feeder					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.9

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	KALPANA-2
Name of the Feeder: -	KALPANA-2
Name of the Work :-	Proposal for Construction of 0.1 KM of 3CX400SQMM UG Cable linking line for bifurgate load on Kalpana-1 Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 0.1KM of 3CX400SQMM UG Cable line for bifurgate load on Kalpana-1 Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	7,71,535.46
2	PART-B: Construction of 2No of 11kV RMU at Laxmisagar PSS.	31,49,665.90
3	PART C: 11kV Line DP with AB Switch for bifurgate load on Kalpana-1 Feeder	4,64,161.10
4	**Total Gross**	**43,85,362.46**

Total estimated cost is Rs. 0.44Cr.

PART A: Construction of 0.1KM of 3CX400SQMM UG Cable line for bifurgate load on Kalpana-1 Feeder using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	100.00	2,563.51	2,56,351.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	92.00	775.40	71,336.80
	Sub Total (Supply Portion) (in Rs.)				**3,58,219.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	100.00	94.50	9,450.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	92.00	300.00	27,600.00
	Sub Total (Erection Portion) (in Rs.)				**40,851.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	92		

1.1.a	Earth work excavation of **soil**	Cum	64.4	700.00	45,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	27.6	1,720.00	47,472.00
1.2	Back filling with excavated soil outside and above the trench	Cum	92	202.00	18,584.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	27.6	2,643.67	72,965.31
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**1,98,844.51**
A	**Sub Total (Supply Portion)**				**3,58,219.60**
B	Stock, Storage & Insurance @ 3 % of A				10,746.59
C	**Sub Total (A+B)**				**3,68,966.19**
D	Contingency @ 3 % of C				11,068.99
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				27,672.46
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**4,07,707.64**
I	Sub Total (Erection Portion + Civil Portion)				2,39,696.11
J	**Total Cost (H+I)**				**6,47,403.75**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				6,47,403.75
M	GST @ 18% of L				1,16,532.67
M1	Total CESS @ 1% of (L)				6,474.04
N	**Grand Total (L+M+M1)**				**7,70,410.46**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**7,71,535.46**

PART-B: Construction of 2No of 11kV RMU at Laxmisagar PSS.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	12,456.60	74,739.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	18,075.20	1,08,451.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***	***2***		
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***			
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	2	4,99,340.00	9,98,680.00
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	0	6,97,696.00	-
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**20,10,965.28**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	2	9,639.00	19,278.00
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	0	9,639.00	-
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**77,867.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	48	1,463.40	70,243.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,76,345.80**
A	**Sub Total (Supply Portion)**				**20,10,965.28**
B	Stock, Storage & Insurance @ 3 % of A				60,328.96
C	**Sub Total (A+B)**				**20,71,294.24**
D	Contingency @ 3 % of C				62,138.83
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,55,347.07
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**22,89,098.28**
I	Sub Total (Erection Portion + Civil Portion)				3,54,213.40
J	**Total Cost (H+I)**				**26,43,311.68**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				26,43,311.68
M	GST @ 18% of L				4,75,796.10
M1	Total CESS @ 1% of (L)				26,433.12
N	**Grand Total (L+M+M1)**				**31,45,540.90**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**31,49,665.90**

PART C: 11kV Line DP with AB Switch for bifurgate load on Kalpana-1 Feeder					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Annexure-9.10

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	VSS Nagar
Name of the Feeder: -	11kV Gajapati Nagar Feeder
Name of the Work :-	Proposal for Construction for Augmentation of Construction of 4KM of Augmentation using 148 SQ.MM. -AAA Conductor from Sainikschool PSS to Barrack Battalion and new 11KV Line from RRL PSS to CPS 250KVA DTR
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A; Construction of 4KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from Augmentation of conductor from 80mm2 to 148mm2 of length 4 KM from Sainikschool PSS to Barrack Battalion .	61,86,828.80
2	PART-B; Construction of 1.8KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from RRL PSS to CPS 250KVA DTR	36,89,540.17
3	PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing	69,000.49
4	PART-D: Construction of 11kV RMU from RRL PSS to CPS 250KVA DTR	57,66,195.70
5	PART E: 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor	13,92,483.30
6	**Total Gross**	**1,71,04,048.47**

Total estimated cost is Rs. 1.71Cr.

PART-A; Construction of 4KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from Augmentation of conductor from 80mm2 to 148mm2 of length 4 KM from Sainikschool PSS to Barrack Battalion .

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	12	9,672.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,880.00**
B				Stock, Storage & Insurance i.e 3% of A	8,576.40
C				**Sub Total (A+B)**	**2,94,456.40**
D				Contigency @ 3% of C	8,833.69
E				Tools & Plants @ 2% of C	5,524.92
F				Transportation @ 7.5% of C	22,084.23
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,404.27
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,52,413.68**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,838.68**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,838.68**
O				Total GST @ 18% of (N)	70,350.96
O1				Total CESS @ 1% of (N)	3,908.39
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,65,098.03**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00

2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	4	416.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.2036	117.35
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	12	1,248.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	4.8144	469.40
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
12	Earthing of Support (Coil Type)	EA	215.80	4	863.20
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.048	102.18
14	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	24	19,344.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	14.2	1,439.88
16	Black Paint	Ltr	286.00	2	572.00
17	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**2,05,679.31**
B				Stock, Storage & Insurance i.e 3% of A	6,170.38
C				**Sub Total (A+B)**	**2,11,849.69**
D				Contigency @ 3% of C	6,355.49
E				Tools & Plants @ 2% of C	4,236.99
F				Transportation @ 7.5% of C	15,888.73
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	8,964.64
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,53,405.70**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
3	Dismantling of 80sqmm AAAC	Mtr	12,000.00	10.80	1,29,600.00
K				**Total Civil & Services**	**1,44,225.00**
L				**Total (J+K)**	**3,97,630.70**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**3,97,630.70**
O				Total GST @ 18% of (N)	71,573.53
O1				Total CESS @ 1% of (N)	3,976.31
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**4,73,180.53**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	4

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	183.552	13,949.95
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	42.2912	4,123.39
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	46.80576	3,557.24
5	Danger Plate, 1 no's.	No.	104.00	4	416.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.2036	117.35
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	12	1,248.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	4.8144	469.40
9	11 KV pin insulator polymer	No.	260.00	16	4,160.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
12	Earthing of Support (Coil Type)	EA	215.80	4	863.20
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.048	102.18
14	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	24	19,344.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
16	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
17	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	29.732	3,014.82
20	Black Paint	Ltr	286.00	2	572.00
21	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**2,43,549.54**
B				Stock, Storage & Insurance i.e 3% of A	7,306.49
C				**Sub Total (A+B)**	**2,50,856.03**
D				Contigency @ 3% of C	7,525.68
E				Tools & Plants @ 2% of C	4,513.66
F				Transportation @ 7.5% of C	18,814.20
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	10,347.95

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**2,98,167.68**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.8	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.5	2,925.00

K	**Total Civil & Services**	**32,625.00**
L	**Total (J+K)**	**3,30,792.68**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N	**Sub Total (L+M)**	**3,30,792.68**
O	Total GST @ 18% of (N)	59,542.68
O1	Total CESS @ 1% of (N)	3,307.93
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**3,93,643.29**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	52	15,42,372.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	52	54,756.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	52	10,140.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	52	5,408.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	15.65	1,525.56
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	156.00	16,224.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	62.59	6,102.25
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	156	40,560.00
9	Earthing of Support (Coil Type)	No.	215.80	52	11,221.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	13.62	1,328.34
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	75.40	7,645.56
12	148 sq.mm AAA conductor	Mtr.	106.60	12360.00	13,17,576.00
13	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	12	2,103.00
14	Black Paint	Ltr	286.00	52.0	14,872.00
15	Yellow Colour Paint for Background	Ltr	216.00	104.0	22,464.00

A	**Total Cost of materials**	**30,54,298.32**
B	Stock, Storage & Insurance i.e 3% of A	91,628.95
C	**Sub Total (A+B)**	**31,45,927.26**
D	Contigency @ 3% of C	94,377.82
E	Tools & Plants @ 2% of C	62,918.55
F	Transportation @ 7.5% of C	2,35,944.54
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	79,432.16
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	1,55,728.41
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**37,74,328.74**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	23.40	1,52,100.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	5.85	38,025.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	12360.00	1,13,787.40

K	**Total Civil & Services**	**3,03,912.40**
L	**Total Material+Services (I+K)**	**40,78,241.14**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N	**Sub Total (L+M)**	**40,78,241.14**
O	Total GST @ 18% of (N)	7,34,083.40
O1	Total CESS @ 1% of (N)	40,782.41
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**48,53,106.95**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,65,098.03
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	4,73,180.53
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	3,93,643.29
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	48,53,106.95
Q	**Gross Total Material +Services**	**61,85,028.80**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**675.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**61,86,828.80**

PART-B; Construction of 1.8KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from RRL PSS to CPS 250KVA DTR

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	2

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	87.952	6,684.35
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	94.8192	7,206.26
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	96.156	7,307.86
6	Danger Plate, 2 no's.	No.	104.00	4	416.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
9	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
10	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	23.6	2,301.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
16	11 KV pin insulator polymer	No.	260.00	6	1,560.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	24.522	2,486.53
21	Black Paint	Ltr	286.00	2	572.00
22	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,98,047.89**
B				Stock, Storage & Insurance i.e 3% of A	5,941.44
C				**Sub Total (A+B)**	**2,03,989.33**
D				Contigency @ 3% of C	6,119.68
E				Tools & Plants @ 2% of C	3,771.82
F				Transportation @ 7.5% of C	15,299.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	6,638.75
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,41,928.94**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**31,025.00**
L				**Total (J+K)**	2,72,953.94
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**2,72,953.94**
O				Total GST @ 18% of (N)	49,131.71
O1				Total CESS @ 1% of (N)	2,729.54
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**3,24,815.19**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14

4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00

6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-

J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**1,95,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)			1.8		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	37	10,97,457.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	37	38,961.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	37	7,215.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	37	3,848.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	11.13	1,085.50
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	111.00	11,544.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	44.53	4,341.99
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	111	28,860.00
9	Earthing of Support (Coil Type)	No.	215.80	37	7,984.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	9.69	945.17
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	53.65	5,440.11
12	100 mm2 AAAC	Mtr.	71.50	5562.00	3,97,683.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	37.0	10,582.00
15	Yellow Colour Paint for Background	Ltr	216.00	74.0	15,984.00
A				**Total Cost of materials**	**16,32,457.11**
B				Stock, Storage & Insurance i.e 3% of A	48,973.71
C				**Sub Total (A+B)**	**16,81,430.82**
D				Contigency @ 3% of C	50,442.92
E				Tools & Plants @ 2% of C	33,628.62
F				Transportation @ 7.5% of C	1,26,107.31
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	56,519.04
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	55,105.01
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**20,03,233.72**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	16.65	1,08,225.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	4.16	27,056.25
K				**Total Civil & Services**	**1,35,281.25**
L				**Total Material+Services (I+K)**	**21,38,514.97**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**21,38,514.97**
O				Total GST @ 18% of (N)	3,84,932.69
O1				Total CESS @ 1% of (N)	21,385.15
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**25,44,832.82**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	3,24,815.19
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	1,58,541.34
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,95,884.72
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	25,44,832.82
Q	**Gross Total Material +Services**	**36,88,235.17**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**180.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**36,89,540.17**

PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Guarding Channel 75x40x4.8 mm, 7.14 KG/Mtr., each channel length 3.5 mtr., 4 no's channel required =(4x7.14x3.5) (For Double Pole)	KG	76.00	199.92	15,193.92
2	No-6 GI wire (0.192 kg/mtr.) for Main String	Kg.	97.50	30.72	2,995.20
3	No-8 GI wire (0.131 kg/mtr.) for lacing	Kg.	97.50	6.55	638.63
4	Eye Bolt (236mm, 16mm dia, 1.577kg/mtr.)	No	78.00	8	624.00
6	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
7	50x6mm GI Flat for earthing, 2.36kg/mtr., (10.7 mtr For raising)= 10.7x2.36	KG	97.50	101.008	9,848.28
A				**Total Cost of materials**	**34,760.03**
B				Stock, Storage & Insurance i.e 3% of A	1,042.80
C				**Sub Total (A+B)**	**35,802.83**
D				Contigency @ 3% of C	1,074.08
E				Tools & Plants @ 2% of C	603.58
F				Transportation @ 7.5% of C	2,685.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	3,017.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**43,183.61**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**14,800.00**
L				**Total (J+K)**	57,983.61
M				Other overheads (Including 6% supervision charges) of L	0.00
N				**Sub Total (L+M)**	**57,983.61**
O				Total GST @ 18% of (N)	10,437.05
				Total CESS @ 1% of (N)	579.84
P	**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**				**69,000.49**

PART-D: Construction of 11kV RMU from RRL PSS to CPS 250KVA DTR						
Supply Portion						
Sl. No.	**SAP Code**	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1		**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a		***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***80***		
b		***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	401000484	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	80.00	1,950.00	1,56,000.00
1.2	401000860	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	401000858	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	12,456.60	1,49,479.20
1.4	401000859	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	18,075.20	2,16,902.40
1.5	401000917	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2		**Supply of 11kV RMU**				
a		***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b		***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c		***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d		***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	601001131	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	601001132	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	601001311	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	601001312	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3		**Earthing**				
3.1	601000679	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	601001158	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4		**FRTU for RMU SCADA Automation**				
a		***No. of FRTU***	***nos.***	***3***		
4.1	101001412	Pre-Wired FRTU Panel with FRTU	No.	3	1,21,744.00	3,65,232.00
4.2	101001422	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	1,00,000.00	3,00,000.00
4.3	101000995	Networking Accessories	No.	3	72.00	216.00
4.4	101001388	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	301002481	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	101001389	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	101001390	Battery	Nos.	3	8,333.00	24,999.00
4.8	701002061	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	401001331	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40

4.10	401001333	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	401001334	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	401001338	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	401001362	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	401001339	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	401001335	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	401001340	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	201000441	Multi Function Meter	Nos.	6	18,651.00	1,11,906.00
		Sub Total (Supply Portion) (in Rs.)				**37,42,111.32**
Erection Portion						
Sl. No.	**SAP Code**	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1		**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	200109	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	80.00	94.50	7,560.00
1.2	700057	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	900027	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.4	900027	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.5	700035	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	600040	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2		**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	200106	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	200106	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	200105	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	200105	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3		**FRTU and OFC for RMU SCADA Automation**				
3.1	600060	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
		Sub Total (Erection Portion) (in Rs.)				**1,30,096.20**
Civil Portion						
Sl. No.	**SAP Code**	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1		**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1		Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	800005	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	5000000	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	5000015	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	600054	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2		**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	800020	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	900054	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	2,16,000.00
4	600044	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	800009	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	96	1,463.40	1,40,486.40
6	900044	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
		Sub Total (Civil Portion) (in Rs.)				**4,51,158.30**
A		**Sub Total (Supply Portion)**				**37,42,111.32**
B		Stock, Storage & Insurance @ 3 % of A				1,12,263.34
C		**Sub Total (A+B)**				**38,54,374.66**
D		Contingency @ 3 % of C				1,15,631.24
E		Tools & Plants Charges @ 2% of C (considered for earthing items)				79.54
F		Transportation @ 7.5% of C				2,89,078.10
G		Erection Charges @ 10% of earthing items				397.68
H		**Total (C+D+E+F+G)**				**42,59,561.22**
I		Sub Total (Erection Portion + Civil Portion)				5,81,254.50
J		**Total Cost (H+I)**				**48,40,815.72**
K		Other Overhead /(including Supervision Charges) @ 6 % of J				-
L		**Total Estimated Capital Cost i.e. (J+K)**				48,40,815.72
M		GST @ 18% of L				8,71,346.83
M1		Total CESS @ 1% of (L)				48,408.16
N		**Grand Total (L+M+M1)**				**57,60,570.70**
O	6000060	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	6000061	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU				4,500.00
R	6000062	Inspection Fee of Drawing Checking and Approval				750.00
S		**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**57,66,195.70**

PART E: 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	6

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	12	3,55,932.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	344.16	26,156.16
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	23.7888	2,319.41
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	257.04	19,535.04
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	40.152	3,051.55
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	34.272	2,604.67
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	514.08	39,070.08
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	379.296	28,826.50
9	Danger Plate, 2 no's.	No.	104.00	12	1,248.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	3.6108	352.05
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	12	1,950.00
12	H.T. Stay set (Complete)	Set	1,365.00	12	16,380.00
13	H.T. Stay Insulator Type-C	No.	65.00	12	780.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	180	17,550.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	12	16,380.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	290.28	28,302.30
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	36	3,744.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	14.4432	1,408.21
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	18	83,070.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	6	92,430.00
21	11 KV pin insulator polymer	No.	260.00	18	4,680.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	36	16,380.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	36	53,820.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	36	27,144.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	82.308	8,346.03
26	Black Paint	Ltr	286.00	6	1,716.00
27	Yellow Colour Paint for Background	Ltr	216.00	12	2,592.00
A				**Total Cost of materials**	**8,55,768.00**
B				Stock, Storage & Insurance i.e 3% of A	25,673.04
C				**Sub Total (A+B)**	**8,81,441.04**
D				Contigency @ 3% of C	26,443.23
E				Tools & Plants @ 2% of C	16,536.20
F				Transportation @ 7.5% of C	66,108.08
G				Erection Charges @ 5% on Trf/Breaker/Joist	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	46,019.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**10,54,879.04**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	12	27,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.40	35,100.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.35	8,775.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	12	44,400.00
K				**Total Civil & Services**	**1,15,275.00**
L				**Total (J+K)**	**11,70,154.04**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**11,70,154.04**
O				Total GST @ 18% of (N)	2,10,627.73
O1				Total CESS @ 1% of (N)	11,701.54
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**13,92,483.30**

Annexure-9.11

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	NAYAPALLI
Name of the Feeder : -	JAIDEV VIHAR
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Jaydevvihar Feeder load emanating from 33/11 KV Nayapalli PSS by constructing 1 No. of new feeder from 33/11 KV Nayapalli PSS through RMU and 1KM 11KV new line from Nayapalli PSS to Bijupatnaik Clg using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapalli PSS to Bijupatnaik Clg using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	74,14,952.45
2	PART-B: Installation of 11kV RMU for new line from Nayapalli PSS to Bijupatnaik Clg	76,13,254.14
3	PART C: 11kV Line DP with AB Switch for new line from Nayapalli PSS to Bijupatnaik Clg	4,64,161.10
4	**Total Gross**	**1,54,92,367.69**

Total estimated cost is Rs. 1.55Cr.

PART C: 11kV Line DP with AB Switch for new line from Nayapalli PSS to Bijupatnaik Clg					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24

O1	Total CESS @ 1% of (N)				3,900.51
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**4,64,161.10**

PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapalli PSS to Bijupatnaik Clg using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		
1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00

S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**74,14,952.45**

PART-B: Installation of 11kV RMU for new line from Nayapalli PSS to Bijupatnaik Clg					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***80***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	80.00	1,950.00	1,56,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	12,456.60	1,99,305.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	18,075.20	2,89,203.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***4***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	4	6,97,696.00	27,90,784.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	52.80	97.50	5,148.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	8	1,365.00	10,920.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***4***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	4	1,21,744.00	4,86,976.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	4	1,00,000.00	4,00,000.00
4.3	Networking Accessories	No.	4	72.00	288.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	128	650.00	83,200.00
4.5	Interposing Relay for Digital Output	Nos.	64	467.94	29,948.16
4.6	Battery Charger	Nos.	4	15,385.00	61,540.00
4.7	Battery	Nos.	4	8,333.00	33,332.00

4.8	4G Modem cum Router	Nos.	4	18,500.00	74,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	160	204.87	32,779.20
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	160	305.58	48,892.80
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	160	275.23	44,036.80
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	80	165.25	13,220.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	40	150.00	6,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	80.0	148.43	11,874.40
4.15	Armored CAT6 SFTP Cable	Mtr.	80	45.87	3,669.60
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	80	89.45	7,156.00
4.17	Multi Function Meter	Nos.	8	18,651.00	1,49,208.00
	Sub Total (Supply Portion) (in Rs.)				**49,37,481.76**

Erection Portion

Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	80.00	94.50	7,560.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	4	9,639.00	38,556.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	4.0	16,000.00	64,000.00

	Sub Total (Erection Portion) (in Rs.)				**1,70,941.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	4	23,145.30	92,581.20
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	80	3,600.00	2,88,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	8	3,700.00	29,600.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	128	1,463.40	1,87,315.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**6,00,532.40**
A	**Sub Total (Supply Portion)**				**49,37,481.76**
B	Stock, Storage & Insurance @ 3 % of A				1,48,124.45
C	**Sub Total (A+B)**				**50,85,606.21**
D	Contingency @ 3 % of C				1,52,568.19
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				106.05
F	Transportation @ 7.5% of C				3,81,420.47
G	Erection Charges @ 10% of earthing items				530.24
H	**Total (C+D+E+F+G)**				**56,20,231.16**
I	Sub Total (Erection Portion + Civil Portion)				7,71,474.00
J	**Total Cost (H+I)**				**63,91,705.16**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				63,91,705.16
M	GST @ 18% of L				11,50,506.93
M1	Total CESS @ 1% of (L)				63,917.05

N	**Grand Total (L+M+M1)**	**76,06,129.14**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	6,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**76,13,254.14**

Annexure-9.12

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	NAYAPALLI
Name of the Feeder : -	IRC-1
Name of the Work :-	Proposal for Bifurcation of existing 11 KV IRC-1 Feeder load emanating from 33/11 KV Nayapalli PSS by constructing 1 No. of new feeder from 33/11 KV Nayapalli PSS through RMU and 1KM 11KV new line from Nayapalli PSS to IRC feeder near ID Market using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapalli PSS to IRC feeder near ID Market using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	74,14,952.45
2	PART-B:Installation of 11kV RMU for new line from Nayapalli PSS to IRC feeder near ID Market	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Nayapalli PSS to IRC feeder near ID Market	6,96,241.65
4	**Total Gross**	**1,19,17,781.53**

Total estimated cost is Rs. 1.19Cr.

PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapalli PSS to IRC feeder near ID Market using 11kV 3C, 400sqmm UG Cable along with 11kV RMU					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		
1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00

S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**74,14,952.45**

PART-B:Installation of 11kV RMU for new line from Nayapalli PSS to IRC feeder near ID Market					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00

	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47

N	**Grand Total (L+M+M1)**	**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Nayapalli PSS to IRC feeder near ID Market					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86

O1	Total CESS @ 1% of (N)				5,850.77
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**6,96,241.65**

Annexure-9.13

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	Nayapali
Name of the Section : -	Nayapali
Name of the Feeder : -	IRC-2
Name of the Work :-	Proposal for Bifurcation of existing 11 KV IRC-2 Feeder load emanating from 33/11 KV Nayapalli PSS by constructing 1 No. of new feeder from 33/11 KV Nayapalli PSS through RMU and 1KM 11KV new line from Nayapali PSS to RBI Colony using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1.5KM of 3CX400SQMM UG Cable New line from Nayapali PSS to RBI Colony	1,11,31,547.06
2	PART-B: Construction of 11kV RMU for new line from Nayapali PSS to RBI Colony	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Nayapali PSS to RBI Colony	6,96,241.65
4	**Total Gross**	**1,56,34,376.14**

Total estimated cost is Rs. 1.56Cr.

PART A: Construction of 1.5KM of 3CX400SQMM UG Cable New line from Nayapali PSS to RBI Colony

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1050***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***450***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1500.00	2,563.51	38,45,265.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	5	32,912.10	1,64,560.50
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1042.00	775.40	8,07,966.80
	Sub Total (Supply Portion) (in Rs.)				**48,48,324.10**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1050.00	94.50	99,225.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	5	2,400.00	12,000.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	450	2,800.00	12,60,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1042.00	300.00	3,12,600.00
	Sub Total (Erection Portion) (in Rs.)				**16,87,626.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1042		
1.1.a	Earth work excavation of **soil**	Cum	729.4	700.00	5,10,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	312.6	1,720.00	5,37,672.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1042	202.00	2,10,484.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	312.6	2,643.67	8,26,411.44
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	50	1,012.00	50,600.00
	Sub Total (Civil Portion) (in Rs.)				**21,47,454.64**
A	**Sub Total (Supply Portion)**				**48,48,324.10**
B	Stock, Storage & Insurance @ 3 % of A				1,45,449.72
C	**Sub Total (A+B)**				**49,93,773.82**
D	Contingency @ 3 % of C				1,49,813.21
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,74,533.04
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**55,18,120.07**
I	Sub Total (Erection Portion + Civil Portion)				38,35,081.24
J	**Total Cost (H+I)**				**93,53,201.31**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				93,53,201.31
M	GST @ 18% of L				16,83,576.24
M1	Total CESS @ 1% of (L)				93,532.01
N	**Grand Total (L+M+M1)**				**1,11,30,309.56**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				112.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00

S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**1,11,31,547.06**

PART-B: Construction of 11kV RMU for new line from Nayapali PSS to RBI Colony					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00

	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47

N	**Grand Total (L+M+M1)**	**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Nayapali PSS to RBI Colony					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86

O1	Total CESS @ 1% of (N)				5,850.77
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**6,96,241.65**

Annexure-9.14

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	XAVIER
Name of the Feeder : -	PAL HEIGHTS
Name of the Work :-	Proposal for Construction of Augmentation of 3.5km of Line using 100 SQ.MM. -AAA Conductor from RLL PSS to Mayfair Hotel 250KVA
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of 3.5km of Line using 100 SQ.MM. -AAA Conductor from RLL PSS to Mayfair Hotel 250KVA	4777714.24
2	PART B: Construction of 0.2km UG of 3CX400 sqmm from RLL PSS to Mayfair Hotel 250KVA	15,13,650.59
3	**Total Gross**	**62,91,364.83**

Total estimated cost is Rs. 0.63Cr.

PART A: Construction of Augmentation of 3.5km of Line using 100 SQ.MM. -AAA Conductor from RLL PSS to Mayfair Hotel 250KVA

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Dismantlling of 55sqmm AAAAC	Mtr	6.44	10500.00	67,620.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**1,06,045.00**
L				**Total (J+K)**	**4,57,671.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**4,57,671.35**
O				Total GST @ 18% of (N)	82,380.84
O1				Total CESS @ 1% of (N)	4,576.71
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**5,44,628.90**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00

2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**1,53,323.48**
B				Stock, Storage & Insurance i.e 3% of A	4,599.70
C				**Sub Total (A+B)**	**1,57,923.18**
D				Contigency @ 3% of C	4,737.70
E				Tools & Plants @ 2% of C	3,158.46
F				Transportation @ 7.5% of C	11,844.24
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,627.07
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,88,873.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K				**Total Civil & Services**	**10,968.75**
L				**Total (J+K)**	**1,99,842.03**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,99,842.03**
O				Total GST @ 18% of (N)	35,971.56
O1				Total CESS @ 1% of (N)	1,998.42
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**2,37,812.01**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
16	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
17	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
20	Black Paint	Ltr	286.00	1.5	429.00
21	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**1,81,726.16**
B				Stock, Storage & Insurance i.e 3% of A	5,451.78
C				**Sub Total (A+B)**	**1,87,177.94**
D				Contigency @ 3% of C	5,615.34
E				Tools & Plants @ 2% of C	3,365.96
F				Transportation @ 7.5% of C	14,038.35
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	7,664.56
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-

J				**Sum of (C to I)**	**2,22,444.77**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K				**Total Civil & Services**	**24,468.75**
L				**Total (J+K)**	**2,46,913.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**2,46,913.52**
O				Total GST @ 18% of (N)	44,444.43
O1				Total CESS @ 1% of (N)	2,469.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**2,93,827.08**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	3.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	46	13,64,406.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	46	48,438.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	46	8,970.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	46	4,784.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	13.84	1,349.54
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	138.00	14,352.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	55.37	5,398.15
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	138	35,880.00
9	Earthing of Support (Coil Type)	No.	215.80	46	9,926.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	12.05	1,175.07
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	66.70	6,763.38
12	100 mm2 AAAC	Mtr.	71.50	10815.00	7,73,272.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	46.0	13,156.00
15	Yellow Colour Paint for Background	Ltr	216.00	92.0	19,872.00
A				**Total Cost of materials**	**23,09,320.68**
B				Stock, Storage & Insurance i.e 3% of A	69,279.62
C				**Sub Total (A+B)**	**23,78,600.30**
D				Contigency @ 3% of C	71,358.01
E				Tools & Plants @ 2% of C	47,572.01
F				Transportation @ 7.5% of C	1,78,395.02
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	70,266.91
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	97,326.21
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**28,43,518.46**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	20.70	1,34,550.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	5.18	33,637.50
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	10815.00	97,335.00
K				**Total Civil & Services**	**2,65,522.50**
L				**Total Material+Services (I+K)**	**31,09,040.96**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**31,09,040.96**
O				Total GST @ 18% of (N)	5,59,627.37
O1				Total CESS @ 1% of (N)	31,090.41
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**36,99,758.74**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	5,44,628.90
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	2,37,812.01
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	2,93,827.08
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	36,99,758.74
Q	**Gross Total Material +Services**	**47,76,026.74**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**562.50**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**47,77,714.24**

PART B: Construction of 0.2km UG of 3CX400 sqmm from RLL PSS to Mayfair Hotel 250KVA

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***200***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	200.00	2,563.51	5,12,702.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	0	32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	192.00	775.40	1,48,876.80
	Sub Total (Supply Portion) (in Rs.)				**6,92,110.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	200.00	94.50	18,900.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	192.00	300.00	57,600.00
	Sub Total (Erection Portion) (in Rs.)				**80,301.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	192		
1.1.a	Earth work excavation of **soil**	Cum	134.4	700.00	94,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	57.6	1,720.00	99,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	192	202.00	38,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	57.6	2,643.67	1,52,275.43
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	7	1,012.00	7,084.00
	Sub Total (Civil Portion) (in Rs.)				**4,03,002.63**
A	**Sub Total (Supply Portion)**				**6,92,110.60**
B	Stock, Storage & Insurance @ 3 % of A				20,763.32
C	**Sub Total (A+B)**				**7,12,873.92**
D	Contingency @ 3 % of C				21,386.22
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				53,465.54
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**7,87,725.68**
I	Sub Total (Erection Portion + Civil Portion)				4,83,304.23
J	**Total Cost (H+I)**				**12,71,029.91**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				12,71,029.91
M	GST @ 18% of L				2,28,785.38
M1	Total CESS @ 1% of (L)				12,710.30
N	**Grand Total (L+M+M1)**				**15,12,525.59**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00

S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**15,13,650.59**

Annexure-9.15

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	NAYAPALLI
Name of the Feeder : -	11KV RENTAL Feeder
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Rental Feeder load emanating from 33/11 KV Nayapalli PSS by constructing 1 No. of new feeder from 33/11 KV Nayapalli PSS through RMU and 1KM 11KV new line from Nayapali PSS to Satysai Temple using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapali PSS to Satysai Temple	74,14,952.45
2	PART-B: Construction of 11kV RMU for new line from Nayapali PSS to Satysai Temple	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Nayapali PSS to Satysai Temple	6,96,241.65
4	**Total Gross**	**1,19,17,781.53**

Total estimated cost is Rs. 1.19Cr.

PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Nayapali PSS to Satysai Temple

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		
1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00

S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**74,14,952.45**

PART-B: Construction of 11kV RMU for new line from Nayapali PSS to Satysai Temple					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00

	Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47

N	**Grand Total (L+M+M1)**	**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Nayapali PSS to Satysai Temple					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86

O1	Total CESS @ 1% of (N)				5,850.77
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**6,96,241.65**

ANNEXURE- 9.16

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	PERIPHERI
Name of the Section : -	BARANG
Name of the Work :-	Proposal for Construction of 8KM Augmentation of existing 11kV Baranga-1 Feeder emanating from 33/11kV New Baranga PSS with 100sqmm AAAC conductor from New Baranga PSS to Sashmita Sahoo 100KVA DTR
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction for 8KM of Augmentation Line using 100 SQ.MM. -AAA Conductor from New Baranga PSS to Sashmita Sahoo 100KVA DTR	10618282.12
2	PART B: Construction of 0.1km UG of 3CX400 sqmm from New Baranga PSS to Sashmita Sahoo 100KVA DTR	7,71,535.46
3	PART-C: Construction of 11kV RMU for new line from New Baranga PSS to Sashmita Sahoo 100KVA DTR	38,06,587.43
4	PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch	9,28,322.20
5	**Total Gross**	**1,61,24,727.21**

Total estimated cost is Rs. 1.61Cr.

PART A: Construction for 8KM of Augmentation Line using 100 SQ.MM. -AAA Conductor from New Baranga PSS to Sashmita Sahoo 100KVA DTR

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	4

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**9,28,322.20**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	8

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	183.552	13,949.95
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	42.2912	4,123.39

4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	46.80576	3,557.24
5	Danger Plate, 1 no's.	No.	104.00	8	832.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.4072	234.70
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	24	2,496.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	9.6288	938.81
9	11 KV pin insulator polymer	No.	260.00	24	6,240.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	48	21,840.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	48	71,760.00
12	Earthing of Support (Coil Type)	EA	215.80	8	1,726.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.096	204.36
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	48	36,192.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	28.4	2,879.76
16	Black Paint	Ltr	286.00	4	1,144.00
17	Yellow Colour Paint for Background	Ltr	216.00	16	3,456.00
A				**Total Cost of materials**	**4,08,862.61**
B				Stock, Storage & Insurance i.e 3% of A	12,265.88
C				**Sub Total (A+B)**	**4,21,128.49**
D				Contigency @ 3% of C	12,633.85
E				Tools & Plants @ 2% of C	8,422.57
F				Transportation @ 7.5% of C	31,584.64
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	17,672.19
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,03,662.07**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
K				**Total Civil & Services**	**29,250.00**
L				**Total (J+K)**	**5,32,912.07**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**5,32,912.07**
O				Total GST @ 18% of (N)	95,924.17
O1				Total CESS @ 1% of (N)	5,329.12
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**6,34,165.36**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	8

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	367.104	27,899.90
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	84.5824	8,246.78
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	93.61152	7,114.48
5	Danger Plate, 1 no's.	No.	104.00	8	832.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.4072	234.70
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	24	2,496.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	9.6288	938.81
9	11 KV pin insulator polymer	No.	260.00	32	8,320.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	48	21,840.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	48	71,760.00
12	Earthing of Support (Coil Type)	EA	215.80	8	1,726.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.096	204.36
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	48	36,192.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	16	2,600.00
16	H.T. Stay set (Complete)	Set	1,365.00	16	21,840.00
17	H.T. Stay Insulator Type-C	No.	65.00	16	1,040.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	240	23,400.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	59.464	6,029.65
20	Black Paint	Ltr	286.00	4	1,144.00
21	Yellow Colour Paint for Background	Ltr	216.00	16	3,456.00
A				**Total Cost of materials**	**4,84,603.08**
B				Stock, Storage & Insurance i.e 3% of A	14,538.09
C				**Sub Total (A+B)**	**4,99,141.18**
D				Contigency @ 3% of C	14,974.24
E				Tools & Plants @ 2% of C	8,975.90
F				Transportation @ 7.5% of C	37,435.59
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	20,438.81
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,93,186.04**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	16	36,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.6	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.9	5,850.00
K				**Total Civil & Services**	**65,250.00**
L				**Total (J+K)**	**6,58,436.04**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**6,58,436.04**
O				Total GST @ 18% of (N)	1,18,518.49
O1				Total CESS @ 1% of (N)	6,584.36
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**7,83,538.89**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	103	30,55,083.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	103	1,08,459.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	103	20,085.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	103	10,712.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	30.99	3,021.79
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	309.00	32,136.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	123.97	12,087.15
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	309	80,340.00
9	Earthing of Support (Coil Type)	No.	215.80	103	22,227.40
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	26.99	2,631.14
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	149.35	15,144.09
12	100 mm2 AAAC	Mtr.	71.50	24720.00	17,67,480.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	24	4,206.00
14	Black Paint	Ltr	286.00	103.0	29,458.00
15	Yellow Colour Paint for Background	Ltr	216.00	206.0	44,496.00
A				**Total Cost of materials**	**52,07,566.57**
B				Stock, Storage & Insurance i.e 3% of A	1,56,227.00
C				**Sub Total (A+B)**	**53,63,793.56**
D				Contigency @ 3% of C	1,60,913.81
E				Tools & Plants @ 2% of C	1,07,275.87
F				Transportation @ 7.5% of C	4,02,284.52
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	1,57,336.77
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,21,705.81
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**64,13,310.34**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	46.35	3,01,275.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	11.59	75,318.75
	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/ site store	Mtr.	6.44	24720.00	1,59,302.35
K				**Total Civil & Services**	**5,35,896.10**
L				**Total Material+Services (I+K)**	**69,49,206.44**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**69,49,206.44**
O				Total GST @ 18% of (N)	12,50,857.16
O1				Total CESS @ 1% of (N)	69,492.06
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**82,69,555.67**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	9,28,322.20
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	6,34,165.36
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	7,83,538.89
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	82,69,555.67
Q	**Gross Total Material +Services**	**1,06,15,582.12**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**1,575.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,06,18,282.12**

PART B: Construction of 0.1km UG of 3CX400 sqmm from New Baranga PSS to Sashmita Sahoo 100KVA DTR

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	100.00	2,563.51	2,56,351.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	0	32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	92.00	775.40	71,336.80
	Sub Total (Supply Portion) (in Rs.)				**3,58,219.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	100.00	94.50	9,450.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	92.00	300.00	27,600.00
	Sub Total (Erection Portion) (in Rs.)				**40,851.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	92		
1.1.a	Earth work excavation of **soil**	Cum	64.4	700.00	45,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	27.6	1,720.00	47,472.00
1.2	Back filling with excavated soil outside and above the trench	Cum	92	202.00	18,584.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	27.6	2,643.67	72,965.31
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**1,98,844.51**
A	**Sub Total (Supply Portion)**				**3,58,219.60**
B	Stock, Storage & Insurance @ 3 % of A				10,746.59
C	**Sub Total (A+B)**				**3,68,966.19**
D	Contingency @ 3 % of C				11,068.99
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				27,672.46
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**4,07,707.64**
I	Sub Total (Erection Portion + Civil Portion)				2,39,696.11
J	**Total Cost (H+I)**				**6,47,403.75**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				6,47,403.75
M	GST @ 18% of L				1,16,532.67
M1	Total CESS @ 1% of (L)				6,474.04
N	**Grand Total (L+M+M1)**				**7,70,410.46**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**7,71,535.46**

PART-C: Construction of 11kV RMU for new line from New Baranga PSS to Sashmita Sahoo 100KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03

P	Gross Total Material +Services (N+O+O1) for DP With AB Switch				9,28,322.20

ANNEXURE- 9.17

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	PERIPHERI
Name of the Section : -	BARANG
Name of the Work :-	Proposal for Construction of 3.5km 11KV new line eminating from Kanan Vihar PSS to Near CSCRAR DTR using 11kV 3C,400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description		Gross
1	PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Kanan Vihar PSS to CSCRAR 650KVA DTR		2,59,96,721.23
2	PART-B: Construction of 4No of 11kV RMU for new line from Kanan Vihar PSS to Kanan Vihar PSS to CSCRAR 650KVA DTR		57,66,195.70
3	PART C: 11kV Line DP with AB Switch for new line from Kanan Vihar PSS to CSCRAR 650KVA DTR		9,28,322.20
4	**Total Gross**		**3,26,91,239.14**

Total estimated cost is Rs. 3.27Cr.

PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Kanan Vihar PSS to CSCRAR 650KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***2450***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***1050***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	3500.00	2,563.51	89,72,285.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	13	32,912.10	4,27,857.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2442.00	775.40	18,93,526.80
	Sub Total (Supply Portion) (in Rs.)				**1,13,24,200.90**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	2450.00	94.50	2,31,525.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	13	2,400.00	31,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	1050	2,800.00	29,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2442.00	300.00	7,32,600.00
	Sub Total (Erection Portion) (in Rs.)				**39,39,126.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2442		
1.1.a	Earth work excavation of **soil**	Cum	1709.4	700.00	11,96,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	732.6	1,720.00	12,60,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2442	202.00	4,93,284.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	732.6	2,643.67	19,36,753.10
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	117	1,012.00	1,18,404.00
	Sub Total (Civil Portion) (in Rs.)				**50,16,800.30**
A	**Sub Total (Supply Portion)**				**1,13,24,200.90**
B	Stock, Storage & Insurance @ 3 % of A				3,39,726.03
C	**Sub Total (A+B)**				**1,16,63,926.93**
D	Contingency @ 3 % of C				3,49,917.81
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				8,74,794.52
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,28,88,639.25**
I	Sub Total (Erection Portion + Civil Portion)				89,55,926.90
J	**Total Cost (H+I)**				**2,18,44,566.16**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				2,18,44,566.16
M	GST @ 18% of L				39,32,021.91
M1	Total CESS @ 1% of (L)				2,18,445.66
N	**Grand Total (L+M+M1)**				**2,59,95,033.73**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				562.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**2,59,96,721.23**

PART-B: Construction of 4No of 11kV RMU for new line from Kanan Vihar PSS to Kanan Vihar PSS to CSCRAR 650KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***80***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	80.00	1,950.00	1,56,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	12,456.60	1,49,479.20
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	18,075.20	2,16,902.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	1,21,744.00	3,65,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	1,00,000.00	3,00,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00

4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	1,11,906.00
	Sub Total (Supply Portion) (in Rs.)				**37,42,111.32**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	80.00	94.50	7,560.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,30,096.20**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	2,16,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	96	1,463.40	1,40,486.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**4,51,158.30**
A	**Sub Total (Supply Portion)**				**37,42,111.32**
B	Stock, Storage & Insurance @ 3 % of A				1,12,263.34
C	**Sub Total (A+B)**				**38,54,374.66**
D	Contingency @ 3 % of C				1,15,631.24
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				79.54
F	Transportation @ 7.5% of C				2,89,078.10
G	Erection Charges @ 10% of earthing items				397.68
H	**Total (C+D+E+F+G)**				**42,59,561.22**
I	Sub Total (Erection Portion + Civil Portion)				5,81,254.50
J	**Total Cost (H+I)**				**48,40,815.72**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				48,40,815.72
M	GST @ 18% of L				8,71,346.83
M1	Total CESS @ 1% of (L)				48,408.16
N	**Grand Total (L+M+M1)**				**57,60,570.70**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	4,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**57,66,195.70**

PART C: 11kV Line DP with AB Switch for new line from Kanan Vihar PSS to CSCRAR 650KVA DTR					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03

P	Gross Total Material +Services (N+O+O1) for DP With AB Switch				9,28,322.20

ANNEXURE- 9.18		
TPCODL		
Name of the Division :-	BCDD-2	
Name of the Sub-Division : -	NAYAPALLI	
Name of the Section : -	BARAMUNDA	
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Baramunda HB Feeder load emanating from 33/11 KV Baramunda PSS by constructing 1 No. of new feeder from 33/11 KVBaramunda PSS through RMU and 1.5KM of 11kV 3C, 400sqmm UG Cable from Barmunda PSS to BHB Colony line AB Switch	
Names of Schemes: -		**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1.5KM of 3CX400SQMM UG Cable New line from Barmunda PSS to BHB Colony line AB Switch	1,11,31,547.06
2	PART-B: Construction of 11kV RMU for new line from Barmunda PSS to BHB Colony line AB Switch	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Barmunda PSS to BHB Colony line AB Switch	6,96,241.65
4	**Total Gross**	**1,56,34,376.14**

Total estimated cost is Rs. 1.56Cr.

PART A: Construction of 1.5KM of 3CX400SQMM UG Cable New line from Barmunda PSS to BHB Colony line AB Switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1050***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***450***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1500.00	2,563.51	38,45,265.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	5	32,912.10	1,64,560.50
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1042.00	775.40	8,07,966.80
	Sub Total (Supply Portion) (in Rs.)				**48,48,324.10**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1050.00	94.50	99,225.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	5	2,400.00	12,000.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	450	2,800.00	12,60,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1042.00	300.00	3,12,600.00
	Sub Total (Erection Portion) (in Rs.)				**16,87,626.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1042		
1.1.a	Earth work excavation of **soil**	Cum	729.4	700.00	5,10,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	312.6	1,720.00	5,37,672.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1042	202.00	2,10,484.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	312.6	2,643.67	8,26,411.44
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	50	1,012.00	50,600.00
	Sub Total (Civil Portion) (in Rs.)				**21,47,454.64**
A	**Sub Total (Supply Portion)**				**48,48,324.10**
B	Stock, Storage & Insurance @ 3 % of A				1,45,449.72
C	**Sub Total (A+B)**				**49,93,773.82**
D	Contingency @ 3 % of C				1,49,813.21
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,74,533.04
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**55,18,120.07**
I	Sub Total (Erection Portion + Civil Portion)				38,35,081.24
J	**Total Cost (H+I)**				**93,53,201.31**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				93,53,201.31
M	GST @ 18% of L				16,83,576.24
M1	Total CESS @ 1% of (L)				93,532.01
N	**Grand Total (L+M+M1)**				**1,11,30,309.56**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				112.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,11,31,547.06**

PART-B: Construction of 11kV RMU for new line from Barmunda PSS to BHB Colony line AB Switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Barmunda PSS to BHB Colony line AB Switch					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77

P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**6,96,241.65**

ANNEXURE- 9.19

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	KHANDAGIRI
Name of the Section : -	BHARATPUR
Name of the Work :-	Proposal for Construction of 3KM of 11KV new line from Chandaka PSS to Near Mathematics 250KVA DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 3KM of 3CX400SQMM UG Cable New line from Chandaka PSS to Near Mathematics 250KVA DTR	2,22,80,126.62
2	PART-B: Construction of 3No of 11kV RMU for new line from Chandaka PSS to Near Mathematics 250KVA DTR	56,53,270.86
3	PART C: 11kV Line DP with AB Switch for new line from Chandaka PSS to Near Mathematics 250KVA DTR	6,96,241.65
4	**Total Gross**	**2,86,29,639.13**

Total estimated cost is Rs. 2.86Cr.

PART A: Construction of 3KM of 3CX400SQMM UG Cable New line from Chandaka PSS to Near Mathematics 250KVA DTR

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***2100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***900***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	3000.00	2,563.51	76,90,530.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	11	32,912.10	3,62,033.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2092.00	775.40	16,22,136.80
	Sub Total (Supply Portion) (in Rs.)				**97,05,231.70**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	2100.00	94.50	1,98,450.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	11	2,400.00	26,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	900	2,800.00	25,20,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2092.00	300.00	6,27,600.00
	Sub Total (Erection Portion) (in Rs.)				**33,76,251.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2092		
1.1.a	Earth work excavation of **soil**	Cum	1464.4	700.00	10,25,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	627.6	1,720.00	10,79,472.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2092	202.00	4,22,584.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	627.6	2,643.67	16,59,167.69
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	100	1,012.00	1,01,200.00
	Sub Total (Civil Portion) (in Rs.)				**42,99,210.89**
A	**Sub Total (Supply Portion)**				**97,05,231.70**
B	Stock, Storage & Insurance @ 3 % of A				2,91,156.95
C	**Sub Total (A+B)**				**99,96,388.65**
D	Contingency @ 3 % of C				2,99,891.66
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				7,49,729.15
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,10,46,009.46**
I	Sub Total (Erection Portion + Civil Portion)				76,75,462.49
J	**Total Cost (H+I)**				**1,87,21,471.95**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,87,21,471.95
M	GST @ 18% of L				33,69,864.95
M1	Total CESS @ 1% of (L)				1,87,214.72
N	**Grand Total (L+M+M1)**				**2,22,78,551.62**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**2,22,80,126.62**

PART-B: Construction of 3No of 11kV RMU for new line from Chandaka PSS to Near Mathematics 250KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	12,456.60	1,49,479.20
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	18,075.20	2,16,902.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	1,21,744.00	3,65,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	1,00,000.00	3,00,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00

4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	1,11,906.00
	Sub Total (Supply Portion) (in Rs.)				**36,64,111.32**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,26,316.20**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	2,16,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	96	1,463.40	1,40,486.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**4,49,134.30**
A	**Sub Total (Supply Portion)**				**36,64,111.32**
B	Stock, Storage & Insurance @ 3 % of A				1,09,923.34
C	**Sub Total (A+B)**				**37,74,034.66**
D	Contingency @ 3 % of C				1,13,221.04
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				79.54
F	Transportation @ 7.5% of C				2,83,052.60
G	Erection Charges @ 10% of earthing items				397.68
H	**Total (C+D+E+F+G)**				**41,70,785.52**
I	Sub Total (Erection Portion + Civil Portion)				5,75,450.50
J	**Total Cost (H+I)**				**47,46,236.02**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				47,46,236.02
M	GST @ 18% of L				8,54,322.48
M1	Total CESS @ 1% of (L)				47,462.36
N	**Grand Total (L+M+M1)**				**56,48,020.86**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	4,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**56,53,270.86**

PART C: 11kV Line DP with AB Switch for new line from Chandaka PSS to Near Mathematics 250KVA DTR

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86

O1	Total CESS @ 1% of (N)				5,850.77
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**6,96,241.65**

ANNEXURE- 9.20

TPCODL			
Name of the Division :-		BCDD-2	
Name of the Sub-Division : -		PERIPHERI	
Name of the Section : -		CSPUR-1	
Name of the Work :-		Proposal for Construction for Construction of 11KV new line from Niladrivihar PSS to near NM BASTI 100KVA DTR using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	
Names of Schemes: -		**CAPEX 24-25**	
Abstract of Estimate			
Sl. No.	**Description**		**Gross**
1	PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Niladrivihar PSS to Near NMBASTI 100KVA DTR		74,14,952.45
2	PART-B: Construction of 2No of 11kV RMU for new line from Niladrivihar PSS to Near NMBASTI 100KVA DTR		38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Niladrivihar PSS to Near NMBASTI 100KVA DTR		6,96,241.65
4	**Total Gross**		**1,19,17,781.53**
Total estimated cost is Rs. 1.19Cr.			

PART A: Construction of 1KM of 3CX400SQMM UG Cable New line from Niladrivihar PSS to Near NMBASTI 100KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		

1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**74,14,952.45**

PART-B: Construction of 2No of 11kV RMU for new line from Niladrivihar PSS to Near NMBASTI 100KVA DTR					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion

Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Niladrivihar PSS to Near NMBASTI 100KVA DTR					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

ANNEXURE- 9.21

TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BCDD-2
Name of the Sub-Division : -	KHANDAGIRI
Name of the Section : -	KHANDAGIRI
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Gandamunda Feeder load emanating from 33/11 KV Khandagiri PSS by constructing 1 No. of new feeder from 33/11 KVBaramunda PSS through RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation	2,59,49,289.13
2	PART-B: Construction of 2No of 11kV RMU for new line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation	4,64,161.10
4	**Total Gross**	**3,02,20,037.66**
Total estimated cost is Rs.3.02Cr.		

PART A: Construction of 3.5KM of 3CX400SQMM UG Cable New line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***2450***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***1050***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	3500.00	2,563.51	89,72,285.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	12	32,912.10	3,94,945.20
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2442.00	775.40	18,93,526.80
	Sub Total (Supply Portion) (in Rs.)				**1,12,91,288.80**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	2450.00	94.50	2,31,525.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	2,400.00	28,800.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	1050	2,800.00	29,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2442.00	300.00	7,32,600.00
	Sub Total (Erection Portion) (in Rs.)				**39,36,726.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2442		
1.1.a	Earth work excavation of **soil**	Cum	1709.4	700.00	11,96,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	732.6	1,720.00	12,60,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2442	202.00	4,93,284.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	732.6	2,643.67	19,36,753.10
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	117	1,012.00	1,18,404.00
	Sub Total (Civil Portion) (in Rs.)				**50,16,800.30**
A	**Sub Total (Supply Portion)**				**1,12,91,288.80**
B	Stock, Storage & Insurance @ 3 % of A				3,38,738.66
C	**Sub Total (A+B)**				**1,16,30,027.46**
D	Contingency @ 3 % of C				3,48,900.82
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				8,72,252.06
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,28,51,180.35**
I	Sub Total (Erection Portion + Civil Portion)				89,53,526.90
J	**Total Cost (H+I)**				**2,18,04,707.25**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				2,18,04,707.25
M	GST @ 18% of L				39,24,847.31
M1	Total CESS @ 1% of (L)				2,18,047.07
N	**Grand Total (L+M+M1)**				**2,59,47,601.63**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				562.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**2,59,49,289.13**

PART-B: Construction of 2No of 11kV RMU for new line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Khandagiri PSS to Hanuman Temple AB Switch for Feeder Bifurcation					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

ANNEXURE- 9.22

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	PERIPHERI
Name of the Section : -	CSPUR-2
Name of the Work :-	Proposal for Bifurcation of existing 11 KV HB-3 Feeder load emanating from 33/11 KV CSPUR-2 PSS by constructing 1 No. of new feeder from 33/11 KV CSPUR-2 PSS through RMU and 2.3KM 11KV new line from CS Pur-2 PSS to FR-7 Block using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 2.3KM of 3CX400SQMM UG Cable New line from CS Pur-2 PSS to FR-7 Block for Feeder Bifurcation	1,70,68,371.17
2	PART-B: Construction of 3No of 11kV RMU for new line from CS Pur-2 PSS to FR-7 Block	57,09,920.78
3	PART C: 11kV Line DP with AB Switch for new line from CS Pur-2 PSS to FR-7 Block	9,28,322.20
4	**Total Gross**	**2,37,06,614.15**

Total estimated cost is Rs. 2.37Cr.

PART A: Construction of 2.3KM of 3CX400SQMM UG Cable New line from CS Pur-2 PSS to FR-7 Block for Feeder Bifurcation

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1610***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***690***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	2300.00	2,563.51	58,96,073.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	8	32,912.10	2,63,296.80
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1602.00	775.40	12,42,190.80
	Sub Total (Supply Portion) (in Rs.)				**74,32,092.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1610.00	94.50	1,52,145.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	2,400.00	19,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	690	2,800.00	19,32,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1602.00	300.00	4,80,600.00
	Sub Total (Erection Portion) (in Rs.)				**25,87,746.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1602		

1.1.a	Earth work excavation of **soil**	Cum	1121.4	700.00	7,84,980.00
1.1.b	Earth work excavation of **hard rock**	Cum	480.6	1,720.00	8,26,632.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1602	202.00	3,23,604.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	480.6	2,643.67	12,70,548.10
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	77	1,012.00	77,924.00
	Sub Total (Civil Portion) (in Rs.)				**32,95,395.30**
A	**Sub Total (Supply Portion)**				**74,32,092.40**
B	Stock, Storage & Insurance @ 3 % of A				2,22,962.77
C	**Sub Total (A+B)**				**76,55,055.17**
D	Contingency @ 3 % of C				2,29,651.66
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				5,74,129.14
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**84,58,835.97**
I	Sub Total (Erection Portion + Civil Portion)				58,83,141.90
J	**Total Cost (H+I)**				**1,43,41,977.87**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,43,41,977.87
M	GST @ 18% of L				25,81,556.02
M1	Total CESS @ 1% of (L)				1,43,419.78
N	**Grand Total (L+M+M1)**				**1,70,66,953.67**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				292.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,70,68,371.17**

PART-B: Construction of 3No of 11kV RMU for new line from CS Pur-2 PSS to FR-7 Block					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***60***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	60.00	1,950.00	1,17,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	12,456.60	1,49,479.20
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	18,075.20	2,16,902.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	1,21,744.00	3,65,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	1,00,000.00	3,00,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00
4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	1,11,906.00
	Sub Total (Supply Portion) (in Rs.)				**37,03,111.32**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	60.00	94.50	5,670.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,28,206.20**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	2,16,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	96	1,463.40	1,40,486.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	2	1,012.00	2,024.00
	Sub Total (Civil Portion) (in Rs.)				**4,50,146.30**
A	**Sub Total (Supply Portion)**				**37,03,111.32**
B	Stock, Storage & Insurance @ 3 % of A				1,11,093.34
C	**Sub Total (A+B)**				**38,14,204.66**
D	Contingency @ 3 % of C				1,14,426.14
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				79.54
F	Transportation @ 7.5% of C				2,86,065.35
G	Erection Charges @ 10% of earthing items				397.68
H	**Total (C+D+E+F+G)**				**42,15,173.37**
I	Sub Total (Erection Portion + Civil Portion)				5,78,352.50
J	**Total Cost (H+I)**				**47,93,525.87**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				47,93,525.87
M	GST @ 18% of L				8,62,834.66
M1	Total CESS @ 1% of (L)				47,935.26
N	**Grand Total (L+M+M1)**				**57,04,295.78**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				4,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**57,09,920.78**

PART C: 11kV Line DP with AB Switch for new line from CS Pur-2 PSS to FR-7 Block					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**9,28,322.20**

ANNEXURE- 9.23

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	KHANDAGIRI
Name of the Section : -	DUMDUMA
Name of the Work :-	Proposal for Augmentation of 1Km existing 11kV Housing Board Feeder emanating from Metal Tapping to Jai bhadra and from Puri gramya bank to Sambit Babu DTR using 100sqmm AAAC conductor & UG Cable of 3Cx400sqmm of length 0.2km.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from Dumduma PSS to Matha PH-2	1407468.467
2	PART B: Construction of 0.2km UG of 3CX400 sqmm of existing feeder	15,13,650.59
3	**Total Gross**	**29,21,119.06**

Total estimated cost is Rs. 0.29Cr.

PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from Dumduma PSS to Matha PH-2

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42

4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
16	Black Paint	Ltr	286.00	0.5	143.00
17	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**51,107.83**
B				Stock, Storage & Insurance i.e 3% of A	1,533.23
C				**Sub Total (A+B)**	**52,641.06**
D				Contigency @ 3% of C	1,579.23
E				Tools & Plants @ 2% of C	1,052.82
F				Transportation @ 7.5% of C	3,948.08
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,209.02
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**62,957.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K				**Total Civil & Services**	**3,656.25**
L				**Total (J+K)**	**66,614.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**66,614.01**
O				Total GST @ 18% of (N)	11,990.52
O1				Total CESS @ 1% of (N)	666.14
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**79,270.67**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**60,575.39**
B				Stock, Storage & Insurance i.e 3% of A	1,817.26
C				**Sub Total (A+B)**	**62,392.65**
D				Contigency @ 3% of C	1,871.78
E				Tools & Plants @ 2% of C	1,121.99
F				Transportation @ 7.5% of C	4,679.45
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,554.85
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**74,148.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**82,304.51**
O				Total GST @ 18% of (N)	14,814.81
O1				Total CESS @ 1% of (N)	823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	12	3,55,932.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	12	12,636.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	12	2,340.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	12	1,248.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.61	352.05
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	36.00	3,744.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	14.44	1,408.21
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	36	9,360.00
9	Earthing of Support (Coil Type)	No.	215.80	12	2,589.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.14	306.54
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	17.40	1,764.36
12	100 mm2 AAAC	Mtr.	71.50	3090.00	2,20,935.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	12.0	3,432.00
15	Yellow Colour Paint for Background	Ltr	216.00	24.0	5,184.00
A				**Total Cost of materials**	**6,21,757.52**
B				Stock, Storage & Insurance i.e 3% of A	18,652.73
C				**Sub Total (A+B)**	**6,40,410.24**
D				Contigency @ 3% of C	19,212.31
E				Tools & Plants @ 2% of C	12,808.20
F				Transportation @ 7.5% of C	48,030.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	27,380.03
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,66,172.05**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.40	35,100.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.35	8,775.00
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	3090.00	27,810.00
K				**Total Civil & Services**	**71,685.00**
L				**Total Material+Services (I+K)**	**8,37,857.05**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**8,37,857.05**
O				Total GST @ 18% of (N)	1,50,814.27
O1				Total CESS @ 1% of (N)	8,378.57
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**9,97,049.89**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	79,270.67
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	97,942.36
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	9,97,049.89
Q	**Gross Total Material +Services**	**14,06,343.47**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**14,07,468.47**

PART B: Construction of 0.2km UG of 3CX400 sqmm of existing feeder

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***200***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	200.00	2,563.51	5,12,702.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	0	32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	192.00	775.40	1,48,876.80
	Sub Total (Supply Portion) (in Rs.)				**6,92,110.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	200.00	94.50	18,900.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	192.00	300.00	57,600.00
	Sub Total (Erection Portion) (in Rs.)				**80,301.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	192		
1.1.a	Earth work excavation of **soil**	Cum	134.4	700.00	94,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	57.6	1,720.00	99,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	192	202.00	38,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	57.6	2,643.67	1,52,275.43
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	7	1,012.00	7,084.00
	Sub Total (Civil Portion) (in Rs.)				**4,03,002.63**
A	**Sub Total (Supply Portion)**				**6,92,110.60**
B	Stock, Storage & Insurance @ 3 % of A				20,763.32
C	**Sub Total (A+B)**				**7,12,873.92**
D	Contingency @ 3 % of C				21,386.22
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				53,465.54
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**7,87,725.68**
I	Sub Total (Erection Portion + Civil Portion)				4,83,304.23
J	**Total Cost (H+I)**				**12,71,029.91**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				12,71,029.91
M	GST @ 18% of L				2,28,785.38
M1	Total CESS @ 1% of (L)				12,710.30
N	**Grand Total (L+M+M1)**				**15,12,525.59**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**15,13,650.59**

ANNEXURE- 9.24

TPCODL

Name of the Division :-	BCDD-2	
Name of the Sub-Division : -	KHANDAGIRI	
Name of the Section : -	KHANDAGIRI	
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Jagamohan Nagar Feeder load emanating from 33/11 KV Khandagiri PSS by constructing 1 No. of new feeder from 33/11 KV Khandagiri PSS through RMU and 3KM 11KV new line from Khandagiri PSS To ITER-T-off using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	
Names of Schemes: -		**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 3KM of 3CX400SQMM UG Cable New line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation	2,22,80,126.62
2	PART-B: Construction of 4No of 11kV RMU for new line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation	4,64,161.10
4	**Total Gross**	**2,65,50,875.15**

Total estimated cost is Rs. 2.66Cr.

PART A: Construction of 3KM of 3CX400SQMM UG Cable New line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***2100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***900***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	3000.00	2,563.51	76,90,530.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	11	32,912.10	3,62,033.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2092.00	775.40	16,22,136.80
	Sub Total (Supply Portion) (in Rs.)				**97,05,231.70**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	2100.00	94.50	1,98,450.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	11	2,400.00	26,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	900	2,800.00	25,20,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2092.00	300.00	6,27,600.00
	Sub Total (Erection Portion) (in Rs.)				**33,76,251.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2092		
1.1.a	Earth work excavation of **soil**	Cum	1464.4	700.00	10,25,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	627.6	1,720.00	10,79,472.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2092	202.00	4,22,584.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	627.6	2,643.67	16,59,167.69
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	100	1,012.00	1,01,200.00
	Sub Total (Civil Portion) (in Rs.)				**42,99,210.89**
A	**Sub Total (Supply Portion)**				**97,05,231.70**
B	Stock, Storage & Insurance @ 3 % of A				2,91,156.95
C	**Sub Total (A+B)**				**99,96,388.65**
D	Contingency @ 3 % of C				2,99,891.66
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				7,49,729.15
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,10,46,009.46**
I	Sub Total (Erection Portion + Civil Portion)				76,75,462.49
J	**Total Cost (H+I)**				**1,87,21,471.95**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,87,21,471.95
M	GST @ 18% of L				33,69,864.95
M1	Total CESS @ 1% of (L)				1,87,214.72
N	**Grand Total (L+M+M1)**				**2,22,78,551.62**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**2,22,80,126.62**

PART-B: Construction of 4No of 11kV RMU for new line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Khandagiri PSS To ITER-T-off for Feeder Bifurcation					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51

P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**4,64,161.10**

ANNEXURE- 9.25

TPCODL

Name of the Division :-	BCDD-2	
Name of the Sub-Division : -	PERIPHERI	
Name of the Section : -	BARANG	
Name of the Work :-	1-Proposal for Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from Near MJ developer T-Off to Chandaka Office 2-Construction of 4.8km UG of 3CX400 sqmm from Chandaka PSS to chandaka chowk	
Names of Schemes: -		**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from Near MJ developer T-Off to Chandaka Office	10282218.35
2	PART B: Construction of 4.8km UG of 3CX400 sqmm from Chandaka PSS to chandaka chowk	3,54,87,851.87
3	PART-C: Construction of 11kV RMU for new line from Chandaka PSS to first DP AB Switch	38,06,587.43
4	PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch	4,64,161.10
5	**Total Gross**	**5,00,40,818.75**

Total estimated cost is Rs. 5.00Cr.

PART A: Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from Near MJ developer T-Off to Chandaka Office					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			3		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	9	2,259.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	18	6,678.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	12	3,984.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
28	Black Paint	Ltr	286.00	3	858.00
29	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,233.00**
B				Stock, Storage & Insurance i.e 3% of A	12,816.99
C				**Sub Total (A+B)**	**4,40,049.99**
D				Contigency @ 3% of C	13,201.50
E				Tools & Plants @ 2% of C	8,254.69
F				Transportation @ 7.5% of C	33,003.75
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	22,942.94
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,26,618.12**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,84,255.62**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**5,84,255.62**
O				Total GST @ 18% of (N)	1,05,166.01
O1				Total CESS @ 1% of (N)	5,842.56
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,95,264.19**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		5			

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	15	3,765.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
18	Black Paint	Ltr	286.00	2.5	715.00
19	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,51,134.13**
B				Stock, Storage & Insurance i.e 3% of A	7,534.02
C				**Sub Total (A+B)**	**2,58,668.16**
D				Contigency @ 3% of C	7,760.04
E				Tools & Plants @ 2% of C	5,173.36
F				Transportation @ 7.5% of C	19,400.11
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	10,591.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-

J				**Sum of (C to I)**	**3,09,230.78**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**3,27,512.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**3,27,512.03**
O				Total GST @ 18% of (N)	58,952.17
O1				Total CESS @ 1% of (N)	3,275.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**3,89,739.32**
No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		5			

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	20	5,020.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
18	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
19	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
22	Black Paint	Ltr	286.00	2.5	715.00
23	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,99,726.93**
B				Stock, Storage & Insurance i.e 3% of A	8,991.81
C				**Sub Total (A+B)**	**3,08,718.73**
D				Contigency @ 3% of C	9,261.56
E				Tools & Plants @ 2% of C	5,545.04
F				Transportation @ 7.5% of C	23,153.91
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,449.81
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**3,66,766.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**4,07,548.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**4,07,548.01**
O				Total GST @ 18% of (N)	73,358.64
O1				Total CESS @ 1% of (N)	4,075.48
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**4,84,982.13**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	64	18,98,304.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	64	67,392.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	64	12,480.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	64	6,656.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.26	1,877.62
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	192.00	19,968.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	77.03	7,510.46
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	192	49,920.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	128	42,496.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	192	48,192.00
11	Earthing of Support (Coil Type)	No.	215.80	64	13,811.20
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	16.77	1,634.88
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	92.80	9,409.92
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	2,15,000.00	15.45	33,21,750.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	15	33,015.00
16	Black Paint	Ltr	286.00	64.0	18,304.00
17	Yellow Colour Paint for Background	Ltr	216.00	128.0	27,648.00
A				**Total Cost of materials**	**55,80,369.08**
B				Stock, Storage & Insurance i.e 3% of A	1,67,411.07
C				**Sub Total (A+B)**	**57,47,780.15**
D				Contigency @ 3% of C	1,72,433.40
E				Tools & Plants @ 2% of C	1,14,955.60
F				Transportation @ 7.5% of C	4,31,083.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				97,762.66
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				3,79,252.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-

J				**Sum of (C to I)**	**69,43,268.03**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	28.80	1,87,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.20	46,800.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	15450.00	1,42,234.25
K				**Total Civil & Services**	**3,76,234.25**
L				**Total Material+Services (J+K)**	**73,19,502.28**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**73,19,502.28**
O				Total GST @ 18% of (N)	13,17,510.41
O1				Total CESS @ 1% of (N)	73,195.02
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**87,10,207.71**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				6,95,264.19
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				3,89,739.32
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				4,84,982.13
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				87,10,207.71
Q				**Gross Total Material +Services**	**1,02,80,193.35**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				900.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,02,82,218.35**

PART B: Construction of 4.8km UG of 3CX400 sqmm from Chandaka PSS to chandaka chowk					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***3360***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***1440***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	4800.00	2,563.51	1,23,04,848.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	14	32,912.10	4,60,769.40
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	12,456.60	24,913.20
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	18,075.20	36,150.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	3344.00	775.40	25,92,937.60
	Sub Total (Supply Portion) (in Rs.)				**1,54,19,618.60**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	3360.00	94.50	3,17,520.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	14	2,400.00	33,600.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	1440	2,800.00	40,32,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	3344.00	300.00	10,03,200.00
	Sub Total (Erection Portion) (in Rs.)				**53,93,923.20**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	3344		
1.1.a	Earth work excavation of **soil**	Cum	2340.8	700.00	16,38,560.00
1.1.b	Earth work excavation of **hard rock**	Cum	1003.2	1,720.00	17,25,504.00
1.2	Back filling with excavated soil outside and above the trench	Cum	3344	202.00	6,75,488.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	1003.2	2,643.67	26,52,130.38
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	16	1,463.40	23,414.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	160	1,012.00	1,61,920.00
	Sub Total (Civil Portion) (in Rs.)				**68,77,016.78**
A	**Sub Total (Supply Portion)**				**1,54,19,618.60**
B	Stock, Storage & Insurance @ 3 % of A				4,62,588.56
C	**Sub Total (A+B)**				**1,58,82,207.16**
D	Contingency @ 3 % of C				4,76,466.21
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				11,91,165.54
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**1,75,49,838.91**
I	Sub Total (Erection Portion + Civil Portion)				1,22,70,939.98
J	**Total Cost (H+I)**				**2,98,20,778.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				2,98,20,778.89
M	GST @ 18% of L				53,67,740.20
M1	Total CESS @ 1% of (L)				2,98,207.79
N	**Grand Total (L+M+M1)**				**3,54,86,726.87**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**3,54,87,851.87**

PART-C: Construction of 11kV RMU for new line from Chandaka PSS to first DP AB Switch						
Supply Portion						
Sl. No.	**SAP Code**	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1		**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a		***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b		***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	401000484	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	401000860	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	401000858	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	401000859	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	401000917	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2		**Supply of 11kV RMU**				
a		***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b		***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c		***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d		***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	601001131	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	601001132	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	601001311	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	601001312	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3		**Earthing**				
3.1	601000679	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	601001158	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4		**FRTU for RMU SCADA Automation**				
a		***No. of FRTU***	***nos.***	***2***		
4.1	101001412	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	101001422	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	101000995	Networking Accessories	No.	2	72.00	144.00
4.4	101001388	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	301002481	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	101001389	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	101001390	Battery	Nos.	2	8,333.00	16,666.00
4.8	701002061	4G Modem cum Router	Nos.	2	18,500.00	37,000.00

4.9	401001331	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	401001333	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	401001334	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	401001338	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	401001362	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	401001339	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	401001335	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	401001340	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	201000441	Multi Function Meter	Nos.	4	18,651.00	74,604.00
		Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**
Erection Portion						
Sl. No.	**SAP Code**	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1		**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	200109	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	700057	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	900027	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	900027	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	700035	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	600040	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2		**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	200106	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	200106	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	200105	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	200105	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3		**FRTU and OFC for RMU SCADA Automation**				
3.1	600060	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
		Sub Total (Erection Portion) (in Rs.)				**85,470.80**
Civil Portion						

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1		Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	800005	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	5000000	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	5000015	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	600054	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2		**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	800020	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	900054	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	600044	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	800009	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	900044	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
		Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A		**Sub Total (Supply Portion)**				**24,68,740.88**
B		Stock, Storage & Insurance @ 3 % of A				74,062.23
C		**Sub Total (A+B)**				**25,42,803.11**
D		Contingency @ 3 % of C				76,284.09
E		Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F		Transportation @ 7.5% of C				1,90,710.23
G		Erection Charges @ 10% of earthing items				265.12
H		**Total (C+D+E+F+G)**				**28,10,115.58**
I		Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J		**Total Cost (H+I)**				**31,95,346.58**
K		Other Overhead /(including Supervision Charges) @ 6 % of J				-
L		**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M		GST @ 18% of L				5,75,162.38
M1		Total CESS @ 1% of (L)				31,953.47
N		**Grand Total (L+M+M1)**				**38,02,462.43**
O	6000060	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	6000061	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	6000062	Inspection Fee of Drawing Checking and Approval				750.00
S		**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**38,06,587.43**

PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51

P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**4,64,161.10**

ANNEXURE- 9.26

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	PERIPHERI
Name of the Section : -	BARANG
Name of the Work :-	1-Proposal for Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from first DP near PSS to Bahada Chhaka 2-Construction of UG Augmentaion 1KM Line from 3CX120sqmm to 3CX400 sqmm from Chandaka PSS to first DP AB Switch
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from first DP near PSS to Bahada Chhaka	10282218.35
2	PART B: Construction of UG Augmentaion 1KM Line from 3CX120sqmm to 3CX400 sqmm from Chandaka PSS to first DP AB Switch	74,14,952.45
3	PART-C: Construction of 11kV RMU for new line from Chandaka PSS to first DP AB Switch	38,06,587.43
4	PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch	4,64,161.10
5	**Total Gross**	**2,19,67,919.33**

Total estimated cost is Rs. 2.20Cr.

PART A: Construction of Augmentation of 5KM Line using 99SQ.MM. -AAA Conductor from first DP near PSS to Bahada Chhaka					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			3		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	9	2,259.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	18	6,678.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	12	3,984.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
28	Black Paint	Ltr	286.00	3	858.00
29	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,233.00**
B				Stock, Storage & Insurance i.e 3% of A	12,816.99
C				**Sub Total (A+B)**	**4,40,049.99**
D				Contigency @ 3% of C	13,201.50
E				Tools & Plants @ 2% of C	8,254.69
F				Transportation @ 7.5% of C	33,003.75
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	22,942.94
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,26,618.12**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,84,255.62**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**5,84,255.62**
O				Total GST @ 18% of (N)	1,05,166.01
O1				Total CESS @ 1% of (N)	5,842.56
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,95,264.19**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		5			

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	15	3,765.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
18	Black Paint	Ltr	286.00	2.5	715.00
19	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,51,134.13**
B				Stock, Storage & Insurance i.e 3% of A	7,534.02
C				**Sub Total (A+B)**	**2,58,668.16**
D				Contigency @ 3% of C	7,760.04
E				Tools & Plants @ 2% of C	5,173.36
F				Transportation @ 7.5% of C	19,400.11
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	10,591.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-

J				**Sum of (C to I)**	**3,09,230.78**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**3,27,512.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**3,27,512.03**
O				Total GST @ 18% of (N)	58,952.17
O1				Total CESS @ 1% of (N)	3,275.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**3,89,739.32**
No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		5			

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	20	5,020.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
18	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
19	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
22	Black Paint	Ltr	286.00	2.5	715.00
23	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,99,726.93**
B				Stock, Storage & Insurance i.e 3% of A	8,991.81
C				**Sub Total (A+B)**	**3,08,718.73**
D				Contigency @ 3% of C	9,261.56
E				Tools & Plants @ 2% of C	5,545.04
F				Transportation @ 7.5% of C	23,153.91
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,449.81
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**3,66,766.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**4,07,548.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**4,07,548.01**
O				Total GST @ 18% of (N)	73,358.64
O1				Total CESS @ 1% of (N)	4,075.48
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**4,84,982.13**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	64	18,98,304.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	64	67,392.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	64	12,480.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	64	6,656.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.26	1,877.62
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	192.00	19,968.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	77.03	7,510.46
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	192	49,920.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	128	42,496.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	192	48,192.00
11	Earthing of Support (Coil Type)	No.	215.80	64	13,811.20
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	16.77	1,634.88
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	92.80	9,409.92
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	2,15,000.00	15.45	33,21,750.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	15	33,015.00
16	Black Paint	Ltr	286.00	64.0	18,304.00
17	Yellow Colour Paint for Background	Ltr	216.00	128.0	27,648.00
A				**Total Cost of materials**	**55,80,369.08**
B				Stock, Storage & Insurance i.e 3% of A	1,67,411.07
C				**Sub Total (A+B)**	**57,47,780.15**
D				Contigency @ 3% of C	1,72,433.40
E				Tools & Plants @ 2% of C	1,14,955.60
F				Transportation @ 7.5% of C	4,31,083.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				97,762.66
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				3,79,252.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-

J				**Sum of (C to I)**	**69,43,268.03**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	28.80	1,87,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.20	46,800.00
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	15450.00	1,42,234.25
K				**Total Civil & Services**	**3,76,234.25**
L				**Total Material+Services (J+K)**	**73,19,502.28**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**73,19,502.28**
O				Total GST @ 18% of (N)	13,17,510.41
O1				Total CESS @ 1% of (N)	73,195.02
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**87,10,207.71**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				6,95,264.19
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				3,89,739.32
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				4,84,982.13
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				87,10,207.71
Q				**Gross Total Material +Services**	**1,02,80,193.35**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				900.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,02,82,218.35**

PART B: Construction of UG Augmentaion 1KM Line from 3CX120sqmm to 3CX400 sqmm from Chandaka PSS to first DP AB Switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		
1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**74,14,952.45**

PART-C: Construction of 11kV RMU for new line from Chandaka PSS to first DP AB Switch					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART D: 11kV Line DP with AB Switch from Chandaka PSS to first DP AB Switch

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

ANNEXURE- 9.27

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	NAYAPALLI
Name of the Section : -	VSS NAGAR
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Sainik School Feeder load emanating from 33/11 KV Sainik School PSS by constructing 1 No. of new feeder from 33/11 KV Sainik School PSS through RMU and 1KM 11KV new line from Sainik School PSS to FRW DSS using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 0.5KM of 3CX400SQMM UG Cable New line from Sainik School PSS to FRW DSS for Feeder Bifurcation	37,00,687.12
2	PART-B: Construction of 3No of 11kV RMU for new line from Sainik School PSS to FRW DSS	38,06,587.43
3	PART C: 11kV Line DP with AB Switch for new line from Sainik School PSS to FRW DSS	4,64,161.10
4	**Total Gross**	**79,71,435.65**

Total estimated cost is Rs. 0.80Cr.

PART A: Construction of 0.5KM of 3CX400SQMM UG Cable New line from Sainik School PSS to FRW DSS for Feeder Bifurcation					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***350***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***150***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	500.00	2,563.51	12,81,755.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	1	32,912.10	32,912.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	342.00	775.40	2,65,186.80
	Sub Total (Supply Portion) (in Rs.)				**16,10,385.70**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	350.00	94.50	33,075.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	2,400.00	2,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	150	2,800.00	4,20,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	342.00	300.00	1,02,600.00
	Sub Total (Erection Portion) (in Rs.)				**5,61,876.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	342		
1.1.a	Earth work excavation of **soil**	Cum	239.4	700.00	1,67,580.00
1.1.b	Earth work excavation of **hard rock**	Cum	102.6	1,720.00	1,76,472.00
1.2	Back filling with excavated soil outside and above the trench	Cum	342	202.00	69,084.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	102.6	2,643.67	2,71,240.61
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	17	1,012.00	17,204.00
	Sub Total (Civil Portion) (in Rs.)				**7,13,287.81**
A	**Sub Total (Supply Portion)**				**16,10,385.70**
B	Stock, Storage & Insurance @ 3 % of A				48,311.57
C	**Sub Total (A+B)**				**16,58,697.27**
D	Contingency @ 3 % of C				49,760.92
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				1,24,402.30
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**18,32,860.48**
I	Sub Total (Erection Portion + Civil Portion)				12,75,164.41
J	**Total Cost (H+I)**				**31,08,024.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,08,024.89
M	GST @ 18% of L				5,59,444.48
M1	Total CESS @ 1% of (L)				31,080.25
N	**Grand Total (L+M+M1)**				**36,98,549.62**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				1,012.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**37,00,687.12**

PART-B: Construction of 3No of 11kV RMU for new line from Sainik School PSS to FRW DSS					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART C: 11kV Line DP with AB Switch for new line from Sainik School PSS to FRW DSS					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

ANNEXURE- 9.28

TPCODL

Name of the Division :-	BCDD-2	
Name of the Sub-Division : -	KHANDAGIRI	
Name of the Section : -	BHARATPUR	
Name of the Work :-	Proposal for Construction for 1.8KM Augmentaion of line from Sampur Bhoi sahi to Nuagaon Backfeeding point and UG Augmentation of 2km from near SUM Hospital to Nuagaon.	
Names of Schemes: -		**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from 2km of conductor Augmentaion from Sampur Bhoi sahi to Nuagaon Backfeeding point.	2687195.808
2	PART B: Construction of UG Augmentaion 1.8KM Line from 3CX120sqmm to 3CX400 sqmm from near SUM Hospital to Nuagaon	1,33,04,164.45
3	PART-C: Construction of 11kV RMU for new line from near SUM Hospital to Nuagaon	38,06,587.43
4	PART D: 11kV Line DP with AB Switch from near SUM Hospital to Nuagaon	6,96,241.65
3	**Total Gross**	**2,04,94,189.34**
Total estimated cost is Rs. 2.05Cr.		

PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from 2km of conductor Augmentaion from Sampur Bhoi sahi to Nuagaon Backfeeding point.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85

4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**1,95,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		2			
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	26	7,71,186.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	26	27,378.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	26	5,070.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	26	2,704.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	7.82	762.78
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	78.00	8,112.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	31.29	3,051.13
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	78	20,280.00
9	Earthing of Support (Coil Type)	No.	215.80	26	5,610.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	6.81	664.17
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	37.70	3,822.78
12	100 mm2 AAAC	Mtr.	71.50	6180.00	4,41,870.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
14	Black Paint	Ltr	286.00	26.0	7,436.00
15	Yellow Colour Paint for Background	Ltr	216.00	52.0	11,232.00
A				**Total Cost of materials**	**13,10,231.16**
B	Stock, Storage & Insurance i.e 3% of A				39,306.93
C				**Sub Total (A+B)**	**13,49,538.09**
D	Contigency @ 3% of C				40,486.14
E	Tools & Plants @ 2% of C				26,990.76
F	Transportation @ 7.5% of C				1,01,215.36
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				39,716.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				55,521.65
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**16,13,468.08**
Civil & Services					
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	11.70	76,050.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.93	19,012.50
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	6180.00	55,620.00
K				**Total Civil & Services**	**1,50,682.50**
L				**Total Material+Services (I+K)**	**17,64,150.58**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**17,64,150.58**
O				Total GST @ 18% of (N)	3,17,547.11
O1				Total CESS @ 1% of (N)	17,641.51
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**20,99,339.19**

6% Supervision Charges Summary		
1	Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
2	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
3	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
4	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
5	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
	Total (6% supervision charges)	**-**
Gross Total Summary		
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	1,58,541.34
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,95,884.72
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	20,99,339.19
Q	**Gross Total Material +Services**	**26,85,845.81**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**225.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**26,87,195.81**

PART B: Construction of UG Augmentaion 1.8KM Line from 3CX120sqmm to 3CX400 sqmm from near SUM Hospital to Nuagaon					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1260***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***540***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1800.00	2,563.51	46,14,318.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	5	32,912.10	1,64,560.50
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	1252.00	775.40	9,70,800.80
	Sub Total (Supply Portion) (in Rs.)				**57,80,211.10**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1260.00	94.50	1,19,070.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	5	2,400.00	12,000.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	540	2,800.00	15,12,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	1252.00	300.00	3,75,600.00
	Sub Total (Erection Portion) (in Rs.)				**20,22,471.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	1252		
1.1.a	Earth work excavation of **soil**	Cum	876.4	700.00	6,13,480.00
1.1.b	Earth work excavation of **hard rock**	Cum	375.6	1,720.00	6,46,032.00
1.2	Back filling with excavated soil outside and above the trench	Cum	1252	202.00	2,52,904.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	375.6	2,643.67	9,92,962.69
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	60	1,012.00	60,720.00
	Sub Total (Civil Portion) (in Rs.)				**25,77,805.89**
A	**Sub Total (Supply Portion)**				**57,80,211.10**
B	Stock, Storage & Insurance @ 3 % of A				1,73,406.33
C	**Sub Total (A+B)**				**59,53,617.43**
D	Contingency @ 3 % of C				1,78,608.52
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				4,46,521.31
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**65,78,747.26**
I	Sub Total (Erection Portion + Civil Portion)				46,00,277.49
J	**Total Cost (H+I)**				**1,11,79,024.75**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,11,79,024.75
M	GST @ 18% of L				20,12,224.46
M1	Total CESS @ 1% of (L)				1,11,790.25
N	**Grand Total (L+M+M1)**				**1,33,03,039.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**1,33,04,164.45**

PART-C: Construction of 11kV RMU for new line from near SUM Hospital to Nuagaon					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	18,075.20	1,44,601.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	1,21,744.00	2,43,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	1,00,000.00	2,00,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00

4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00
	Sub Total (Supply Portion) (in Rs.)				**24,68,740.88**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**85,470.80**

Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**2,99,760.20**
A	**Sub Total (Supply Portion)**				**24,68,740.88**
B	Stock, Storage & Insurance @ 3 % of A				74,062.23
C	**Sub Total (A+B)**				**25,42,803.11**
D	Contingency @ 3 % of C				76,284.09
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				1,90,710.23
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**28,10,115.58**
I	Sub Total (Erection Portion + Civil Portion)				3,85,231.00
J	**Total Cost (H+I)**				**31,95,346.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				31,95,346.58
M	GST @ 18% of L				5,75,162.38
M1	Total CESS @ 1% of (L)				31,953.47
N	**Grand Total (L+M+M1)**				**38,02,462.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				

Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**38,06,587.43**

PART D: 11kV Line DP with AB Switch from near SUM Hospital to Nuagaon					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			3		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

ANNEXURE- 9.29

TPCODL

Name of the Division :-	BCDD-2
Name of the Sub-Division : -	KHANDAGIRI
Name of the Section : -	BHARATPUR
Name of the Feeder : -	11KV GODIBARI FEEDER
Name of the Work :-	Proposal for Bifurcation of existing 11 KV IRC-1 Feeder load emanating from 33/11 KV Nayapalli PSS by constructing 1 No. of new feeder from 33/11 KV Nayapalli PSS through RMU and 1KM 11KV new line from Nayapalli PSS to IRC feeder near ID Market using 11kV 3C, 400sqmm UG Cable along with 11kV RMU
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Proposed 0.4km U/G line for Linking of Godibari feeder to Giringaput feeder along with RMU	28,52,516.98
2	PART-B: Construction of 11kV RMU-3 nos for new Linking line at GIRINGAPUT feeder end, Industry Feeder end and at Kanta bada.	57,09,920.78
3	PART C: 11kV Line DP with AB Switch for new Linking line at Girigaput and industry feeder end.	4,64,161.10
4	PART D: 11kV new Linking line from industry feeder to Godibari feeder-1kmusing 100sqmm AAAC	20,82,333.18
5	PART E- Conductor Augmentation using 70 SQ.MM.Covered Conductor of length 1Ckm.	17,73,828.22
6	**Total Gross**	**1,28,82,760.26**

Total estimated cost is Rs. 1.29Cr.

PART A: Construction of Proposed 0.4km U/G line for Linking of Godibari feeder to Giringaput feeder along with RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***200***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	400.00	2,563.51	10,25,404.00
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	200.00	775.40	1,55,080.00
	Sub Total (Supply Portion) (in Rs.)				**11,80,484.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	200.00	94.50	18,900.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	1,900.80	-
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	1,900.80	-
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	200	2,800.00	5,60,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	200.00	300.00	60,000.00
	Sub Total (Erection Portion) (in Rs.)				**6,38,900.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	200		
1.1.a	Earth work excavation of **soil**	Cum	140	700.00	98,000.00
1.1.b	Earth work excavation of **hard rock**	Cum	60	1,720.00	1,03,200.00
1.2	Back filling with excavated soil outside and above the trench	Cum	200	202.00	40,400.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	60	2,643.67	1,58,620.24
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-

4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	0	1,463.40	-
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	13	1,012.00	13,156.00
	Sub Total (Civil Portion) (in Rs.)				**4,13,376.24**
A	**Sub Total (Supply Portion)**				**11,80,484.00**
B	Stock, Storage & Insurance @ 3 % of A				35,414.52
C	**Sub Total (A+B)**				**12,15,898.52**
D	Contingency @ 3 % of C				36,476.96
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				91,192.39
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**13,43,567.86**
I	Sub Total (Erection Portion + Civil Portion)				10,52,276.24
J	**Total Cost (H+I)**				**23,95,844.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				23,95,844.10
M	GST @ 18% of L				4,31,251.94
M1	Total CESS @ 1% of (L)				23,958.44
N	**Grand Total (L+M+M1)**				**28,51,054.48**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				337.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**28,52,516.98**

PART-B: Construction of 11kV RMU-3 nos for new Linking line at GIRINGAPUT feeder end, Industry Feeder end and at Kanta bada.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***60***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	60.00	1,950.00	1,17,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	12,456.60	1,49,479.20
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	12	18,075.20	2,16,902.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***			
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	1,21,744.00	3,65,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	1,00,000.00	3,00,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00
4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80

4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	1,11,906.00
	Sub Total (Supply Portion) (in Rs.)				**37,03,111.32**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	60.00	94.50	5,670.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	1,900.80	22,809.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,28,206.20**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	2,16,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00

5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	96	1,463.40	1,40,486.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	2	1,012.00	2,024.00
	Sub Total (Civil Portion) (in Rs.)				**4,50,146.30**
A	**Sub Total (Supply Portion)**				**37,03,111.32**
B	Stock, Storage & Insurance @ 3 % of A				1,11,093.34
C	**Sub Total (A+B)**				**38,14,204.66**
D	Contingency @ 3 % of C				1,14,426.14
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				79.54
F	Transportation @ 7.5% of C				2,86,065.35
G	Erection Charges @ 10% of earthing items				397.68
H	**Total (C+D+E+F+G)**				**42,15,173.37**
I	Sub Total (Erection Portion + Civil Portion)				5,78,352.50
J	**Total Cost (H+I)**				**47,93,525.87**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				47,93,525.87
M	GST @ 18% of L				8,62,834.66
M1	Total CESS @ 1% of (L)				47,935.26
N	**Grand Total (L+M+M1)**				**57,04,295.78**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				4,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**57,09,920.78**

PART C: 11kV Line DP with AB Switch for new Linking line at Girigaput and industry feeder end.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

PART D: 11kV new Linking line from industry feeder to Godibari feeder-1kmusing 100sqmm AAAC					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)			1		
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			1		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00

10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				5,109.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**1,95,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	19	5,63,559.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	19	20,007.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	19	3,705.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	19	1,976.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	5.72	557.42
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	57.00	5,928.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	22.87	2,229.67

8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	57	14,820.00
9	Earthing of Support (Coil Type)	No.	215.80	19	4,100.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	4.98	485.36
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	27.55	2,793.57
12	100 mm2 AAAC	Mtr.	71.50	3090.00	2,20,935.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	19.0	5,434.00
15	Yellow Colour Paint for Background	Ltr	216.00	38.0	8,208.00
A				**Total Cost of materials**	**8,55,263.96**
B				Stock, Storage & Insurance i.e 3% of A	25,657.92
C				**Sub Total (A+B)**	**8,80,921.88**
D				Contigency @ 3% of C	26,427.66
E				Tools & Plants @ 2% of C	17,618.44
F				Transportation @ 7.5% of C	66,069.14
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	29,023.29
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	30,045.61
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**10,50,106.01**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	8.55	55,575.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.14	13,893.75
K				**Total Civil & Services**	**69,468.75**
L				**Total Material+Services (I+K)**	**11,19,574.76**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**11,19,574.76**
O				Total GST @ 18% of (N)	2,01,523.46
O1				Total CESS @ 1% of (N)	11,195.75
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**13,32,293.97**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,62,407.59
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	1,58,541.34
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,95,884.72
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	13,32,293.97
Q				**Gross Total Material +Services**	**20,81,208.18**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**20,82,333.18**

PART E- Conductor Augmentation using 70 SQ.MM.Covered Conductor of length 1Ckm.

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.9	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.6	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.7	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.60	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.41	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	6	1,506.00
13	IPC for 70 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00		-
15	Earthing of Support (Coil Type)	EA	215.80	2	431.60
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.52	51.09
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
18	Black Paint	Ltr	286.00	1	286.00
19	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**99,125.65**
B				Stock, Storage & Insurance i.e 3% of A	2,973.77
C				**Sub Total (A+B)**	**1,02,099.42**
D				Contigency @ 3% of C	3,062.98
E				Tools & Plants @ 2% of C	2,041.99
F				Transportation @ 7.5% of C	7,657.46
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,099.78
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,22,016.71**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,29,329.21**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N				**Sub Total (L+M)**	**1,29,329.21**
O				Total GST @ 18% of (N)	23,279.26
				Cess @ 1%	1,293.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,53,901.76**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	8	2,008.00
13	IPC for 70 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00		-
15	Earthing of Support (Coil Type)	EA	215.80	2	431.60
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
18	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
19	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
22	Black Paint	Ltr	286.00	1	286.00
23	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,18,562.77**
B				Stock, Storage & Insurance i.e 3% of A	3,556.88
C				**Sub Total (A+B)**	**1,22,119.65**
D				Contigency @ 3% of C	3,663.59
E				Tools & Plants @ 2% of C	2,190.66
F				Transportation @ 7.5% of C	9,158.97
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,843.14
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,45,031.10**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,61,343.60**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub Total (L+M)**	**1,61,343.60**
O				Total GST @ 18% of (N)	29,041.85
				Cess @ 1%	1,613.44
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**1,91,998.89**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		1		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	10	2,96,610.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	10	10,530.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	10	1,950.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	10	1,040.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.01	293.38
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30.00	3,120.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.04	1,173.51
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	30	7,800.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00		-
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	30	7,530.00
11	Earthing of Support (Coil Type)	No.	215.80	10	2,158.00
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	14.50	1,470.30
14	70 SQ.MM. AAAC XLPE Covered Conductor	K.M.	1,85,220.00	3.09	5,72,329.80
15	Midspan Joint for 70 sq.mm AAAC XLPE Covered Conductor	EA	1,261.00	3	3,783.00
16	Black Paint	Ltr	286.00	10.0	2,860.00
17	Yellow Colour Paint for Background	Ltr	216.00	20.0	4,320.00
A				**Total Cost of materials**	**9,17,223.44**
B				Stock, Storage & Insurance i.e 3% of A	27,516.70
C				**Sub Total (A+B)**	**9,44,740.14**
D				Contigency @ 3% of C	28,342.20
E				Tools & Plants @ 2% of C	18,894.80
F				Transportation @ 7.5% of C	70,855.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	15,275.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	63,923.18
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**11,42,031.26**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.50	29,250.00
2	Dismantling of 35 sqmm AAAC	MTr	6.80	3000.00	20,400.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.13	7,312.50
K				**Total Civil & Services**	**56,962.50**
L				**Total Material+Services (J+K)**	11,98,993.76
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub Total (L+M)**	**11,98,993.76**
O				Total GST @ 18% of (N)	2,15,818.88
				Cess @ 1%	11,989.94
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**14,26,802.57**

6% Supervision Charges Summary

3	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
4	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
5	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
	Total (6% supervision charges)	**-**

Gross Total Summary

3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,53,901.76
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,91,998.89
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	14,26,802.57
Q	**Gross Total Material +Services**	**17,72,703.22**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**17,73,828.22**

Annexure-9.31

TPCODL

Name of the Division :-	NED
Name of the Sub-Division : -	Pipili
Name of the Section : -	Pipili No.2
Name of the Work :-	Proposal for Augmentation of 11kV Mangalapur-1 feeder ,5CKM by using 100 SQ.MM. -AAA Conductor from Pipli PSS to Nilakanthanagar.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor.	68,33,872.09
2	**Total Gross**	**68,33,872.09**

Total estimated cost is Rs. 0.68Cr.

PART A: Augmentation of 5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	3

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	131.928	10,026.53
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	142.2288	10,809.39
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	144.234	10,961.78
6	Danger Plate, 2 no's.	No.	104.00	6	624.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
9	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
10	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	3	4,095.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	35.4	3,451.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
16	11 KV pin insulator polymer	No.	260.00	9	2,340.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	36.783	3,729.80
21	Black Paint	Ltr	286.00	3	858.00
22	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**2,97,071.83**
B				Stock, Storage & Insurance i.e 3% of A	8,912.16
C				**Sub Total (A+B)**	**3,05,983.99**
D				Contigency @ 3% of C	9,179.52
E				Tools & Plants @ 2% of C	5,657.72
F				Transportation @ 7.5% of C	22,948.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	9,958.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,62,893.41**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	3	11,100.00
K				**Total Civil & Services**	**46,537.50**
L				**Total (J+K)**	4,09,430.91
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**4,09,430.91**
O				Total GST @ 18% of (N)	73,697.56
O1				Total CESS @ 1% of (N)	4,094.31
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**4,87,222.78**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00

20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
17	Black Paint	Ltr	286.00	2.5	715.00
18	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,74,259.13**
B				Stock, Storage & Insurance i.e 3% of A	8,227.77
C				**Sub Total (A+B)**	**2,82,486.91**
D				Contigency @ 3% of C	8,474.61
E				Tools & Plants @ 2% of C	5,649.74
F				Transportation @ 7.5% of C	21,186.52
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,973.28
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,38,408.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**3,56,690.00**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**3,56,690.00**
O				Total GST @ 18% of (N)	64,204.20
O1				Total CESS @ 1% of (N)	3,566.90
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**4,24,461.10**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44

3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
17	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
18	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
21	Black Paint	Ltr	286.00	2.5	715.00
22	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**3,21,596.93**
B				Stock, Storage & Insurance i.e 3% of A	9,647.91
C				**Sub Total (A+B)**	**3,31,244.83**
D				Contigency @ 3% of C	9,937.35
E				Tools & Plants @ 2% of C	5,995.57
F				Transportation @ 7.5% of C	24,843.36
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	14,702.42
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,94,361.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**4,35,142.49**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**4,35,142.49**
O				Total GST @ 18% of (N)	78,325.65
O1				Total CESS @ 1% of (N)	4,351.42
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**5,17,819.56**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	60	17,79,660.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	60	63,180.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	60	11,700.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	60	6,240.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	18.05	1,760.27
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	180.00	18,720.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	72.22	7,041.06
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	180	46,800.00
9	Earthing of Support (Coil Type)	No.	215.80	60	12,948.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	15.72	1,532.70
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	87.00	8,821.80
12	100 mm2 AAAC	Mtr.	71.50	15450.00	11,04,675.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
14	Black Paint	Ltr	286.00	60.0	17,160.00
15	Yellow Colour Paint for Background	Ltr	216.00	120.0	25,920.00
A				**Total Cost of materials**	**31,08,787.58**
B				Stock, Storage & Insurance i.e 3% of A	93,263.63
C				**Sub Total (A+B)**	**32,02,051.20**
D				Contigency @ 3% of C	96,061.54
E				Tools & Plants @ 2% of C	64,041.02
F				Transportation @ 7.5% of C	2,40,153.84
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	91,652.49
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	1,36,900.14
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**38,30,860.23**

Civil & Services

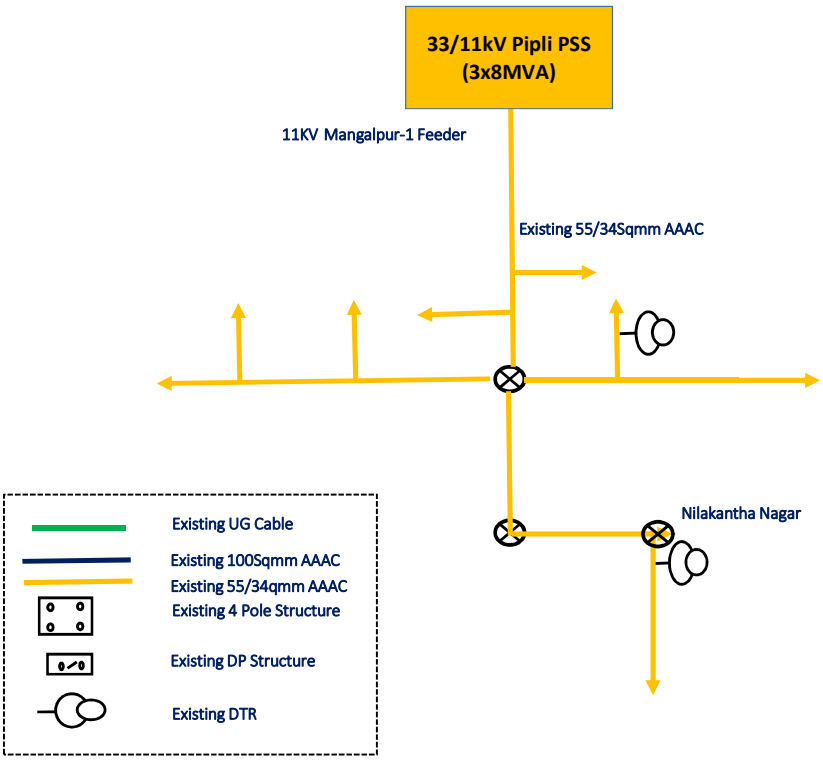
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	27.00	1,75,500.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	6.75	43,875.00
3	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	15450.00	99,498.00
K				**Total Civil & Services**	**3,18,873.00**
L				**Total Material+Services (I+K)**	**41,49,733.23**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**41,49,733.23**
O				Total GST @ 18% of (N)	7,46,951.98
O1				Total CESS @ 1% of (N)	41,497.33
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**49,38,182.55**

Gross Total Summary

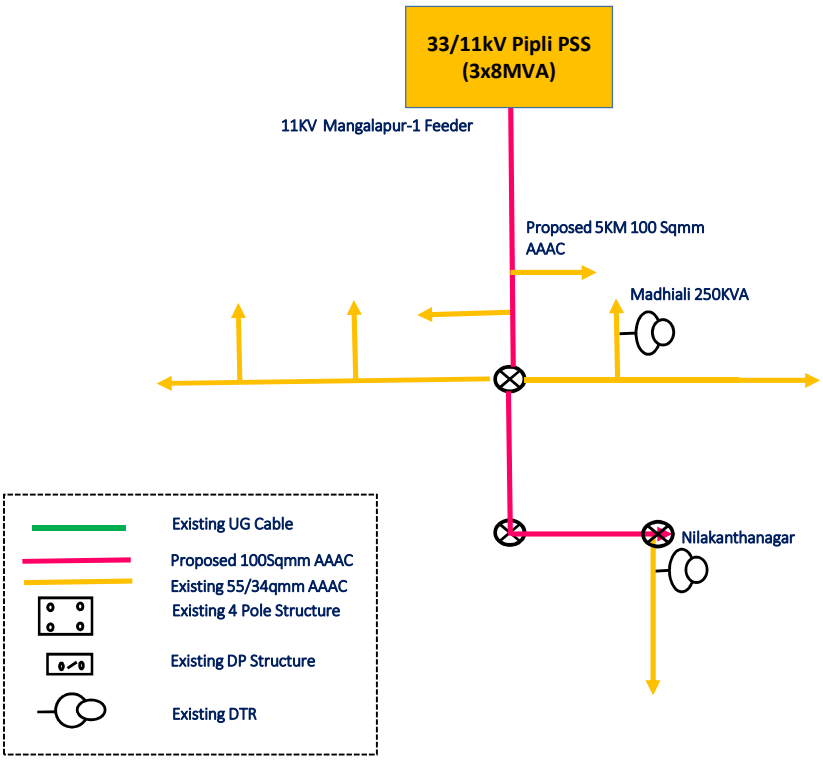
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	4,87,222.78

2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	4,24,461.10
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	5,17,819.56
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	49,38,182.55
Q	**Gross Total Material +Services**	**68,31,847.09**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**900.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**68,33,872.09**

Existing SLD of Mangalpur-1



Proposed SLD of Mangalpur-1 Feeder



ANNEXURE- 9.32

TPCODL

Name of the Division :-	NED
Name of the Sub-Division : -	Pipili
Name of the Section : -	Balakati
Name of the Work :-	Proposal for Augmentation of 11kV Satyabhamapur feeder ,5CKM by using 100 SQ.MM. -AAA Conductor from Balakati PSS to Sai temple DP (Back feeding DP point of Bainchua feeder).
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAAC.	68,80,938.97
2	**Total Gross**	**68,80,938.97**
Total estimated cost is Rs. 0.69Cr.		

PART A: Augmentation of 5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAAC.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	131.928	10,026.53
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	142.2288	10,809.39
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	144.234	10,961.78
6	Danger Plate, 2 no's.	No.	104.00	6	624.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
9	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
10	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	3	4,095.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	35.4	3,451.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
16	11 KV pin insulator polymer	No.	260.00	9	2,340.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	36.783	3,729.80
21	Black Paint	Ltr	286.00	3	858.00
22	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**2,97,071.83**
B				Stock, Storage & Insurance i.e 3% of A	8,912.16
C				**Sub Total (A+B)**	**3,05,983.99**
D				Contigency @ 3% of C	9,179.52
E				Tools & Plants @ 2% of C	5,657.72
F				Transportation @ 7.5% of C	22,948.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	9,958.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,62,893.41**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	3	11,100.00
K				**Total Civil & Services**	**46,537.50**
L				**Total (J+K)**	4,09,430.91
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**4,09,430.91**
O				Total GST @ 18% of (N)	73,697.56
O1				Total CESS @ 1% of (N)	4,094.31
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**4,87,222.78**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83

9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
17	Black Paint	Ltr	286.00	2.5	715.00
18	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**2,74,259.13**
B				Stock, Storage & Insurance i.e 3% of A	8,227.77
C				**Sub Total (A+B)**	**2,82,486.91**
D				Contigency @ 3% of C	8,474.61
E				Tools & Plants @ 2% of C	5,649.74
F				Transportation @ 7.5% of C	21,186.52
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,973.28
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**3,38,408.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K	**Total Civil & Services**				**18,281.25**
L	**Total (J+K)**				**3,56,690.00**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**3,56,690.00**
O	Total GST @ 18% of (N)				64,204.20
O1	Total CESS @ 1% of (N)				3,566.90
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**4,24,461.10**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
17	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
18	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
21	Black Paint	Ltr	286.00	2.5	715.00
22	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A	**Total Cost of materials**				**3,21,596.93**
B	Stock, Storage & Insurance i.e 3% of A				9,647.91
C	**Sub Total (A+B)**				**3,31,244.83**
D	Contigency @ 3% of C				9,937.35
E	Tools & Plants @ 2% of C				5,995.57
F	Transportation @ 7.5% of C				24,843.36
G	Erection Charges @ 5% on Trf/Breaker/Joist				7,637.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				14,702.42
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**3,94,361.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K	**Total Civil & Services**				**40,781.25**
L	**Total (J+K)**				**4,35,142.49**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**4,35,142.49**
O	Total GST @ 18% of (N)				78,325.65
O1	Total CESS @ 1% of (N)				4,351.42
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**5,17,819.56**

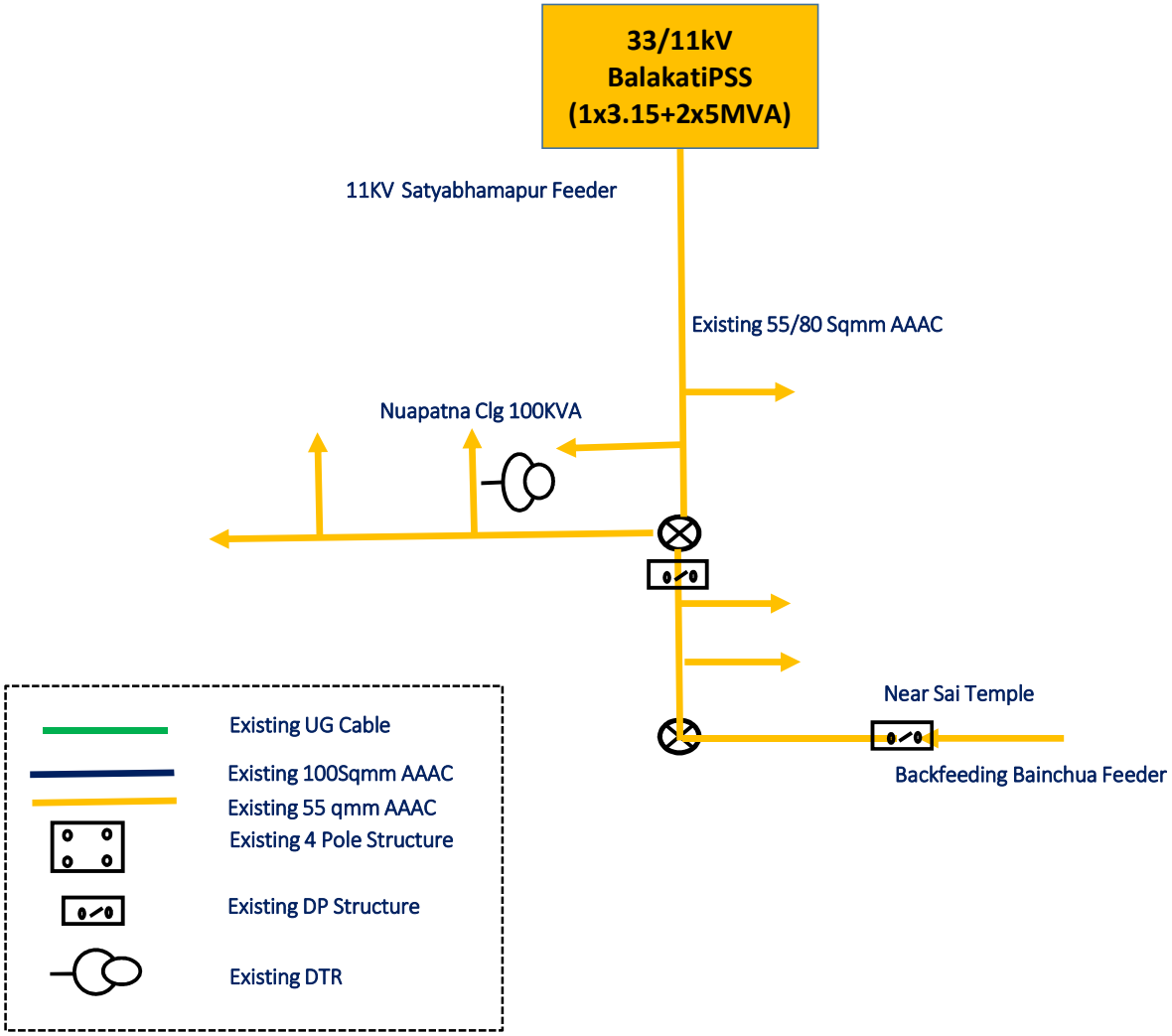
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

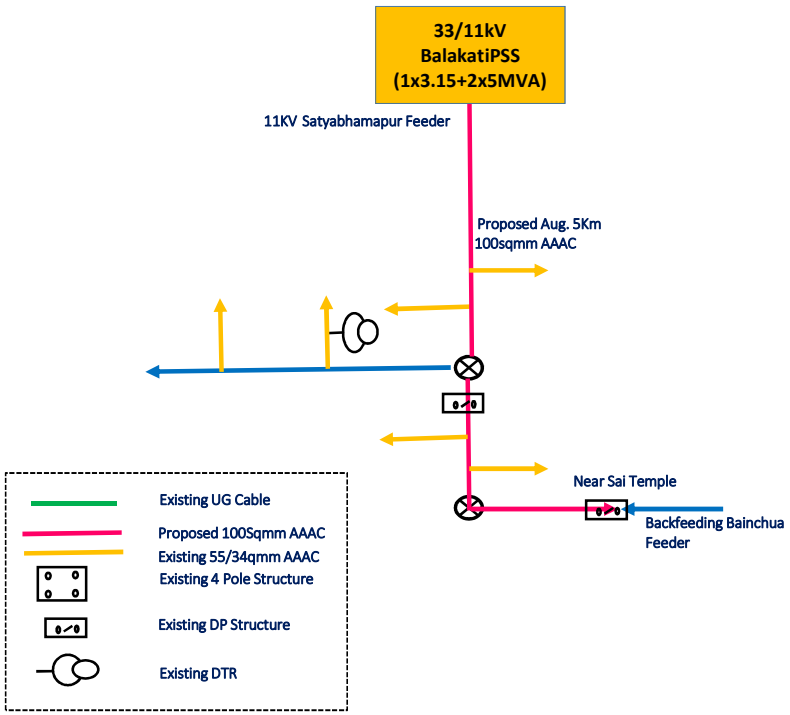
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	60	17,79,660.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	60	63,180.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	60	11,700.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	60	6,240.00

5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	18.05	1,760.27
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	180.00	18,720.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	72.22	7,041.06
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	180	46,800.00
9	Earthing of Support (Coil Type)	No.	215.80	60	12,948.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	15.72	1,532.70
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	87.00	8,821.80
12	100 mm2 AAAC	Mtr.	71.50	15450.00	11,04,675.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
14	Black Paint	Ltr	286.00	60.0	17,160.00
15	Yellow Colour Paint for Background	Ltr	216.00	120.0	25,920.00
A				**Total Cost of materials**	**31,08,787.58**
B				Stock, Storage & Insurance i.e 3% of A	93,263.63
C				**Sub Total (A+B)**	**32,02,051.20**
D				Contigency @ 3% of C	96,061.54
E				Tools & Plants @ 2% of C	64,041.02
F				Transportation @ 7.5% of C	2,40,153.84
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	91,652.49
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	1,36,900.14
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**38,30,860.23**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	27.00	1,75,500.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	6.75	43,875.00
3	Dismantling of ACSR/AAAC 80 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	15450.00	1,39,050.00
K				**Total Civil & Services**	**3,58,425.00**
L				**Total Material+Services (I+K)**	**41,89,285.23**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**41,89,285.23**
O				Total GST @ 18% of (N)	7,54,071.34
O1				Total CESS @ 1% of (N)	41,892.85
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**49,85,249.43**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	4,87,222.78
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	4,24,461.10
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	5,17,819.56
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	49,85,249.43
Q				**Gross Total Material +Services**	**68,78,913.97**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**900.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**68,80,938.97**

Existing SLD of Satyabhamapur Feeder



Proposed SLD of Satyabhamapur Feeder



ANNEXURE- 9.33

TPCODL

Name of the Division :-	NED
Name of the Sub-Division : -	Nimapada
Name of the Section : -	Nimapada-1
Name of the Work :-	Proposal for Augmentation of 11kV OMFED feeder ,0.9 CKM by using 100 SQ.MM. AAA Conductor from Nimapada PSS to Andhi Sahi 63 KVA Dandipur DSS.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 0.9 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. - AAA Conductor.	13,28,820.06
2	**Total Gross**	**13,28,820.06**
Total estimated cost is Rs. 0.13Cr.		

PART A: Augmentation of 0.9 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	6	3,744.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97

17	Black Paint	Ltr	286.00	0.5	143.00
18	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**54,851.83**
B				Stock, Storage & Insurance i.e 3% of A	1,645.55
C				**Sub Total (A+B)**	**56,497.38**
D				Contigency @ 3% of C	1,694.92
E				Tools & Plants @ 2% of C	1,129.95
F				Transportation @ 7.5% of C	4,237.30
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,594.66
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**67,681.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K				**Total Civil & Services**	**3,656.25**
L				**Total (J+K)**	**71,338.00**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**71,338.00**
O				Total GST @ 18% of (N)	12,840.84
O1				Total CESS @ 1% of (N)	713.38
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**84,892.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	6	3,744.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
17	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
18	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
21	Black Paint	Ltr	286.00	0.5	143.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**64,319.39**
B				Stock, Storage & Insurance i.e 3% of A	1,929.58
C				**Sub Total (A+B)**	**66,248.97**
D				Contigency @ 3% of C	1,987.47
E				Tools & Plants @ 2% of C	1,199.11
F				Transportation @ 7.5% of C	4,968.67
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,940.48
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**78,872.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**87,028.50**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**87,028.50**
O				Total GST @ 18% of (N)	15,665.13
O1				Total CESS @ 1% of (N)	870.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**1,03,563.91**

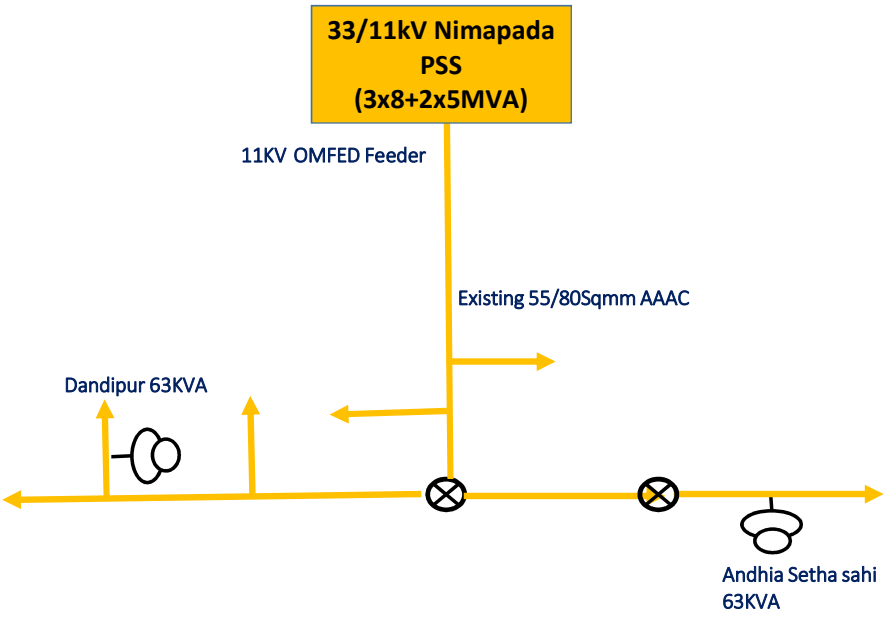
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	0.9

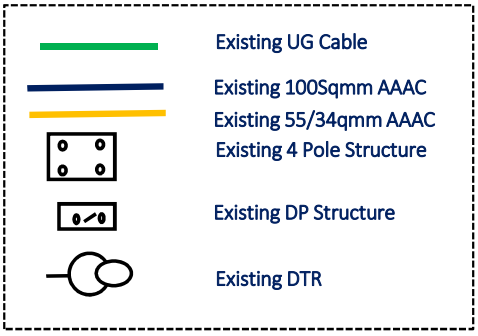
MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	11	3,26,271.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	11	11,583.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	11	2,145.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	11	1,144.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.31	322.72
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	33.00	3,432.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	13.24	1,290.86

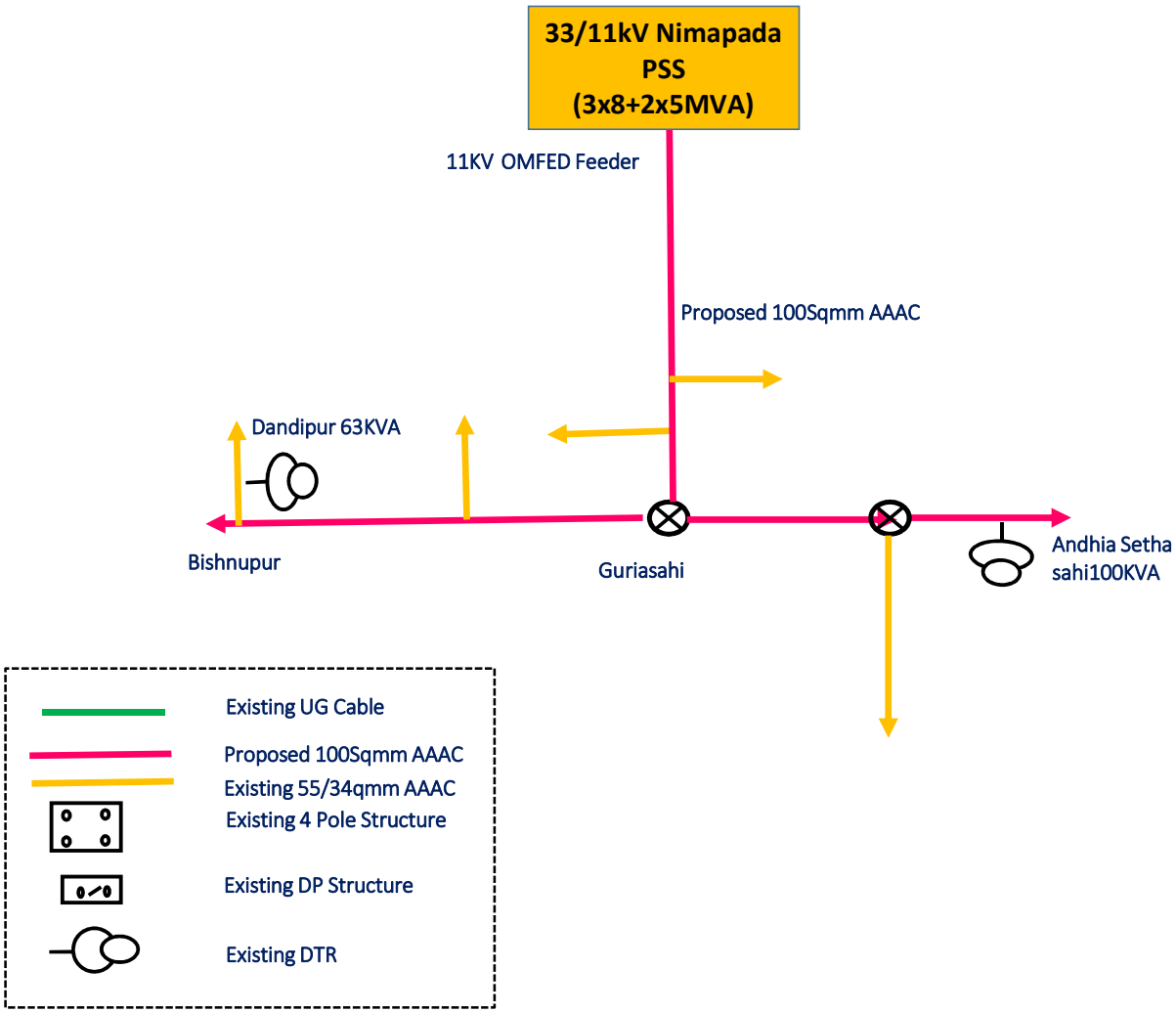
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	33	8,580.00
9	Earthing of Support (Coil Type)	No.	215.80	11	2,373.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.88	281.00
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	15.95	1,617.33
12	100 mm2 AAAC	Mtr.	71.50	2781.00	1,98,841.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
14	Black Paint	Ltr	286.00	11.0	3,146.00
15	Yellow Colour Paint for Background	Ltr	216.00	22.0	4,752.00
A				**Total Cost of materials**	**5,65,780.20**
B				Stock, Storage & Insurance i.e 3% of A	16,973.41
C				**Sub Total (A+B)**	**5,82,753.61**
D				Contigency @ 3% of C	17,482.61
E				Tools & Plants @ 2% of C	11,655.07
F				Transportation @ 7.5% of C	43,706.52
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	16,802.96
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	24,669.45
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**6,97,070.21**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.95	32,175.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.24	8,043.75
	Dismantling of ACSR/AAAC 80 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	2781.00	25,029.00
K				**Total Civil & Services**	**65,247.75**
L				**Total Material+Services (I+K)**	**7,62,317.96**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**7,62,317.96**
O				Total GST @ 18% of (N)	1,37,217.23
O1				Total CESS @ 1% of (N)	7,623.18
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**9,07,158.38**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	84,892.22
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,03,563.91
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	9,07,158.38
Q				**Gross Total Material +Services**	**13,27,695.06**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**13,28,820.06**

Existing SLD of OMFED Feeder





Proposed SLD of OMFED Feeder



ANNEXURE- 9.34

TPCODL

Name of the Division :-	NED
Name of the Sub-Division : -	Kakatpur
Name of the Section : -	Kakatpur-1
Name of the Work :-	Proposal for Augmentation of 11kV Kakatpur-2 feeder, 12.5 CKM of by using 100 SQ.MM. AAA Conductor from Kakatpur PSS to Pragati Milk 100 KVA DSS. Also construction of 1.5 CKM interlinking line with 11kv Kakatpur-1 feeder from Chandan Bajar to police station 100KVA of Kakatpur -1 feeder.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 12.5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. - AAAC.	1,63,05,765.91
2	PART-B : Construction of 1.5KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. AAA Conductor from Chandan Bazar to Police station 100KVA DTR of Kakatpur-1 feeder of kakatpur PSS	31,11,827.79
3	PART-B: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing	69,000.49
4	**Total Gross**	**1,94,86,594.19**

Total estimated cost is Rs. 1.95 Cr.

PART A: Augmentation of 12.5 CKM over Existing pole & 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAAC.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	2

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	87.952	6,684.35
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	94.8192	7,206.26
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	96.156	7,307.86
6	Danger Plate, 2 no's.	No.	104.00	4	416.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
9	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
10	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	23.6	2,301.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
16	11 KV pin insulator polymer	No.	260.00	6	1,560.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	24.522	2,486.53
21	Black Paint	Ltr	286.00	2	572.00
22	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,98,047.89**
B				Stock, Storage & Insurance i.e 3% of A	5,941.44
C				**Sub Total (A+B)**	**2,03,989.33**
D				Contigency @ 3% of C	6,119.68
E				Tools & Plants @ 2% of C	3,771.82
F				Transportation @ 7.5% of C	15,299.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	6,638.75
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,41,928.94**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**31,025.00**
L				**Total (J+K)**	2,72,953.94
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**2,72,953.94**
O				Total GST @ 18% of (N)	49,131.71
O1				Total CESS @ 1% of (N)	2,729.54
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**3,24,815.19**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70

4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	13

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	13	3,85,593.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	298.272	22,668.67
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	68.7232	6,700.51
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	76.05936	5,780.51
5	Danger Plate, 1 no's.	No.	104.00	13	1,352.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.9117	381.39
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	39	4,056.00

8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	15.6468	1,525.56
9	11 KV pin insulator polymer	No.	260.00	39	10,140.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	78	35,490.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	78	1,16,610.00
12	Earthing of Support (Coil Type)	EA	215.80	13	2,805.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.406	332.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	78	58,812.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	78	48,672.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	46.15	4,679.61
17	Black Paint	Ltr	286.00	6.5	1,859.00
18	Yellow Colour Paint for Background	Ltr	216.00	26	5,616.00
A				**Total Cost of materials**	**7,13,073.74**
B				Stock, Storage & Insurance i.e 3% of A	21,392.21
C				**Sub Total (A+B)**	**7,34,465.96**
D				Contigency @ 3% of C	22,033.98
E				Tools & Plants @ 2% of C	14,689.32
F				Transportation @ 7.5% of C	55,084.95
G				Erection Charges @ 5% on Trf/Breaker/Joist	19,858.04
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	33,730.52
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**8,79,862.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.85	38,025.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.46	9,506.25
K				**Total Civil & Services**	**47,531.25**
L				**Total (J+K)**	**9,27,394.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**9,27,394.01**
O				Total GST @ 18% of (N)	1,66,930.92
O1				Total CESS @ 1% of (N)	9,273.94
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**11,03,598.87**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	13

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	13	3,85,593.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	596.544	45,337.34
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	137.4464	13,401.02
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	152.1187	11,561.02
5	Danger Plate, 1 no's.	No.	104.00	13	1,352.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.9117	381.39
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	39	4,056.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	15.6468	1,525.56
9	11 KV pin insulator polymer	No.	260.00	52	13,520.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	78	35,490.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	78	1,16,610.00
12	Earthing of Support (Coil Type)	EA	215.80	13	2,805.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.406	332.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	78	58,812.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	78	48,672.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	26	4,225.00
17	H.T. Stay set (Complete)	Set	1,365.00	26	35,490.00
18	H.T. Stay Insulator Type-C	No.	65.00	26	1,690.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	390	38,025.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	96.629	9,798.18
21	Black Paint	Ltr	286.00	6.5	1,859.00
22	Yellow Colour Paint for Background	Ltr	216.00	26	5,616.00
A				**Total Cost of materials**	**8,36,152.01**
B				Stock, Storage & Insurance i.e 3% of A	25,084.56
C				**Sub Total (A+B)**	**8,61,236.57**
D				Contigency @ 3% of C	25,837.10
E				Tools & Plants @ 2% of C	15,588.47
F				Transportation @ 7.5% of C	64,592.74
G				Erection Charges @ 5% on Trf/Breaker/Joist	19,858.04
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	38,226.29
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**10,25,339.21**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	26	58,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.9	38,025.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.5	9,506.25
K				**Total Civil & Services**	**1,06,031.25**
L				**Total (J+K)**	**11,31,370.46**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**11,31,370.46**
O	Total GST @ 18% of (N)				2,03,646.68
O1	Total CESS @ 1% of (N)				11,313.70
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**13,46,330.85**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		12.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	157	46,56,777.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	157	1,65,321.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	157	30,615.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	157	16,328.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	47.24	4,606.03
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	471.00	48,984.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	188.97	18,424.11
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	471	1,22,460.00
9	Earthing of Support (Coil Type)	No.	215.80	157	33,880.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	41.13	4,010.57
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	227.65	23,083.71
12	100 mm2 AAAC	Mtr.	71.50	38625.00	27,61,687.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	36	6,309.00
14	Black Paint	Ltr	286.00	157.0	44,902.00
15	Yellow Colour Paint for Background	Ltr	216.00	314.0	67,824.00
A				**Total Cost of materials**	**80,05,212.51**
B	Stock, Storage & Insurance i.e 3% of A				2,40,156.38
C				**Sub Total (A+B)**	**82,45,368.88**
D	Contigency @ 3% of C				2,47,361.07
E	Tools & Plants @ 2% of C				1,64,907.38
F	Transportation @ 7.5% of C				6,18,402.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				2,39,824.02
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				3,44,888.86
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**98,60,752.87**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	70.65	4,59,225.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	17.66	1,14,806.25
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	38625.00	3,47,625.00
K				**Total Civil & Services**	**9,21,656.25**
L				**Total Material+Services (I+K)**	**1,07,82,409.12**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**1,07,82,409.12**
O	Total GST @ 18% of (N)				19,40,833.64
O1	Total CESS @ 1% of (N)				1,07,824.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**1,28,31,066.85**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	3,24,815.19
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	6,96,241.65
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	11,03,598.87
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	13,46,330.85
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	1,28,31,066.85
Q	**Gross Total Material +Services**	**1,63,02,053.41**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**2,587.50**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,63,05,765.91**

PART-B : Construction of 1.5KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. AAA Conductor from Chandan Bazar to Police station 100KVA DTR of Kakatpur-1 feeder of kakatpur PSS

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	1

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68

5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70

9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**1,95,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	1.5	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	31	9,19,491.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	31	32,643.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	31	6,045.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	31	3,224.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	9.33	909.47
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	93.00	9,672.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	37.31	3,637.88
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	93	24,180.00
9	Earthing of Support (Coil Type)	No.	215.80	31	6,689.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	8.12	791.90
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	44.95	4,557.93
12	100 mm2 AAAC	Mtr.	71.50	4635.00	3,31,402.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	31.0	8,866.00
15	Yellow Colour Paint for Background	Ltr	216.00	62.0	13,392.00
A				**Total Cost of materials**	**13,66,028.23**
B	Stock, Storage & Insurance i.e 3% of A				40,980.85
C				**Sub Total (A+B)**	**14,07,009.07**
D	Contigency @ 3% of C				42,210.27
E	Tools & Plants @ 2% of C				28,140.18
F	Transportation @ 7.5% of C				1,05,525.68
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				47,353.79
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				45,993.33
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**16,76,232.33**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	13.95	90,675.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	3.49	22,668.75
K				**Total Civil & Services**	**1,13,343.75**
L				**Total Material+Services (I+K)**	**17,89,576.08**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**17,89,576.08**
O				Total GST @ 18% of (N)	3,22,123.69
O1				Total CESS @ 1% of (N)	17,895.76
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**21,29,595.53**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,62,407.59
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	1,58,541.34
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,95,884.72
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	21,29,595.53
Q	**Gross Total Material +Services**	**31,10,590.29**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**112.50**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**31,11,827.79**

PART-B: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing					
No. of 11 KV Line Protecting Guarding				2	
Length of 11 KV Line Protecting Guarding in Mtr.				20	
Materials for Line Protecting Guarding for Road Crossing					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Guarding Channel 75x40x4.8 mm, 7.14 KG/Mtr., each channel length 3.5 mtr., 4 no's channel required =(4x7.14x3.5) (For Double Pole)	KG	76.00	199.92	15,193.92
2	No-6 GI wire (0.192 kg/mtr.) for Main String	Kg.	97.50	30.72	2,995.20
3	No-8 GI wire (0.131 kg/mtr.) for lacing	Kg.	97.50	6.55	638.63
4	Eye Bolt (236mm, 16mm dia, 1.577kg/mtr.)	No	78.00	8	624.00
6	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
7	50x6mm GI Flat for earthing, 2.36kg/mtr., (10.7 mtr For raising)= 10.7x2.36	KG	97.50	101.008	9,848.28
A				**Total Cost of materials**	**34,760.03**
B				Stock, Storage & Insurance i.e 3% of A	1,042.80
C				**Sub Total (A+B)**	**35,802.83**
D				Contigency @ 3% of C	1,074.08
E				Tools & Plants @ 2% of C	603.58
F				Transportation @ 7.5% of C	2,685.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	3,017.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**43,183.61**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**14,800.00**
L				**Total (J+K)**	57,983.61
M				Other overheads (Including 6% supervision charges) of L	0.00
N				**Sub Total (L+M)**	**57,983.61**
O				Total GST @ 18% of (N)	10,437.05
P				Total CESS @ 1% of (N)	579.84
P				**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**	**69,000.49**

ANNEXURE- 9.35

TPCODL

Name of the Division :-	NED
Name of the Sub-Division : -	Nimapada
Name of the Section : -	Nimapada-1
Name of the Work :-	Proposal for Augmentation of 11kV Charichhaka feeder ,11.4KM of by using 100 SQ.MM. AAA Conductor from Nimapada PSS to Patharagadia 25 KVA DTR and Proposal for new linking line of 1.2kM from Bhodar PSS to charichhak of Nimapad PSS
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 11.4 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	1,54,77,085.66
2	PART B: Construction new linking line of 1.2kM from Bhodar PSS to charichhak feeder of Nimapad PSS	24,11,072.74
3	PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing	69,000.49
4	**Total Gross**	**1,79,57,158.89**

Total estimated cost is Rs. 1.80Cr.

PART-A : Refurbishment & Augmentation of 11.4 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	8

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	16	4,74,576.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	351.808	26,737.41
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	31.7184	3,092.54
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	379.2768	28,825.04
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	384.624	29,231.42
6	Danger Plate, 2 no's.	No.	104.00	16	1,664.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	4.8144	469.40
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	16	2,600.00
9	H.T. Stay set (Complete)	Set	1,365.00	16	21,840.00
10	H.T. Stay Insulator Type-C	No.	65.00	16	1,040.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	240	23,400.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	94.4	9,204.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	48	4,992.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	19.2576	1,877.62
16	11 KV pin insulator polymer	No.	260.00	24	6,240.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	48	21,840.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	48	71,760.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	48	36,192.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	98.088	9,946.12
21	Black Paint	Ltr	286.00	8	2,288.00
22	Yellow Colour Paint for Background	Ltr	216.00	16	3,456.00
A				**Total Cost of materials**	**7,92,191.56**
B				Stock, Storage & Insurance i.e 3% of A	23,765.75
C				**Sub Total (A+B)**	**8,15,957.30**
D				Contigency @ 3% of C	24,478.72
E				Tools & Plants @ 2% of C	15,087.27
F				Transportation @ 7.5% of C	61,196.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	24,440.66
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	26,555.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**9,67,715.75**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	16	36,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	7.20	46,800.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.80	11,700.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**1,24,100.00**
L				**Total (J+K)**	10,91,815.75
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**10,91,815.75**
O				Total GST @ 18% of (N)	1,96,526.84
O1				Total CESS @ 1% of (N)	10,918.16
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**12,99,260.74**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70

4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	12

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	12	3,55,932.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	275.328	20,924.93
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	63.4368	6,185.09
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	70.20864	5,335.86
5	Danger Plate, 1 no's.	No.	104.00	12	1,248.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.6108	352.05
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	36	3,744.00

8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	14.4432	1,408.21
9	11 KV pin insulator polymer	No.	260.00	36	9,360.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	72	32,760.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	72	1,07,640.00
12	Earthing of Support (Coil Type)	EA	215.80	12	2,589.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.144	306.54
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	72	54,288.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	72	44,928.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	42.6	4,319.64
17	Black Paint	Ltr	286.00	6	1,716.00
18	Yellow Colour Paint for Background	Ltr	216.00	24	5,184.00
A				**Total Cost of materials**	**6,58,221.92**
B				Stock, Storage & Insurance i.e 3% of A	19,746.66
C				**Sub Total (A+B)**	**6,77,968.58**
D				Contigency @ 3% of C	20,339.06
E				Tools & Plants @ 2% of C	13,559.37
F				Transportation @ 7.5% of C	50,847.64
G				Erection Charges @ 5% on Trf/Breaker/Joist	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	31,135.86
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**8,12,181.01**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.40	35,100.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.35	8,775.00
K				**Total Civil & Services**	**43,875.00**
L				**Total (J+K)**	**8,56,056.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**8,56,056.01**
O				Total GST @ 18% of (N)	1,54,090.08
O1				Total CESS @ 1% of (N)	8,560.56
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**10,18,706.65**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	12

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	12	3,55,932.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	550.656	41,849.86
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	126.8736	12,370.18
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	140.4173	10,671.71
5	Danger Plate, 1 no's.	No.	104.00	12	1,248.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.6108	352.05
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	36	3,744.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	14.4432	1,408.21
9	11 KV pin insulator polymer	No.	260.00	48	12,480.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	72	32,760.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	72	1,07,640.00
12	Earthing of Support (Coil Type)	EA	215.80	12	2,589.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.144	306.54
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	72	54,288.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	72	44,928.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	24	3,900.00
17	H.T. Stay set (Complete)	Set	1,365.00	24	32,760.00
18	H.T. Stay Insulator Type-C	No.	65.00	24	1,560.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	360	35,100.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	89.196	9,044.47
21	Black Paint	Ltr	286.00	6	1,716.00
22	Yellow Colour Paint for Background	Ltr	216.00	24	5,184.00
A				**Total Cost of materials**	**7,71,832.62**
B				Stock, Storage & Insurance i.e 3% of A	23,154.98
C				**Sub Total (A+B)**	**7,94,987.60**
D				Contigency @ 3% of C	23,849.63
E				Tools & Plants @ 2% of C	14,389.36
F				Transportation @ 7.5% of C	59,624.07
G				Erection Charges @ 5% on Trf/Breaker/Joist	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	35,285.80
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**9,46,466.96**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	24	54,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.4	35,100.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.4	8,775.00
K				**Total Civil & Services**	**97,875.00**
L				**Total (J+K)**	**10,44,341.96**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**10,44,341.96**
O				Total GST @ 18% of (N)	1,87,981.55
O1				Total CESS @ 1% of (N)	10,443.42
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**12,42,766.94**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		11.4		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	136	40,33,896.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	136	1,43,208.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	136	26,520.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	136	14,144.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	40.92	3,989.93
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	408.00	42,432.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	163.69	15,959.74
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	408	1,06,080.00
9	Earthing of Support (Coil Type)	No.	215.80	136	29,348.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	35.63	3,474.12
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	197.20	19,996.08
12	100 mm2 AAAC	Mtr.	71.50	35226.00	25,18,659.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	33	5,783.25
14	Black Paint	Ltr	286.00	136.0	38,896.00
15	Yellow Colour Paint for Background	Ltr	216.00	272.0	58,752.00
A				**Total Cost of materials**	**70,61,138.92**
B				Stock, Storage & Insurance i.e 3% of A	2,11,834.17
C				**Sub Total (A+B)**	**72,72,973.09**
D				Contigency @ 3% of C	2,18,189.19
E				Tools & Plants @ 2% of C	1,45,459.46
F				Transportation @ 7.5% of C	5,45,472.98
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	2,07,745.64
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	3,11,806.02
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**87,01,646.39**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	61.20	3,97,800.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	15.30	99,450.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	35226.00	2,26,855.44
K				**Total Civil & Services**	**7,24,105.44**
L				**Total Material+Services (I+K)**	**94,25,751.83**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**94,25,751.83**
O				Total GST @ 18% of (N)	16,96,635.33
O1				Total CESS @ 1% of (N)	94,257.52
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**1,12,16,644.68**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	12,99,260.74
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	6,96,241.65
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	10,18,706.65
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	12,42,766.94
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	1,12,16,644.68
Q	**Gross Total Material +Services**	**1,54,73,620.66**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**2,340.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,54,77,085.66**

PART B: Construction new linking line of 1.2kM from Bhodar PSS to charichhak feeder of Nimapad PSS					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)				1	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				1	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84

5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70

9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**1,95,884.72**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)			1.2	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	24	7,11,864.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	24	25,272.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	24	4,680.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	24	2,496.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	7.22	704.11
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	72.00	7,488.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	28.89	2,816.42
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	72	18,720.00
9	Earthing of Support (Coil Type)	No.	215.80	24	5,179.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	6.29	613.08
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	34.80	3,528.72
12	100 mm2 AAAC	Mtr.	71.50	3708.00	2,65,122.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	24.0	6,864.00
15	Yellow Colour Paint for Background	Ltr	216.00	48.0	10,368.00
A				**Total Cost of materials**	**10,66,241.28**
B				Stock, Storage & Insurance i.e 3% of A	31,987.24
C				**Sub Total (A+B)**	**10,98,228.52**
D				Contigency @ 3% of C	32,946.86
E				Tools & Plants @ 2% of C	21,964.57
F				Transportation @ 7.5% of C	82,367.14
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	36,661.00
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	36,500.86
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**13,08,668.94**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	10.80	70,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.70	17,550.00
K				**Total Civil & Services**	**87,750.00**
L				**Total Material+Services (I+K)**	**13,96,418.94**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**13,96,418.94**
O				Total GST @ 18% of (N)	2,51,355.41
O1				Total CESS @ 1% of (N)	13,964.19
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**16,61,738.54**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				1,62,407.59
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				2,32,080.55
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle				1,58,541.34
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				1,95,884.72
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				16,61,738.54
Q	**Gross Total Material +Services**				**24,10,652.74**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				**45.00**
T	Inspection Fee of Drawing Checking and Approval				
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**24,11,072.74**

PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing					
No. of 11 KV Line Protecting Guarding				2	
Length of 11 KV Line Protecting Guarding in Mtr.				20	
Materials for Line Protecting Guarding for Road Crossing					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Guarding Channel 75x40x4.8 mm, 7.14 KG/Mtr., each channel length 3.5 mtr., 4 no's channel required =(4x7.14x3.5) (For Double Pole)	KG	76.00	199.92	15,193.92
2	No-6 GI wire (0.192 kg/mtr.) for Main String	Kg.	97.50	30.72	2,995.20
3	No-8 GI wire (0.131 kg/mtr.) for lacing	Kg.	97.50	6.55	638.63
4	Eye Bolt (236mm, 16mm dia, 1.577kg/mtr.)	No	78.00	8	624.00
6	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
7	50x6mm GI Flat for earthing, 2.36kg/mtr., (10.7 mtr For raising)= 10.7x2.36	KG	97.50	101.008	9,848.28
A				**Total Cost of materials**	**34,760.03**
B				Stock, Storage & Insurance i.e 3% of A	1,042.80
C				**Sub Total (A+B)**	**35,802.83**
D				Contigency @ 3% of C	1,074.08
E				Tools & Plants @ 2% of C	603.58
F				Transportation @ 7.5% of C	2,685.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	3,017.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**43,183.61**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**14,800.00**
L				**Total (J+K)**	57,983.61
M				Other overheads (Including 6% supervision charges) of L	0.00
N				**Sub Total (L+M)**	**57,983.61**
O				Total GST @ 18% of (N)	10,437.05
P				Total CESS @ 1% of (N)	579.84
Q				**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**	**69,000.49**

Annexure-9.36

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Kacheri & Swargadwar
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Swargadwar-II Feeder load emanating from 33/11 KV Kacheri PSS by constructing 1 No. of new feeder from 33/11 KV Kacheri PSS through RMU and 1.5 KM 11KV new line from Kacheri PSS to Holiday Home 4-Pole using 11kV 3Cx400sqmm UG Cable.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A : Installation of 02 No. of 11KV DP with AB Switch and LA.	464,161.10
2	PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 1.5 Km , without spare run.	17,635,612.25
3	**Total Gross**	**18,099,773.35**

Total estimated cost is Rs. 1.81Cr.

PART A : Installation of 02 No. of 11KV DP with AB Switch and LA.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**

PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 1.5 Km , without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***1000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1500.00	2,563.51	3,845,265.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	5	32,912.10	164,560.50
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	9	12,456.60	112,109.40
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	3	18,075.20	54,225.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	976.00	775.40	756,790.40
2	**Supply of 11kV RMU**				
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	697,696.00	2,093,088.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	121,744.00	365,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	100,000.00	300,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00
4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	111,906.00

	Sub Total (Supply Portion) (in Rs.)				**8,152,680.62**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	1000.00	94.50	94,500.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	5	2,400.00	12,000.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	9	1,900.80	17,107.20
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	1,900.80	5,702.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	500	2,800.00	1,400,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	976.00	300.00	292,800.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,899,026.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	976		
1.1.a	Earth work excavation of **soil**	Cum	683.2	700.00	478,240.00
1.1.b	Earth work excavation of **hard rock**	Cum	292.8	1,720.00	503,616.00
1.2	Back filling with excavated soil outside and above the trench	Cum	976	202.00	197,152.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	780.8	2,643.67	2,064,178.03
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	216,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	24	1,463.40	35,121.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	50	1,012.00	50,600.00

	Sub Total (Civil Portion) (in Rs.)	**3,636,543.53**
A	**Sub Total (Supply Portion)**	**8,152,680.62**
B	Stock, Storage & Insurance @ 3 % of A	244,580.42
C	**Sub Total (A+B)**	**8,397,261.04**
D	Contingency @ 3 % of C	251,917.83
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	79.54
F	Transportation @ 7.5% of C	629,794.58
G	Erection Charges @ 10% of earthing items	397.68
H	**Total (C+D+E+F+G)**	**9,279,450.67**
I	Sub Total (Erection Portion + Civil Portion)	5,535,570.13
J	**Total Cost (H+I)**	**14,815,020.80**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	14,815,020.80
M	GST @ 18% of L	2,666,703.74
M1	Total CESS @ 1% of (L)	148,150.21
N	**Grand Total (L+M+M1)**	**17,629,874.75**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	112.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU	4,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**17,635,612.25**

Annexure-9.37

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Kacheri & Swargadwar
Name of the Work :-	Proposal for Construction of New interlinking line in between 11kV Swargadwar-I feeder & 11kV Seabeach U/G feeder to Mitigate N-1 issue of Swargadwar-I feeder.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A : Installation of 02 No. of 11KV DP with AB Switch and LA.	464,161.10
2	PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.5 Km , without spare run.	7,962,895.50
4	**Total Gross**	**8,427,056.60**

Total estimated cost is Rs. 0.83Cr.

PART A : Installation of 02 No. of 11KV DP with AB Switch and LA.

	No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2	

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**

PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.5 Km , without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***500***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***0***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	500.00	2,563.51	1,281,755.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	6	12,456.60	74,739.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	18,075.20	36,150.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	484.00	775.40	375,293.60
2	**Supply of 11kV RMU**				
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	697,696.00	1,395,392.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***2***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	2	121,744.00	243,488.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	2	100,000.00	200,000.00
4.3	Networking Accessories	No.	2	72.00	144.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	64	650.00	41,600.00
4.5	Interposing Relay for Digital Output	Nos.	32	467.94	14,974.08
4.6	Battery Charger	Nos.	2	15,385.00	30,770.00
4.7	Battery	Nos.	2	8,333.00	16,666.00
4.8	4G Modem cum Router	Nos.	2	18,500.00	37,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	80	204.87	16,389.60
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	80	305.58	24,446.40
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	80	275.23	22,018.40
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	40	165.25	6,610.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	20	150.00	3,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	40.0	148.43	5,937.20
4.15	Armored CAT6 SFTP Cable	Mtr.	40	45.87	1,834.80
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	40	89.45	3,578.00
4.17	Multi Function Meter	Nos.	4	18,651.00	74,604.00

	Sub Total (Supply Portion) (in Rs.)				**4,013,161.38**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	500.00	94.50	47,250.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	6	1,900.80	11,404.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	484.00	300.00	145,200.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	2.0	16,000.00	32,000.00
	Sub Total (Erection Portion) (in Rs.)				**266,134.40**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	484		
1.1.a	Earth work excavation of **soil**	Cum	338.8	700.00	237,160.00
1.1.b	Earth work excavation of **hard rock**	Cum	145.2	1,720.00	249,744.00
1.2	Back filling with excavated soil outside and above the trench	Cum	484	202.00	97,768.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	387.2	2,643.67	1,023,629.27
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	144,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	16	1,463.40	23,414.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	17	1,012.00	17,204.00

	Sub Total (Civil Portion) (in Rs.)	**1,854,010.27**
A	**Sub Total (Supply Portion)**	**4,013,161.38**
B	Stock, Storage & Insurance @ 3 % of A	120,394.84
C	**Sub Total (A+B)**	**4,133,556.22**
D	Contingency @ 3 % of C	124,006.69
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	53.02
F	Transportation @ 7.5% of C	310,016.72
G	Erection Charges @ 10% of earthing items	265.12
H	**Total (C+D+E+F+G)**	**4,567,897.77**
I	Sub Total (Erection Portion + Civil Portion)	2,120,144.67
J	**Total Cost (H+I)**	**6,688,042.44**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	6,688,042.44
M	GST @ 18% of L	1,203,847.64
M1	Total CESS @ 1% of (L)	66,880.42
N	**Grand Total (L+M+M1)**	**7,958,770.50**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**7,962,895.50**

Annexure-9.38

TPCODL

Name of the Division :-	BAED
Name of the Sub-Division : -	BALUGAON
Name of the Section : -	Banpur-II
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Banpur-II Feeder load emanating from 33/11 KV Balugaon PSS by constructing 1 No. of new feeder from 33/11 KV Balugaon PSS through RMU and 5.5 KM 11KV new line from Balugaon PSS to Collage line AB switch By using 11kV 3Cx400sqmm UG Cable ,0.5 KM & 100 sq.mm AAAC OH line 5 CKM.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Construction of 5 CKM 3ph 3w 11KV OH line over 11 Mtr WPB with 100 mm2 AAAC.	9,879,293.90
2	PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.5 Km , without spare run.	5,444,015.05
3	**Total Gross**	**15,323,308.95**

Total estimated cost is Rs. 1.53Cr.

PART-A : Construction of 5 CKM 3ph 3w 11KV OH line over 11 Mtr WPB with 100 mm2 AAAC.					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)			10		
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	20	593,220.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	439.76	33,421.76
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	39.648	3,865.68
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	474.096	36,031.30
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	480.78	36,539.28
6	Danger Plate, 2 no's.	No.	104.00	20	2,080.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	6.018	586.76
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	20	3,250.00
9	H.T. Stay set (Complete)	Set	1,365.00	20	27,300.00
10	H.T. Stay Insulator Type-C	No.	65.00	20	1,300.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	300	29,250.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	10	13,650.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	118	11,505.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	60	6,240.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	24.072	2,347.02
16	11 KV pin insulator polymer	No.	260.00	30	7,800.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	60	27,300.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	60	89,700.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	60	45,240.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	122.61	12,432.65
21	Black Paint	Ltr	286.00	10	2,860.00
22	Yellow Colour Paint for Background	Ltr	216.00	20	4,320.00
A				**Total Cost of materials**	**990,239.45**
B				Stock, Storage & Insurance i.e 3% of A	29,707.18
C				**Sub Total (A+B)**	**1,019,946.63**
D				Contigency @ 3% of C	30,598.40
E				Tools & Plants @ 2% of C	18,859.08
F				Transportation @ 7.5% of C	76,496.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	30,550.83
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	33,193.75
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,209,644.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	20	45,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	9.00	58,500.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.25	14,625.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	10	37,000.00
K				**Total Civil & Services**	**155,125.00**
L				**Total (J+K)**	1,364,769.69
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,364,769.69**
O				Total GST @ 18% of (N)	245,658.54
O1				Total CESS @ 1% of (N)	13,647.70
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,624,075.93**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			1		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
16	Black Paint	Ltr	286.00	2.5	715.00
17	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**255,539.13**
B				Stock, Storage & Insurance i.e 3% of A	7,666.17
C				**Sub Total (A+B)**	**263,205.31**
D				Contigency @ 3% of C	7,896.16
E				Tools & Plants @ 2% of C	5,264.11
F				Transportation @ 7.5% of C	19,740.40
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	11,045.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**314,788.79**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**333,070.04**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**333,070.04**
O				Total GST @ 18% of (N)	59,952.61
O1				Total CESS @ 1% of (N)	3,330.70
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**396,353.35**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		5		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
16	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
17	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
20	Black Paint	Ltr	286.00	2.5	715.00
21	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**302,876.93**
B	Stock, Storage & Insurance i.e 3% of A				9,086.31
C				**Sub Total (A+B)**	**311,963.23**
D	Contigency @ 3% of C				9,358.90
E	Tools & Plants @ 2% of C				5,609.93
F	Transportation @ 7.5% of C				23,397.24
G	Erection Charges @ 5% on Trf/Breaker/Joist				7,637.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				12,774.26
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**370,741.28**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**411,522.53**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**411,522.53**
O				Total GST @ 18% of (N)	74,074.05
O1				Total CESS @ 1% of (N)	4,115.23
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**489,711.80**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	104	3,084,744.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	104	109,512.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	104	20,280.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	104	10,816.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	31.29	3,051.13
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	312.00	32,448.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	125.17	12,204.50
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	312	81,120.00
9	Earthing of Support (Coil Type)	No.	215.80	104	22,443.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	27.25	2,656.68
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	150.80	15,291.12
12	100 mm2 AAAC	Mtr.	71.50	15450.00	1,104,675.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
14	Black Paint	Ltr	286.00	104.0	29,744.00
15	Yellow Colour Paint for Background	Ltr	216.00	208.0	44,928.00
A				**Total Cost of materials**	**4,576,542.38**
B				Stock, Storage & Insurance i.e 3% of A	137,296.27
C				**Sub Total (A+B)**	**4,713,838.65**
D				Contigency @ 3% of C	141,415.16
E				Tools & Plants @ 2% of C	94,276.77
F				Transportation @ 7.5% of C	353,537.90
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	158,864.32
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	153,655.23
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,615,588.03**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	46.80	304,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	11.70	76,050.00
K				**Total Civil & Services**	**380,250.00**
L				**Total Material+Services (I+K)**	**5,995,838.03**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**5,995,838.03**
O				Total GST @ 18% of (N)	1,079,250.85
O1				Total CESS @ 1% of (N)	59,958.38
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**7,135,047.26**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,624,075.93
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	396,353.35
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	489,711.80
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	7,135,047.26
Q				**Gross Total Material +Services**	**9,877,268.90**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**900.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**9,879,293.90**

PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.5 Km , without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	500.00	2,563.51	1,281,755.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	1	32,912.10	32,912.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	12,456.60	49,826.40
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	3	18,075.20	54,225.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	276.00	775.40	214,010.40
2	**Supply of 11kV RMU**				
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***1***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	697,696.00	697,696.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	13.20	97.50	1,287.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	2	1,365.00	2,730.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	1	121,744.00	121,744.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	1	100,000.00	100,000.00
4.3	Networking Accessories	No.	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	32	650.00	20,800.00
4.5	Interposing Relay for Digital Output	Nos.	16	467.94	7,487.04
4.6	Battery Charger	Nos.	1	15,385.00	15,385.00
4.7	Battery	Nos.	1	8,333.00	8,333.00
4.8	4G Modem cum Router	Nos.	1	18,500.00	18,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	40	204.87	8,194.80
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	40	305.58	12,223.20
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	40	275.23	11,009.20
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	20	165.25	3,305.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	10	150.00	1,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	20.0	148.43	2,968.60
4.15	Armored CAT6 SFTP Cable	Mtr.	20	45.87	917.40
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	20	89.45	1,789.00
4.17	Multi Function Meter	Nos.	2	18,651.00	37,302.00

	Sub Total (Supply Portion) (in Rs.)				**2,705,972.74**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	300.00	94.50	28,350.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	2,400.00	2,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	1,900.80	5,702.40
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	200	2,800.00	560,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	276.00	300.00	82,800.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	9,639.00	9,639.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	16,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**712,494.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	276		
1.1.a	Earth work excavation of **soil**	Cum	193.2	700.00	135,240.00
1.1.b	Earth work excavation of **hard rock**	Cum	82.8	1,720.00	142,416.00
1.2	Back filling with excavated soil outside and above the trench	Cum	276	202.00	55,752.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	110.4	2,643.67	291,861.24
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	1	23,145.30	23,145.30
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	20	3,600.00	72,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	2	3,700.00	7,400.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	24	1,463.40	35,121.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	17	1,012.00	17,204.00

	Sub Total (Civil Portion) (in Rs.)	**780,140.14**
A	**Sub Total (Supply Portion)**	**2,705,972.74**
B	Stock, Storage & Insurance @ 3 % of A	81,179.18
C	**Sub Total (A+B)**	**2,787,151.92**
D	Contingency @ 3 % of C	83,614.56
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	26.51
F	Transportation @ 7.5% of C	209,036.39
G	Erection Charges @ 10% of earthing items	132.56
H	**Total (C+D+E+F+G)**	**3,079,961.95**
I	Sub Total (Erection Portion + Civil Portion)	1,492,634.74
J	**Total Cost (H+I)**	**4,572,596.68**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	4,572,596.68
M	GST @ 18% of L	823,067.40
M1	Total CESS @ 1% of (L)	45,725.97
N	**Grand Total (L+M+M1)**	**5,441,390.05**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**5,444,015.05**

Annexure-9.39

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	SAKHIGOPAL
Name of the Section : -	Satasankha
Name of the Work :-	Proposal for Augmentation of 11KV Balanga feeder, 2 CKM line by using 100 SQ.MM. -AAA Conductor from Kumareswar PSS to Saraswatipur branch line t-off point.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	2,725,537.22
2	**Total Gross**	**2,725,537.22**

Total estimated cost is Rs. 0.27Cr.

PART-A : Refurbishment & Augmentation of 2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)			1		
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**101,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**120,964.47**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	136,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**136,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**162,407.59**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			1		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**102,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**105,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**125,915.52**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**133,228.02**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**133,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**158,541.34**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		2		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**121,150.77**
B	Stock, Storage & Insurance i.e 3% of A				3,634.52
C				**Sub Total (A+B)**	**124,785.29**
D	Contigency @ 3% of C				3,743.56
E	Tools & Plants @ 2% of C				2,243.97
F	Transportation @ 7.5% of C				9,358.90
G	Erection Charges @ 5% on Trf/Breaker/Joist				3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				5,109.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**148,296.51**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**164,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**164,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**195,884.72**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		2		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	24	711,864.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	24	25,272.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	24	4,680.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	24	2,496.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	7.22	704.11
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	72.00	7,488.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	28.89	2,816.42
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	72	18,720.00
9	Earthing of Support (Coil Type)	No.	215.80	24	5,179.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	6.29	613.08
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	34.80	3,528.72
12	100 mm2 AAAC	Mtr.	71.50	6180.00	441,870.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
14	Black Paint	Ltr	286.00	24.0	6,864.00
15	Yellow Colour Paint for Background	Ltr	216.00	48.0	10,368.00
A				**Total Cost of materials**	**1,243,515.03**
B				Stock, Storage & Insurance i.e 3% of A	37,305.45
C				**Sub Total (A+B)**	**1,280,820.48**
D				Contigency @ 3% of C	38,424.61
E				Tools & Plants @ 2% of C	25,616.41
F				Transportation @ 7.5% of C	96,061.54
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	36,661.00
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	54,760.06
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,532,344.09**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	10.80	70,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	6180.00	39,799.20
K				**Total Civil & Services**	**127,549.20**
L				**Total Material+Services (I+K)**	**1,659,893.29**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**1,659,893.29**
O				Total GST @ 18% of (N)	298,780.79
O1				Total CESS @ 1% of (N)	16,598.93
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**1,975,273.02**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	162,407.59
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	158,541.34
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	195,884.72
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	1,975,273.02
Q				**Gross Total Material +Services**	**2,724,187.22**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**225.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**2,725,537.22**

Annexure-9.40

TPCODL

Name of the Division :-	KHD
Name of the Sub-Division : -	Jatani
Name of the Section : -	Jatani-I
Name of the Work :-	Proposal for Augmentation of 11kV Rajabajar feeder ,1.5 CKM by using 100 SQ.MM. -AAA Conductor from Jatani PSS to Rajabazar
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 1.5 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	2,398,167.82
2	**Total Gross**	**2,398,167.82**

Total estimated cost is Rs. 0.24Cr.

PART-A : Refurbishment & Augmentation of 1.5 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)		3			
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	131.928	10,026.53
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	142.2288	10,809.39
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	144.234	10,961.78
6	Danger Plate, 2 no's.	No.	104.00	6	624.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
9	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
10	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	3	4,095.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	35.4	3,451.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
16	11 KV pin insulator polymer	No.	260.00	9	2,340.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	36.783	3,729.80
21	Black Paint	Ltr	286.00	3	858.00
22	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**297,071.83**
B				Stock, Storage & Insurance i.e 3% of A	8,912.16
C				**Sub Total (A+B)**	**305,983.99**
D				Contigency @ 3% of C	9,179.52
E				Tools & Plants @ 2% of C	5,657.72
F				Transportation @ 7.5% of C	22,948.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	9,958.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**362,893.41**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	3	11,100.00
K				**Total Civil & Services**	**46,537.50**
L				**Total (J+K)**	409,430.91
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**409,430.91**
O				Total GST @ 18% of (N)	73,697.56
O1				Total CESS @ 1% of (N)	4,094.31
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**487,222.78**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		1			
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**102,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**105,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**125,915.52**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**133,228.02**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**133,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**158,541.34**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		2		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**121,150.77**
B	Stock, Storage & Insurance i.e 3% of A				3,634.52
C				**Sub Total (A+B)**	**124,785.29**
D	Contigency @ 3% of C				3,743.56
E	Tools & Plants @ 2% of C				2,243.97
F	Transportation @ 7.5% of C				9,358.90
G	Erection Charges @ 5% on Trf/Breaker/Joist				3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				5,109.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**148,296.51**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**164,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**164,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**195,884.72**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		1.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	15	444,915.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	15	15,795.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	15	2,925.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	15	1,560.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	4.51	440.07
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	45.00	4,680.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	18.05	1,760.27
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	45	11,700.00
9	Earthing of Support (Coil Type)	No.	215.80	15	3,237.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.93	383.18
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	21.75	2,205.45
12	100 mm2 AAAC	Mtr.	71.50	4635.00	331,402.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	15.0	4,290.00
15	Yellow Colour Paint for Background	Ltr	216.00	30.0	6,480.00
A				**Total Cost of materials**	**832,299.21**
B				Stock, Storage & Insurance i.e 3% of A	24,968.98
C				**Sub Total (A+B)**	**857,268.18**
D				Contigency @ 3% of C	25,718.05
E				Tools & Plants @ 2% of C	17,145.36
F				Transportation @ 7.5% of C	64,295.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	22,913.12
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	39,900.57
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,027,240.40**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	6.75	43,875.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.69	10,968.75
3	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	4635.00	29,849.40
K				**Total Civil & Services**	**84,693.15**
L				**Total Material+Services (I+K)**	**1,111,933.55**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**1,111,933.55**
O				Total GST @ 18% of (N)	200,148.04
O1				Total CESS @ 1% of (N)	11,119.34
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**1,323,200.93**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	487,222.78
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	158,541.34
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	195,884.72
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	1,323,200.93
Q				**Gross Total Material +Services**	**2,396,930.32**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**112.50**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**2,398,167.82**

Annexure-9.41		
TPCODL		
Name of the Division :-		KHD
Name of the Sub-Division : -		Jatani
Name of the Section : -		Jatani-I
Name of the Work :-		Proposal for Augmentation of 11kV Town feeder, 1 CKM by using 100 SQ.MM. -AAA Conductor from Jatani PSS to Kali Rice Mill.
Names of Schemes: -		**CAPEX 24-25**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A : Refurbishment & Augmentation of 1 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	1,507,842.97
2	PART B: 1. Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.04 Km without spare run. 2. Installation of 1 nos. 11kV 4Way RMU at Jatani PSS.	1,878,179.91
3	**Total Gross**	**3,386,022.88**
Total estimated cost is Rs. 0.34Cr.		

PART-A : Refurbishment & Augmentation of 1 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
	No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)			1	
	MATERIALS OF DP Without AB Switch				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**101,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**120,964.47**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	136,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**136,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**162,407.59**
	No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			1	
	MATERIALS OF DP With AB Switch				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
16	Black Paint	Ltr	286.00	0.5	143.00
17	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**51,107.83**
B				Stock, Storage & Insurance i.e 3% of A	1,533.23
C				**Sub Total (A+B)**	**52,641.06**
D				Contigency @ 3% of C	1,579.23
E				Tools & Plants @ 2% of C	1,052.82
F				Transportation @ 7.5% of C	3,948.08
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,209.02
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**62,957.76**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K				**Total Civil & Services**	**3,656.25**
L				**Total (J+K)**	**66,614.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**66,614.01**
O				Total GST @ 18% of (N)	11,990.52
O1				Total CESS @ 1% of (N)	666.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**79,270.67**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		1		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**60,575.39**
B				Stock, Storage & Insurance i.e 3% of A	1,817.26
C				**Sub Total (A+B)**	**62,392.65**
D				Contigency @ 3% of C	1,871.78
E				Tools & Plants @ 2% of C	1,121.99
F				Transportation @ 7.5% of C	4,679.45
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				2,554.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**74,148.26**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**82,304.51**
O				Total GST @ 18% of (N)	14,814.81
O1				Total CESS @ 1% of (N)	823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		1		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	11	326,271.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	11	11,583.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	11	2,145.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	11	1,144.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.31	322.72
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	33.00	3,432.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	13.24	1,290.86
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	33	8,580.00
9	Earthing of Support (Coil Type)	No.	215.80	11	2,373.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.88	281.00
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	15.95	1,617.33
12	100 mm2 AAAC	Mtr.	71.50	3090.00	220,935.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	11.0	3,146.00
15	Yellow Colour Paint for Background	Ltr	216.00	22.0	4,752.00
A				**Total Cost of materials**	**588,399.45**
B				Stock, Storage & Insurance i.e 3% of A	17,651.98
C				**Sub Total (A+B)**	**606,051.43**
D				Contigency @ 3% of C	18,181.54
E				Tools & Plants @ 2% of C	12,121.03
F				Transportation @ 7.5% of C	45,453.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	16,802.96
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	26,999.23
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**725,610.05**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.95	32,175.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.24	8,043.75
3	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	3090.00	19,899.60
K				**Total Civil & Services**	**60,118.35**
L				**Total Material+Services (I+K)**	**785,728.40**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**785,728.40**
O				Total GST @ 18% of (N)	141,431.11
O1				Total CESS @ 1% of (N)	7,857.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**935,016.80**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	162,407.59
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	79,270.67
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	97,942.36
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	935,016.80
Q				**Gross Total Material +Services**	**1,506,717.97**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,507,842.97**

PART B:
1. Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.04 Km without spare run.
2. Installation of 1 nos. 11kV 4Way RMU at Jatani PSS.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***40***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	40.00	1,950.00	78,000.00
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	12,456.60	49,826.40
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	18,075.20	36,150.40
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***1***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	697,696.00	697,696.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	13.20	97.50	1,287.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	2	1,365.00	2,730.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	1	121,744.00	121,744.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	1	100,000.00	100,000.00
4.3	Networking Accessories	No.	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	32	650.00	20,800.00
4.5	Interposing Relay for Digital Output	Nos.	16	467.94	7,487.04
4.6	Battery Charger	Nos.	1	15,385.00	15,385.00
4.7	Battery	Nos.	1	8,333.00	8,333.00
4.8	4G Modem cum Router	Nos.	1	18,500.00	18,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	40	204.87	8,194.80
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	40	305.58	12,223.20
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	40	275.23	11,009.20
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	20	165.25	3,305.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	10	150.00	1,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	20.0	148.43	2,968.60
4.15	Armored CAT6 SFTP Cable	Mtr.	20	45.87	917.40
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	20	89.45	1,789.00
4.17	Multi Function Meter	Nos.	2	18,651.00	37,302.00
	Sub Total (Supply Portion) (in Rs.)				**1,237,220.04**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				

1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	40.00	94.50	3,780.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	9,639.00	9,639.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	16,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**40,823.80**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	1	23,145.30	23,145.30
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	20	3,600.00	72,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	2	3,700.00	7,400.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	16	1,463.40	23,414.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	1	1,012.00	1,012.00
	Sub Total (Civil Portion) (in Rs.)				**126,971.70**

A	**Sub Total (Supply Portion)**	**1,237,220.04**
B	Stock, Storage & Insurance @ 3 % of A	37,116.60
C	**Sub Total (A+B)**	**1,274,336.64**
D	Contingency @ 3 % of C	38,230.10
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	26.51
F	Transportation @ 7.5% of C	95,575.25
G	Erection Charges @ 10% of earthing items	132.56
H	**Total (C+D+E+F+G)**	**1,408,301.06**
I	Sub Total (Erection Portion + Civil Portion)	167,795.50
J	**Total Cost (H+I)**	**1,576,096.56**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	1,576,096.56
M	GST @ 18% of L	283,697.38
M1	Total CESS @ 1% of (L)	15,760.97
N	**Grand Total (L+M+M1)**	**1,875,554.91**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**1,878,179.91**

Annexure-9.42		
TPCODL		
Name of the Division :-		KHD
Name of the Sub-Division : -		Jatani
Name of the Section : -		Harirajpur
Name of the Work :-		Proposal for Augmentation of 11kV Kudiary feeder 3 CKM by using 100 SQ.MM. -AAA Conductor from Harirajpur PSS to Kudiary Bajar.
Names of Schemes: -		**CAPEX 24-25**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A : Refurbishment & Augmentation of 3 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	4,179,526.32
2	**Total Gross**	**4,179,526.32**
Total estimated cost is Rs. 0.42Cr.		

PART-A : Refurbishment & Augmentation of 3 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)		3			
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	131.928	10,026.53
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	142.2288	10,809.39
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	144.234	10,961.78
6	Danger Plate, 2 no's.	No.	104.00	6	624.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
9	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
10	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	3	4,095.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	35.4	3,451.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
16	11 KV pin insulator polymer	No.	260.00	9	2,340.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	36.783	3,729.80
21	Black Paint	Ltr	286.00	3	858.00
22	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**297,071.83**
B				Stock, Storage & Insurance i.e 3% of A	8,912.16
C				**Sub Total (A+B)**	**305,983.99**
D				Contigency @ 3% of C	9,179.52
E				Tools & Plants @ 2% of C	5,657.72
F				Transportation @ 7.5% of C	22,948.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	9,958.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**362,893.41**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	3	11,100.00
K				**Total Civil & Services**	**46,537.50**
L				**Total (J+K)**	409,430.91
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**409,430.91**
O				Total GST @ 18% of (N)	73,697.56
O1				Total CESS @ 1% of (N)	4,094.31
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**487,222.78**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		1			
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**153,323.48**
B				Stock, Storage & Insurance i.e 3% of A	4,599.70
C				**Sub Total (A+B)**	**157,923.18**
D				Contigency @ 3% of C	4,737.70
E				Tools & Plants @ 2% of C	3,158.46
F				Transportation @ 7.5% of C	11,844.24
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,627.07
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**188,873.28**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K				**Total Civil & Services**	**10,968.75**
L				**Total (J+K)**	**199,842.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**199,842.03**
O				Total GST @ 18% of (N)	35,971.56
O1				Total CESS @ 1% of (N)	1,998.42
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**237,812.01**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		3		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
16	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
17	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
20	Black Paint	Ltr	286.00	1.5	429.00
21	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**181,726.16**
B	Stock, Storage & Insurance i.e 3% of A				5,451.78
C				**Sub Total (A+B)**	**187,177.94**
D	Contigency @ 3% of C				5,615.34
E	Tools & Plants @ 2% of C				3,365.96
F	Transportation @ 7.5% of C				14,038.35
G	Erection Charges @ 5% on Trf/Breaker/Joist				4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				7,664.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**222,444.77**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K				**Total Civil & Services**	**24,468.75**
L				**Total (J+K)**	**246,913.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**246,913.52**
O				Total GST @ 18% of (N)	44,444.43
O1				Total CESS @ 1% of (N)	2,469.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**293,827.08**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		3		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	35	1,038,135.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	35	36,855.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	35	6,825.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	35	3,640.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	10.53	1,026.82
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	105.00	10,920.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	42.13	4,107.29
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	105	27,300.00
9	Earthing of Support (Coil Type)	No.	215.80	35	7,553.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	9.17	894.08
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	50.75	5,146.05
12	100 mm2 AAAC	Mtr.	71.50	9270.00	662,805.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	35.0	10,010.00
15	Yellow Colour Paint for Background	Ltr	216.00	70.0	15,120.00
A				**Total Cost of materials**	**1,831,914.48**
B				Stock, Storage & Insurance i.e 3% of A	54,957.43
C				**Sub Total (A+B)**	**1,886,871.92**
D				Contigency @ 3% of C	56,606.16
E				Tools & Plants @ 2% of C	37,737.44
F				Transportation @ 7.5% of C	141,515.39
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	53,463.95
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	81,759.29
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,257,954.14**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	15.75	102,375.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	3.94	25,593.75
3	Dismantling of ACSR/AAAC 80 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	5562.00	50,058.00
4	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	3708.00	23,879.52
K				**Total Civil & Services**	**201,906.27**
L				**Total Material+Services (I+K)**	**2,459,860.41**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**2,459,860.41**
O				Total GST @ 18% of (N)	442,774.87
O1				Total CESS @ 1% of (N)	24,598.60
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**2,927,233.89**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	487,222.78
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	237,812.01
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	293,827.08
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	2,927,233.89
Q				**Gross Total Material +Services**	**4,178,176.32**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**225.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**4,179,526.32**

Annexure-9.43

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Paschimadwar
Name of the Work :-	Proposal for Augmentation of 11kV Mangala Ghat feeder 0.85 CKM by using 99 SQ.MM. XLPE Insulated AAA Conductor from Masani Chandi Chowk to Sri Mandira water tank.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 0.85 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 99 mm2 XLPE Insulated AAAC.	1,831,310.38
2	**Total Gross**	**1,831,310.38**

Total estimated cost is Rs. 0.18 Cr.

PART-A : Refurbishment & Augmentation of 0.85 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 99 mm2 XLPE Insulated AAAC.					
	No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		1		
	MATERIALS OF DP With AB Switch				
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,411.00**
B				Stock, Storage & Insurance i.e 3% of A	4,272.33
C				**Sub Total (A+B)**	**146,683.33**
D				Contigency @ 3% of C	4,400.50
E				Tools & Plants @ 2% of C	2,751.56
F				Transportation @ 7.5% of C	11,001.25
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,539.37**
	Civil & Services				
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00

3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**194,751.87**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**194,751.87**
O				Total GST @ 18% of (N)	35,055.34
O1				Total CESS @ 1% of (N)	1,947.52
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**231,754.73**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		1		

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	2	664.00
15	Earthing of Support (Coil Type)	EA	215.80	1	215.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
18	Black Paint	Ltr	286.00	0.5	143.00
19	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**50,226.83**
B				Stock, Storage & Insurance i.e 3% of A	1,506.80
C				**Sub Total (A+B)**	**51,733.63**
D				Contigency @ 3% of C	1,552.01
E				Tools & Plants @ 2% of C	1,034.67
F				Transportation @ 7.5% of C	3,880.02
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				2,118.28
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**61,846.16**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25

K	**Total Civil & Services**	**3,656.25**
L	**Total (J+K)**	**65,502.41**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N	**Sub Total (L+M)**	**65,502.41**
O	Total GST @ 18% of (N)	11,790.43
O1	Total CESS @ 1% of (N)	655.02
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**77,947.86**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	4	1,004.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	2	664.00
15	Earthing of Support (Coil Type)	EA	215.80	1	215.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
18	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
19	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
22	Black Paint	Ltr	286.00	0.5	143.00
23	Yellow Colour Paint for Background	Ltr	216.00	2	432.00

A	**Total Cost of materials**	**59,945.39**
B	Stock, Storage & Insurance i.e 3% of A	1,798.36
C	**Sub Total (A+B)**	**61,743.75**
D	Contigency @ 3% of C	1,852.31
E	Tools & Plants @ 2% of C	1,109.01
F	Transportation @ 7.5% of C	4,630.78
G	Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,489.96
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**73,353.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00

2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K	**Total Civil & Services**				**8,156.25**
L	**Total (J+K)**				**81,509.60**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**81,509.60**
O	Total GST @ 18% of (N)				14,671.73
O1	Total CESS @ 1% of (N)				815.10
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**96,996.43**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		0.85		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	10	296,610.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	10	10,530.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	10	1,950.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	10	1,040.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.01	293.38
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30.00	3,120.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.04	1,173.51
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	30	7,800.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	20	6,640.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	30	7,530.00
11	Earthing of Support (Coil Type)	No.	215.80	10	2,158.00
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	14.50	1,470.30
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	2.63	564,697.50
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	0	-
16	Black Paint	Ltr	286.00	10.0	2,860.00
17	Yellow Colour Paint for Background	Ltr	216.00	20.0	4,320.00
A	**Total Cost of materials**				**912,448.14**
B	Stock, Storage & Insurance i.e 3% of A				27,373.44
C	**Sub Total (A+B)**				**939,821.58**
D	Contigency @ 3% of C				28,194.65
E	Tools & Plants @ 2% of C				18,796.43
F	Transportation @ 7.5% of C				70,486.62
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				15,275.42
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				63,431.33
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**1,136,006.02**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.50	29,250.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.13	7,312.50
3	Dismantling of ACSR/AAAC 80 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	2626.50	23,638.50
K	**Total Civil & Services**				**60,201.00**
L	**Total Material+Services (J+K)**				**1,196,207.02**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**1,196,207.02**
O	Total GST @ 18% of (N)				215,317.26
O1	Total CESS @ 1% of (N)				11,962.07

P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**1,423,486.36**
	Gross Total Summary	
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	77,947.86
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	96,996.43
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	1,423,486.36
Q	**Gross Total Material +Services**	**1,830,185.38**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,831,310.38**

Annexure-9.44

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Sadar & Baliapanda
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Prachi OH Feeder load emanating from 33/11 KV Baliapanda PSS by constructing 1 No. of new feeder from 33/11 KV Samanga PSS through RMU and 6 KM 11KV new U/G line from Samanga PSS to Strelling Chowk by using 11kV 3Cx400sqmm UG Cable.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 6 Km , without spare run.	51,840,008.02
2	**Total Gross**	**51,840,008.02**

Total estimated cost is Rs. 5.18 Cr.

PART A: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 6 Km , without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***3000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***3000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	6000.00	2,563.51	15,381,060.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	26	32,912.10	855,714.60
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	9	12,456.60	112,109.40
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	18,075.20	36,150.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	2984.00	775.40	2,313,793.60
2	**Supply of 11kV RMU**				
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	697,696.00	2,093,088.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	39.60	97.50	3,861.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	6	1,365.00	8,190.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***3***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	3	121,744.00	365,232.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	3	100,000.00	300,000.00
4.3	Networking Accessories	No.	3	72.00	216.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	96	650.00	62,400.00
4.5	Interposing Relay for Digital Output	Nos.	48	467.94	22,461.12
4.6	Battery Charger	Nos.	3	15,385.00	46,155.00
4.7	Battery	Nos.	3	8,333.00	24,999.00
4.8	4G Modem cum Router	Nos.	3	18,500.00	55,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	120	204.87	24,584.40
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	120	305.58	36,669.60
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	120	275.23	33,027.60
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	60	165.25	9,915.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	30	150.00	4,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	60.0	148.43	8,905.80
4.15	Armored CAT6 SFTP Cable	Mtr.	60	45.87	2,752.20
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	60	89.45	5,367.00
4.17	Multi Function Meter	Nos.	6	18,651.00	111,906.00
	Sub Total (Supply Portion) (in Rs.)				**21,918,557.72**
Erection Portion					

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	3000.00	94.50	283,500.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	26	2,400.00	62,400.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	9	1,900.80	17,107.20
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	3000	2,800.00	8,400,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	2984.00	300.00	895,200.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	3.0	16,000.00	48,000.00
	Sub Total (Erection Portion) (in Rs.)				**9,738,925.80**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	2984		
1.1.a	Earth work excavation of **soil**	Cum	2088.8	700.00	1,462,160.00
1.1.b	Earth work excavation of **hard rock**	Cum	895.2	1,720.00	1,539,744.00
1.2	Back filling with excavated soil outside and above the trench	Cum	2984	202.00	602,768.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	1790.4	2,643.67	4,733,227.90
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	3	23,145.30	69,435.90
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	60	3,600.00	216,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	6	3,700.00	22,200.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	16	1,463.40	23,414.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	200	1,012.00	202,400.00
	Sub Total (Civil Portion) (in Rs.)				**8,871,350.20**
A	**Sub Total (Supply Portion)**				**21,918,557.72**
B	Stock, Storage & Insurance @ 3 % of A				657,556.73
C	**Sub Total (A+B)**				**22,576,114.45**

D	Contingency @ 3 % of C	677,283.43
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	79.54
F	Transportation @ 7.5% of C	1,693,208.58
G	Erection Charges @ 10% of earthing items	397.68
H	**Total (C+D+E+F+G)**	**24,947,083.69**
I	Sub Total (Erection Portion + Civil Portion)	18,610,276.00
J	**Total Cost (H+I)**	**43,557,359.68**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	43,557,359.68
M	GST @ 18% of L	7,840,324.74
M1	Total CESS @ 1% of (L)	435,573.60
N	**Grand Total (L+M+M1)**	**51,833,258.02**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	1,125.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	4,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**51,840,008.02**

Annexure-9.45

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Paschimadwar & Baliapanda
Name of the Work :-	Proposal for Augmentation of 11kV Lokanath feeder 1.2 CKM by using 100 SQ.MM. AAA Conductor from Mangalaghat 250 DSS to Hadisahi Line AB Switch.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 1.2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	1,833,738.14
2	**Total Gross**	**1,833,738.14**

Total estimated cost is Rs. 0.18 Cr.

PART-A : Refurbishment & Augmentation of 1.2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)			2		
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00

6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**102,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**105,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**125,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**133,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**133,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**158,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**60,575.39**
B				Stock, Storage & Insurance i.e 3% of A	1,817.26
C				**Sub Total (A+B)**	**62,392.65**
D				Contigency @ 3% of C	1,871.78
E				Tools & Plants @ 2% of C	1,121.99
F				Transportation @ 7.5% of C	4,679.45
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,554.85
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**74,148.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00

2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**82,304.51**
O				Total GST @ 18% of (N)	14,814.81
O1				Total CESS @ 1% of (N)	823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		1.2		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	13	385,593.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	13	13,689.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	13	2,535.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	13	1,352.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.91	381.39
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	39.00	4,056.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	15.65	1,525.56
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	39	10,140.00
9	Earthing of Support (Coil Type)	No.	215.80	13	2,805.40
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.41	332.09
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	18.85	1,911.39
12	100 mm2 AAAC	Mtr.	71.50	3708.00	265,122.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	13.0	3,718.00
15	Yellow Colour Paint for Background	Ltr	216.00	26.0	5,616.00
A				**Total Cost of materials**	**699,302.58**
B	Stock, Storage & Insurance i.e 3% of A				20,979.08
C				**Sub Total (A+B)**	**720,281.66**
D	Contigency @ 3% of C				21,608.45
E	Tools & Plants @ 2% of C				14,405.63
F	Transportation @ 7.5% of C				54,021.12
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				19,858.04
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				32,312.09
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**862,486.99**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.85	38,025.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.46	9,506.25
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	3708.00	23,879.52
K				**Total Civil & Services**	**71,410.77**
L				**Total Material+Services (I+K)**	**933,897.76**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**933,897.76**
O				Total GST @ 18% of (N)	168,101.60
O1				Total CESS @ 1% of (N)	9,338.98
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**1,111,338.33**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch				464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle				158,541.34
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				97,942.36
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				1,111,338.33
Q				**Gross Total Material +Services**	**1,831,983.14**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				**630.00**
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**1,833,738.14**

Annexure-9.46

TPCODL

Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Paschimadwar & Power House
Name of the Work :-	Proposal for Augmentation of 11kV Khandiabandha feeder 3.6 CKM by using 100 SQ.MM. AAA & 0.4 KM U/G line by using 3CX400 sq.mm XLPE U/G cable from Atharnala PSS to Masani chandi Chowk.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 3.6 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	4,668,660.59
2	PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.4 Km , without spare run.	5,083,729.60
3	**Total Gross**	**9,752,390.20**

Total estimated cost is Rs. 0.98 Cr.

PART-A : Refurbishment & Augmentation of 3.6 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		2			
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		3			
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00

6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**153,323.48**
B				Stock, Storage & Insurance i.e 3% of A	4,599.70
C				**Sub Total (A+B)**	**157,923.18**
D				Contigency @ 3% of C	4,737.70
E				Tools & Plants @ 2% of C	3,158.46
F				Transportation @ 7.5% of C	11,844.24
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,627.07
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**188,873.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K				**Total Civil & Services**	**10,968.75**
L				**Total (J+K)**	**199,842.03**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**199,842.03**
O				Total GST @ 18% of (N)	35,971.56
O1				Total CESS @ 1% of (N)	1,998.42
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**237,812.01**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**121,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**124,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**148,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00

2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**164,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**164,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**195,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	3.6

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	47	1,394,067.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	47	49,491.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	47	9,165.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	47	4,888.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	14.14	1,378.87
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	141.00	14,664.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	56.57	5,515.50
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	141	36,660.00
9	Earthing of Support (Coil Type)	No.	215.80	47	10,142.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	12.31	1,200.62
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	68.15	6,910.41
12	100 mm2 AAAC	Mtr.	71.50	11124.00	795,366.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	47.0	13,442.00
15	Yellow Colour Paint for Background	Ltr	216.00	94.0	20,304.00
A				**Total Cost of materials**	**2,364,772.25**
B	Stock, Storage & Insurance i.e 3% of A				70,943.17
C				**Sub Total (A+B)**	**2,435,715.41**
D	Contigency @ 3% of C				73,071.46
E	Tools & Plants @ 2% of C				48,714.31
F	Transportation @ 7.5% of C				182,678.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				71,794.45
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				99,982.64
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**2,911,956.93**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	21.15	137,475.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	5.29	34,368.75
3	Dismantling of ACSR/AAAC 80 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	4635.00	41,715.00
4	Dismantling of ACSR/AAAC 55 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	6489.00	41,789.16
K				**Total Civil & Services**	**255,347.91**
L				**Total Material+Services (I+K)**	**3,167,304.84**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**3,167,304.84**
O				Total GST @ 18% of (N)	570,114.87
O1				Total CESS @ 1% of (N)	31,673.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**3,769,092.76**

6% Supervision Charges Summary

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	237,812.01
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	195,884.72
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	3,769,092.76
Q	**Gross Total Material +Services**	**4,666,950.59**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**585.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**4,668,660.59**

PART B: Supply and laying of, 11 kV ,3C X 400 sqmm XLPE UG cable= Length 0.4 Km , without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***400***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***0***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	400.00	2,563.51	1,025,404.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	1	32,912.10	32,912.10
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	12,456.60	49,826.40
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	3	18,075.20	54,225.60
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	376.00	775.40	291,550.40
2	**Supply of 11kV RMU**				
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***1***		
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	697,696.00	697,696.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	13.20	97.50	1,287.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	2	1,365.00	2,730.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	1	121,744.00	121,744.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	1	100,000.00	100,000.00
4.3	Networking Accessories	No.	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	32	650.00	20,800.00
4.5	Interposing Relay for Digital Output	Nos.	16	467.94	7,487.04
4.6	Battery Charger	Nos.	1	15,385.00	15,385.00
4.7	Battery	Nos.	1	8,333.00	8,333.00
4.8	4G Modem cum Router	Nos.	1	18,500.00	18,500.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	40	204.87	8,194.80
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	40	305.58	12,223.20
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	40	275.23	11,009.20
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	20	165.25	3,305.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	10	150.00	1,500.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	20.0	148.43	2,968.60
4.15	Armored CAT6 SFTP Cable	Mtr.	20	45.87	917.40
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	20	89.45	1,789.00
4.17	Multi Function Meter	Nos.	2	18,651.00	37,302.00

	Sub Total (Supply Portion) (in Rs.)				**2,527,161.74**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	400.00	94.50	37,800.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	1,900.80	5,702.40
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	376.00	300.00	112,800.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	9,639.00	9,639.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	16,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**191,944.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	376		
1.1.a	Earth work excavation of **soil**	Cum	263.2	700.00	184,240.00
1.1.b	Earth work excavation of **hard rock**	Cum	112.8	1,720.00	194,016.00
1.2	Back filling with excavated soil outside and above the trench	Cum	376	202.00	75,952.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	225.6	2,643.67	596,412.09
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	1	23,145.30	23,145.30
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	20	3,600.00	72,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	2	3,700.00	7,400.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	24	1,463.40	35,121.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	13	1,012.00	13,156.00
	Sub Total (Civil Portion) (in Rs.)				**1,201,442.99**
A	**Sub Total (Supply Portion)**				**2,527,161.74**
B	Stock, Storage & Insurance @ 3 % of A				75,814.85

C	**Sub Total (A+B)**	**2,602,976.59**
D	Contingency @ 3 % of C	78,089.30
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	26.51
F	Transportation @ 7.5% of C	195,223.24
G	Erection Charges @ 10% of earthing items	132.56
H	**Total (C+D+E+F+G)**	**2,876,448.21**
I	Sub Total (Erection Portion + Civil Portion)	1,393,387.59
J	**Total Cost (H+I)**	**4,269,835.80**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	-
L	**Total Estimated Capital Cost i.e. (J+K)**	4,269,835.80
M	GST @ 18% of L	768,570.44
M1	Total CESS @ 1% of (L)	42,698.36
N	**Grand Total (L+M+M1)**	**5,081,104.60**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**5,083,729.60**

Annexure-9.47

TPCODL

Name of the Division :-	NYED
Name of the Sub-Division : -	Daspalla
Name of the Section : -	Daspalla
Name of the Work :-	Proposal for Augmentation of 11kV Daspalla feeder, 1 CKM by using 100 SQ.MM. AAAC from Daspalla PSS to Raibandha T-off point.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Refurbishment & Augmentation of 1 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.	1,604,166.89
2	**Total Gross**	**1,604,166.89**

Total estimated cost is Rs. 0.16Cr.

PART-A : Refurbishment & Augmentation of 1 CKM 3ph 3w 11KV OH line over 11 Mtr WPB & existing pole with 100 mm2 AAAC.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		2			
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		2			
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00

6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**102,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**105,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**125,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**133,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**133,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**158,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**60,575.39**
B				Stock, Storage & Insurance i.e 3% of A	1,817.26
C				**Sub Total (A+B)**	**62,392.65**
D				Contigency @ 3% of C	1,871.78
E				Tools & Plants @ 2% of C	1,121.99
F				Transportation @ 7.5% of C	4,679.45
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,554.85
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**74,148.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00

2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**82,304.51**
O				Total GST @ 18% of (N)	14,814.81
O1				Total CESS @ 1% of (N)	823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		1		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	10	296,610.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	10	10,530.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	10	1,950.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	10	1,040.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.01	293.38
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30.00	3,120.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.04	1,173.51
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	30	7,800.00
9	Earthing of Support (Coil Type)	No.	215.80	10	2,158.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	14.50	1,470.30
12	100 mm2 AAAC	Mtr.	71.50	3090.00	220,935.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	10.0	2,860.00
15	Yellow Colour Paint for Background	Ltr	216.00	20.0	4,320.00
A				**Total Cost of materials**	**555,041.39**
B	Stock, Storage & Insurance i.e 3% of A				16,651.24
C				**Sub Total (A+B)**	**571,692.63**
D	Contigency @ 3% of C				17,150.78
E	Tools & Plants @ 2% of C				11,433.85
F	Transportation @ 7.5% of C				42,876.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				15,275.42
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				26,618.43
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**685,048.06**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.50	29,250.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.13	7,312.50
3	Dismantling of ACSR/AAAC 34 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	6.44	3090.00	19,899.60
K				**Total Civil & Services**	**56,462.10**
L				**Total Material+Services (I+K)**	**741,510.16**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**741,510.16**
O				Total GST @ 18% of (N)	133,471.83
O1				Total CESS @ 1% of (N)	7,415.10
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**882,397.09**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch				464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle				158,541.34
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				97,942.36
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				882,397.09
Q				**Gross Total Material +Services**	**1,603,041.89**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**1,604,166.89**

Annexure-9.48

TPCODL

Name of the Division :-	KHD
Name of the Sub-Division : -	Banki
Name of the Section : -	Banki-I
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Banki Town Feeder load emanating from 33/11 KV Sunadeimundia PSS by constructing of 2 CKM interlinking line with 11kV Ragadi RWSS feeder emanated from 33/11 KV Sunadeimundia PSS.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A : Construction of 2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB (GI) Pole 160x152 pole with 100 mm2 AAAC.	4,199,279.98
3	**Total Gross**	**4,199,279.98**

Total estimated cost is Rs. 0.41 Cr.

PART-A : Construction of 2 CKM 3ph 3w 11KV OH line over 11 Mtr WPB (GI) Pole 160x152 pole with 100 mm2 AAAC.					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)			2		
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	87.952	6,684.35
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	94.8192	7,206.26
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	96.156	7,307.86
6	Danger Plate, 2 no's.	No.	104.00	4	416.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
9	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
10	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	23.6	2,301.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
16	11 KV pin insulator polymer	No.	260.00	6	1,560.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	24.522	2,486.53
21	Black Paint	Ltr	286.00	2	572.00
22	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**198,047.89**
B				Stock, Storage & Insurance i.e 3% of A	5,941.44
C				**Sub Total (A+B)**	**203,989.33**
D				Contigency @ 3% of C	6,119.68
E				Tools & Plants @ 2% of C	3,771.82
F				Transportation @ 7.5% of C	15,299.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	6,638.75
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**241,928.94**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**31,025.00**
L				**Total (J+K)**	272,953.94
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**272,953.94**
O				Total GST @ 18% of (N)	49,131.71
O1				Total CESS @ 1% of (N)	2,729.54
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**324,815.19**
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			3		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03

11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**427,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**440,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**527,439.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**585,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**585,077.02**
O				Total GST @ 18% of (N)	105,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**696,241.65**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**102,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**105,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**125,915.52**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**133,228.02**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**133,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**158,541.34**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		2		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**121,150.77**
B	Stock, Storage & Insurance i.e 3% of A				3,634.52
C				**Sub Total (A+B)**	**124,785.29**
D	Contigency @ 3% of C				3,743.56
E	Tools & Plants @ 2% of C				2,243.97
F	Transportation @ 7.5% of C				9,358.90
G	Erection Charges @ 5% on Trf/Breaker/Joist				3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				5,109.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J				**Sum of (C to I)**	**148,296.51**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**164,609.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**164,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**195,884.72**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		2		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	41	1,216,101.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	41	43,173.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	41	7,995.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	41	4,264.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	12.34	1,202.85
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	123.00	12,792.00

7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	49.35	4,811.39
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	123	31,980.00
9	Earthing of Support (Coil Type)	No.	215.80	41	8,847.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	10.74	1,047.35
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	59.45	6,028.23
12	100 mm2 AAAC	Mtr.	71.50	6180.00	441,870.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
14	Black Paint	Ltr	286.00	41.0	11,726.00
15	Yellow Colour Paint for Background	Ltr	216.00	82.0	17,712.00
A				**Total Cost of materials**	**1,810,602.11**
B				Stock, Storage & Insurance i.e 3% of A	54,318.06
C				**Sub Total (A+B)**	**1,864,920.18**
D				Contigency @ 3% of C	55,947.61
E				Tools & Plants @ 2% of C	37,298.40
F				Transportation @ 7.5% of C	139,869.01
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	62,629.20
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	61,233.61
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,221,898.02**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	18.45	119,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	4.61	29,981.25
K				**Total Civil & Services**	**149,906.25**
L				**Total Material+Services (I+K)**	**2,371,804.27**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**2,371,804.27**
O				Total GST @ 18% of (N)	426,924.77
O1				Total CESS @ 1% of (N)	23,718.04
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**2,822,447.08**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	324,815.19
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	696,241.65
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	158,541.34
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	195,884.72
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	2,822,447.08
Q				**Gross Total Material +Services**	**4,197,929.98**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**225.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**4,199,279.98**

Annexture- 9.49

TPCODL

Name of the Division :-	SED
Name of the Sub-Division : -	Salipur
Name of the Section : -	Bahugram
Name of the Work :-	**PART-A:-** Augmentaion of Patapur feeder from Gopal sahi 100KVA DTR to RWSS 63KVA DTR (80-100 Sq.mm.AAAC). **PART-B:-** Construction of 3KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from Dhiasahi to Satabatia.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentaion of Patapur feeder from Gopal sahi 100KVA DTR to RWSS 63KVA DTR of 1 CKM (80-100 Sq.mm.AAAC).	1408226.318
2	PART-B; -Construction of 3KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from Dhiasahi to Satabatia.	5808952.945
3	**Total Gross**	**72,17,179.26**

Total estimated cost is Rs. 0.72Cr.

PART A: Augmentaion of Patapur feeder from Gopal sahi 100KVA DTR to RWSS 63KVA DTR of 1 CKM (80-100 Sq.mm.AAAC).

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
16	Black Paint	Ltr	286.00	0.5	143.00
17	Yellow Colour Paint for Background	Ltr	216.00	2	432.00

A	**Total Cost of materials**	**51,107.83**
B	Stock, Storage & Insurance i.e 3% of A	1,533.23
C	**Sub Total (A+B)**	**52,641.06**
D	Contigency @ 3% of C	1,579.23
E	Tools & Plants @ 2% of C	1,052.82
F	Transportation @ 7.5% of C	3,948.08
G	Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,209.02
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**62,957.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K	**Total Civil & Services**				**3,656.25**
L	**Total (J+K)**				**66,614.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**66,614.01**
O	Total GST @ 18% of (N)				11,990.52
O1	Total CESS @ 1% of (N)				666.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**79,270.67**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A	**Total Cost of materials**				**60,575.39**
B	Stock, Storage & Insurance i.e 3% of A				1,817.26
C	**Sub Total (A+B)**				**62,392.65**
D	Contigency @ 3% of C				1,871.78
E	Tools & Plants @ 2% of C				1,121.99
F	Transportation @ 7.5% of C				4,679.45
G	Erection Charges @ 5% on Trf/Breaker/Joist				1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				2,554.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**74,148.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K	**Total Civil & Services**				**8,156.25**
L	**Total (J+K)**				**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**82,304.51**
O	Total GST @ 18% of (N)				14,814.81
O1	Total CESS @ 1% of (N)				823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	12	3,55,932.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	12	12,636.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	12	2,340.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	12	1,248.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.61	352.05
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	36.00	3,744.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	14.44	1,408.21
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	36	9,360.00
9	Earthing of Support (Coil Type)	No.	215.80	12	2,589.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	3.14	306.54

11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	17.40	1,764.36
12	100 mm2 AAAC	Mtr.	71.50	3090.00	2,20,935.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
14	Black Paint	Ltr	286.00	12.0	3,432.00
15	Yellow Colour Paint for Background	Ltr	216.00	24.0	5,184.00
A				**Total Cost of materials**	**6,21,757.52**
B				Stock, Storage & Insurance i.e 3% of A	18,652.73
C				**Sub Total (A+B)**	**6,40,410.24**
D				Contigency @ 3% of C	19,212.31
E				Tools & Plants @ 2% of C	12,808.20
F				Transportation @ 7.5% of C	48,030.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	27,380.03
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,66,172.05**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.40	35,100.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.35	8,775.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	3090.00	28,446.85
K				**Total Civil & Services**	**72,321.85**
L				**Total Material+Services (I+K)**	**8,38,493.90**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**8,38,493.90**
O				Total GST @ 18% of (N)	1,50,928.90
O1				Total CESS @ 1% of (N)	8,384.94
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**9,97,807.74**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	79,270.67
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	97,942.36
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	9,97,807.74
Q				**Gross Total Material +Services**	**14,07,101.32**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**14,08,226.32**

PART-B; -Construction of 3KM of New line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 100 SQ.MM. -AAA Conductor from Dhiasahi to Satabatia.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	1

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00

24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,27,884.00**
B				Stock, Storage & Insurance i.e 3% of A	12,836.52
C				**Sub Total (A+B)**	**4,40,720.52**
D				Contigency @ 3% of C	13,221.62
E				Tools & Plants @ 2% of C	8,268.10
F				Transportation @ 7.5% of C	33,054.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,009.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,27,439.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,85,077.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,85,077.02**
O				Total GST @ 18% of (N)	1,05,313.86
O1				Total CESS @ 1% of (N)	5,850.77
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,96,241.65**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**1,53,323.48**
B				Stock, Storage & Insurance i.e 3% of A	4,599.70
C				**Sub Total (A+B)**	**1,57,923.18**
D				Contigency @ 3% of C	4,737.70
E				Tools & Plants @ 2% of C	3,158.46
F				Transportation @ 7.5% of C	11,844.24
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,627.07
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,88,873.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K				**Total Civil & Services**	**10,968.75**
L				**Total (J+K)**	**1,99,842.03**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,99,842.03**
O				Total GST @ 18% of (N)	35,971.56
O1				Total CESS @ 1% of (N)	1,998.42
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**2,37,812.01**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00

8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
16	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
17	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
20	Black Paint	Ltr	286.00	1.5	429.00
21	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**1,81,726.16**
B				Stock, Storage & Insurance i.e 3% of A	5,451.78
C				**Sub Total (A+B)**	**1,87,177.94**
D				Contigency @ 3% of C	5,615.34
E				Tools & Plants @ 2% of C	3,365.96
F				Transportation @ 7.5% of C	14,038.35
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	7,664.56
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,22,444.77**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K				**Total Civil & Services**	**24,468.75**
L				**Total (J+K)**	**2,46,913.52**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**2,46,913.52**
O				Total GST @ 18% of (N)	44,444.43
O1				Total CESS @ 1% of (N)	2,469.14
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**2,93,827.08**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	65	19,27,965.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	65	68,445.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	65	12,675.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	65	6,760.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.56	1,906.95
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	195.00	20,280.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	78.23	7,627.82
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	195	50,700.00
9	Earthing of Support (Coil Type)	No.	215.80	65	14,027.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	17.03	1,660.43
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	94.25	9,556.95
12	100 mm2 AAAC	Mtr.	71.50	9270.00	6,62,805.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	65.0	18,590.00
15	Yellow Colour Paint for Background	Ltr	216.00	130.0	28,080.00
A				**Total Cost of materials**	**28,32,656.39**
B				Stock, Storage & Insurance i.e 3% of A	84,979.69
C				**Sub Total (A+B)**	**29,17,636.09**
D				Contigency @ 3% of C	87,529.08
E				Tools & Plants @ 2% of C	58,352.72
F				Transportation @ 7.5% of C	2,18,822.71
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	99,290.20
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	93,183.21
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**34,74,814.01**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	29.25	1,90,125.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.31	47,531.25
K				**Total Civil & Services**	**2,37,656.25**
L				**Total Material+Services (I+K)**	**37,12,470.26**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**37,12,470.26**
O				Total GST @ 18% of (N)	6,68,244.65
O1				Total CESS @ 1% of (N)	37,124.70
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**44,17,839.61**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,62,407.59
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	6,96,241.65
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	2,37,812.01
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	2,93,827.08
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	44,17,839.61
Q	**Gross Total Material +Services**	**58,08,127.94**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**450.00**
T	Inspection Fee of Drawing Checking and Approval	
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**58,08,952.94**

Annexture- 9.50

TPCODL

Name of the Division :-	CDD-2
Name of the Sub-Division : -	Jagatpur
Name of the Section : -	Kandarpur
Name of the Work :-	Proposal for Construction for 5 CKM of Augmentaion from 34 to 100 Sq.mm.AAAC of existing feeder from Kandarpur PSS to 3-Pole Bangauri 100KVA DTR.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: roposal for Construction for 5 CKM of Augmentaion from 34 to 100 Sq.mm.AAAC of existing feeder from Kandarpur PSS to 3-Pole Bangauri 100KVA DTR.	6604388.496
4	**Total Gross**	**66,04,388.50**

Total estimated cost is Rs. 0.66Cr.

PART A: roposal for Construction for 5 CKM of Augmentaion from 34 to 100 Sq.mm.AAAC of existing feeder from Kandarpur PSS to 3-Pole Bangauri 100KVA DTR.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
16	Black Paint	Ltr	286.00	2.5	715.00
17	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00

A	**Total Cost of materials**	**2,55,539.13**
B	Stock, Storage & Insurance i.e 3% of A	7,666.17
C	**Sub Total (A+B)**	**2,63,205.31**
D	Contigency @ 3% of C	7,896.16
E	Tools & Plants @ 2% of C	5,264.11
F	Transportation @ 7.5% of C	19,740.40
G	Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	11,045.12
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**3,14,788.79**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K	**Total Civil & Services**				**18,281.25**
L	**Total (J+K)**				**3,33,070.04**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**3,33,070.04**
O	Total GST @ 18% of (N)				59,952.61
O1	Total CESS @ 1% of (N)				3,330.70
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**3,96,353.35**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	1,48,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
16	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
17	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
20	Black Paint	Ltr	286.00	2.5	715.00
21	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A	**Total Cost of materials**				**3,02,876.93**
B	Stock, Storage & Insurance i.e 3% of A				9,086.31
C	**Sub Total (A+B)**				**3,11,963.23**
D	Contigency @ 3% of C				9,358.90
E	Tools & Plants @ 2% of C				5,609.93
F	Transportation @ 7.5% of C				23,397.24
G	Erection Charges @ 5% on Trf/Breaker/Joist				7,637.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				12,774.26
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**3,70,741.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K	**Total Civil & Services**				**40,781.25**
L	**Total (J+K)**				**4,11,522.53**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**4,11,522.53**
O	Total GST @ 18% of (N)				74,074.05
O1	Total CESS @ 1% of (N)				4,115.23
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**4,89,711.80**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	65	19,27,965.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	65	68,445.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	65	12,675.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	65	6,760.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.56	1,906.95
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	195.00	20,280.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	78.23	7,627.82
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	195	50,700.00
9	Earthing of Support (Coil Type)	No.	215.80	65	14,027.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	17.03	1,660.43

11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	94.25	9,556.95
12	100 mm2 AAAC	Mtr.	71.50	15450.00	11,04,675.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
14	Black Paint	Ltr	286.00	65.0	18,590.00
15	Yellow Colour Paint for Background	Ltr	216.00	130.0	28,080.00
A				**Total Cost of materials**	**32,75,577.89**
B				Stock, Storage & Insurance i.e 3% of A	98,267.34
C				**Sub Total (A+B)**	**33,73,845.23**
D				Contigency @ 3% of C	1,01,215.36
E				Tools & Plants @ 2% of C	67,476.90
F				Transportation @ 7.5% of C	2,53,038.39
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	99,290.20
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	1,38,804.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**40,33,670.21**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	29.25	1,90,125.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.31	47,531.25
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	15450.00	1,42,234.25
K				**Total Civil & Services**	**3,79,890.50**
L				**Total Material+Services (I+K)**	**44,13,560.70**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**44,13,560.70**
O				Total GST @ 18% of (N)	7,94,440.93
O1				Total CESS @ 1% of (N)	44,135.61
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**52,52,137.24**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	3,96,353.35
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	4,89,711.80
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	52,52,137.24
Q				**Gross Total Material +Services**	**66,02,363.50**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**900.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**66,04,388.50**

Annexture -9.51

TPCODL

Name of the Division :-	CDD-2
Name of the Sub-Division : -	Mahanadivihar
Name of the Section : -	Mahanadivihar-1
Name of the Work :-	**PART-A:-** Construction of new 11 KV line by laying of 11KV 3CX400 Sq.mm. XLPE U/G Cable for 1 CKM from Mahanadivihar PSS to Koila field for load bifurcation of existing 11 KV Mahanadivihar-1 feeder. **PART-B:-** Installation of 2 Nos. of DP with AB switch for rising of HT Cable.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:- Construction of new line by laying of 11KV 3CX400 Sq.mm. XLPE U/G Cable for 1 CKM from Mahanadivihar PSS to Koila field for load bifurcation of existing 11 KV Mahanadivihar-1 feeder.	97,30,426.27
2	PART-B:- Installation of 2 Nos. of DP with AB switch for rising of HT Cable.	4,64,536.10
3	**Total Gross**	**1,01,94,962.37**

Total estimated cost is Rs. 1.01Cr.

PART-A:- Construction of new line by laying of 11KV 3CX400 Sq.mm. XLPE U/G Cable for 1 CKM from Mahanadivihar PSS to Koila field for load bifurcation of existing 11 KV Mahanadivihar-1 feeder.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	8	12,456.60	99,652.80
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	2	18,075.20	36,150.40
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	684.00	775.40	5,30,373.60
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***	***0***		
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***2***		
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	4,99,340.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	6,97,696.00	13,95,392.00
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	26.40	97.50	2,574.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	4	1,365.00	5,460.00
	Sub Total (Supply Portion) (in Rs.)				**47,31,849.10**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	2	1,900.80	3,801.60
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00

1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	684.00	300.00	2,05,200.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	2	9,639.00	19,278.00
	Sub Total (Erection Portion) (in Rs.)				**11,56,836.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	684		
1.1.a	Earth work excavation of **soil**	Cum	478.8	700.00	3,35,160.00
1.1.b	Earth work excavation of **hard rock**	Cum	205.2	1,720.00	3,52,944.00
1.2	Back filling with excavated soil outside and above the trench	Cum	684	202.00	1,38,168.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	205.2	2,643.67	5,42,481.21
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	2	23,145.30	46,290.60
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	40	3,600.00	1,44,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	4	3,700.00	14,800.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	16	1,463.40	23,414.40
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**16,30,654.21**
A	**Sub Total (Supply Portion)**				**47,31,849.10**
B	Stock, Storage & Insurance @ 3 % of A				1,41,955.47
C	**Sub Total (A+B)**				**48,73,804.57**
D	Contingency @ 3 % of C				1,46,214.14
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				53.02
F	Transportation @ 7.5% of C				3,65,535.34
G	Erection Charges @ 10% of earthing items				265.12
H	**Total (C+D+E+F+G)**				**53,85,872.20**
I	Sub Total (Erection Portion + Civil Portion)				27,87,490.21
J	**Total Cost (H+I)**				**81,73,362.41**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				81,73,362.41

M	GST @ 18% of L	14,71,205.23
M1	Total CESS @ 1% of (L)	81,733.62
N	**Grand Total (L+M+M1)**	**97,26,301.27**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**97,30,426.27**

PART-B:- Installation of 2 Nos. of DP with AB switch for rising of HT Cable.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	1,18,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**2,85,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**2,93,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,51,626.35**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**3,90,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**3,90,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**4,64,161.10**

Gross Total Summary

2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	4,64,161.10
Q	**Gross Total Material +Services**	**4,64,161.10**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**4,64,536.10**

Annexure-9.52

TPCODL

Name of the Division :-	AED
Name of the Sub-Division : -	Athagarh
Name of the Section : -	Athagarh-1
Name of the Work :-	**PART-A:-** Proposal for Construction for 2 CKM of Augmentaion from 55 to 100 Sq.mm.AAAC of existing11 KV Town feeder from Athagarh PSS to Birakishorepur. **PART-B:-** Construction of new 11 KV line using 100 Sq.mm.AAAC for 500 MTR from Birakishorepur tail end to Birakishorepur 63 KVA DSS.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:-Proposal for Construction for 2 CKM of Augmentaion from 55 to 100 Sq.mm.AAAC of existing11 KV Town feeder from Athagarh PSS to Birakishorepur.	1954843.296
2	PART-B:- Construction of new 11 KV line using 100 Sq.mm.AAAC for 500 MTR from Birakishorepur tail end to Birakishorepur 63 KVA DSS.	1166195.953
3	**Total Gross**	**31,21,039.25**
Total estimated cost is Rs. 0.31Cr.		

PART-A:-Proposal for Construction for 2 CKM of Augmentaion from 55 to 100 Sq.mm.AAAC of existing11 KV Town feeder from Athagarh PSS to Birakishorepur.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00

20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
16	Black Paint	Ltr	286.00	1	286.00
17	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,02,215.65**
B				Stock, Storage & Insurance i.e 3% of A	3,066.47
C				**Sub Total (A+B)**	**1,05,282.12**
D				Contigency @ 3% of C	3,158.46
E				Tools & Plants @ 2% of C	2,105.64
F				Transportation @ 7.5% of C	7,896.16
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	4,418.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,25,915.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**1,33,228.02**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**1,33,228.02**
O				Total GST @ 18% of (N)	23,981.04
O1				Total CESS @ 1% of (N)	1,332.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**1,58,541.34**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70

4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
16	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
17	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**1,21,150.77**
B				Stock, Storage & Insurance i.e 3% of A	3,634.52
C				**Sub Total (A+B)**	**1,24,785.29**
D				Contigency @ 3% of C	3,743.56
E				Tools & Plants @ 2% of C	2,243.97
F				Transportation @ 7.5% of C	9,358.90
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,109.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,48,296.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**1,64,609.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**1,64,609.01**
O				Total GST @ 18% of (N)	29,629.62
O1				Total CESS @ 1% of (N)	1,646.09
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**1,95,884.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	9	2,66,949.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	9	9,477.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	9	1,755.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	9	936.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.71	264.04
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	27.00	2,808.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	10.83	1,056.16
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	27	7,020.00
9	Earthing of Support (Coil Type)	No.	215.80	9	1,942.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.36	229.91
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	13.05	1,323.27
12	100 mm2 AAAC	Mtr.	71.50	6180.00	4,41,870.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
14	Black Paint	Ltr	286.00	9.0	2,574.00
15	Yellow Colour Paint for Background	Ltr	216.00	18.0	3,888.00
A				**Total Cost of materials**	**7,43,144.07**
B				Stock, Storage & Insurance i.e 3% of A	22,294.32
C				**Sub Total (A+B)**	**7,65,438.40**
D				Contigency @ 3% of C	22,963.15
E				Tools & Plants @ 2% of C	15,308.77
F				Transportation @ 7.5% of C	57,407.88
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	13,747.87
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	49,048.09
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**9,23,914.16**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.05	26,325.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.01	6,581.25
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	6180.00	55,620.00
K				**Total Civil & Services**	**88,526.25**
L				**Total Material+Services (I+K)**	**10,12,440.41**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**10,12,440.41**
O				Total GST @ 18% of (N)	1,82,239.27
O1				Total CESS @ 1% of (N)	10,124.40
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**12,04,804.09**

6% Supervision Charges Summary

1	Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
2	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
3	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
4	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-

5	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
	Total (6% supervision charges)	**-**
	Gross Total Summary	
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,62,407.59
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	1,58,541.34
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,95,884.72
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	12,04,804.09
Q	**Gross Total Material +Services**	**19,53,718.30**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**19,54,843.30**

PART-B:- Construction of new 11 KV line using 100 Sq.mm.AAAC for 500 MTR from Birakishorepur tail end to Birakishorepur 63 KVA DSS.

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	1

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	43.976	3,342.18
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	47.4096	3,603.13
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	48.078	3,653.93
6	Danger Plate, 2 no's.	No.	104.00	2	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
9	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
10	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	1	1,365.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	11.8	1,150.50
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
16	11 KV pin insulator polymer	No.	260.00	3	780.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
19	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
20	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	12.261	1,243.27
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**99,023.94**
B				Stock, Storage & Insurance i.e 3% of A	2,970.72
C				**Sub Total (A+B)**	**1,01,994.66**
D				Contigency @ 3% of C	3,059.84
E				Tools & Plants @ 2% of C	1,885.91
F				Transportation @ 7.5% of C	7,649.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	3,319.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,20,964.47**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	1	3,700.00
K				**Total Civil & Services**	**15,512.50**
L				**Total (J+K)**	1,36,476.97
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N				**Sub Total (L+M)**	**1,36,476.97**
O				Total GST @ 18% of (N)	24,565.85
O1				Total CESS @ 1% of (N)	1,364.77
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**1,62,407.59**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00

21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
16	Black Paint	Ltr	286.00	0.5	143.00
17	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**51,107.83**
B				Stock, Storage & Insurance i.e 3% of A	1,533.23
C				**Sub Total (A+B)**	**52,641.06**
D				Contigency @ 3% of C	1,579.23
E				Tools & Plants @ 2% of C	1,052.82
F				Transportation @ 7.5% of C	3,948.08
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,209.02
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**62,957.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K				**Total Civil & Services**	**3,656.25**
L				**Total (J+K)**	**66,614.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**66,614.01**
O				Total GST @ 18% of (N)	11,990.52
O1				Total CESS @ 1% of (N)	666.14
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**79,270.67**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	0.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	10	2,96,610.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	10	10,530.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	10	1,950.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	10	1,040.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.01	293.38

6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30.00	3,120.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.04	1,173.51
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	30	7,800.00
9	Earthing of Support (Coil Type)	No.	215.80	10	2,158.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	14.50	1,470.30
12	100 mm2 AAAC	Mtr.	71.50	1545.00	1,10,467.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
14	Black Paint	Ltr	286.00	10.0	2,860.00
15	Yellow Colour Paint for Background	Ltr	216.00	20.0	4,320.00
A				**Total Cost of materials**	**4,44,048.14**
B				Stock, Storage & Insurance i.e 3% of A	13,321.44
C				**Sub Total (A+B)**	**4,57,369.58**
D				Contigency @ 3% of C	13,721.09
E				Tools & Plants @ 2% of C	9,147.39
F				Transportation @ 7.5% of C	34,302.72
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	15,275.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	15,186.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,45,002.32**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.50	29,250.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.13	7,312.50
K				**Total Civil & Services**	**36,562.50**
L				**Total Material+Services (I+K)**	**5,81,564.82**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**5,81,564.82**
O				Total GST @ 18% of (N)	1,04,681.67
O1				Total CESS @ 1% of (N)	5,815.65
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**6,92,062.14**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	1,62,407.59
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	79,270.67
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	6,92,062.14
Q				**Gross Total Material +Services**	**11,65,820.95**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**11,66,195.95**

Annexture-9.53		
TPCODL		
Name of the Division :-		CDD-1
Name of the Sub-Division : -		Sishubhawan
Name of the Section : -		Kajibazar
Name of the Work :-		**PART-A:-** Conductor Augmentation of 11 KV Purighat Feeder from Sishubhawan PSS to Jhola sahi (100-148 Sq.mm.AAAC) for 3 CKM.
Names of Schemes: -		**CAPEX 24-25**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:-Conductor Augmentation of 11 KV Purighat Feeder from Sishubhawan PSS to Jhola sahi (100-148 Sq.mm.AAAC) for 3 CKM.	4767855.721
2	**Total Gross**	**47,67,855.72**
Total estimated cost is Rs. 0.47Cr.		

PART-A:-Conductor Augmentation of 11 KV Purighat Feeder from Sishubhawan PSS to Jhola sahi (100-148 Sq.mm.AAAC) for 3 CKM.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	1,77,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	18	14,508.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
26	Black Paint	Ltr	286.00	3	858.00
27	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**4,28,820.00**
B				Stock, Storage & Insurance i.e 3% of A	12,864.60
C				**Sub Total (A+B)**	**4,41,684.60**
D				Contigency @ 3% of C	13,250.54
E				Tools & Plants @ 2% of C	8,287.38
F				Transportation @ 7.5% of C	33,126.35
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	23,106.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**5,28,620.52**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**5,86,258.02**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**5,86,258.02**
O				Total GST @ 18% of (N)	1,05,526.44
O1				Total CESS @ 1% of (N)	5,862.58
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**6,97,647.04**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	18	14,508.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**1,54,259.48**

B	Stock, Storage & Insurance i.e 3% of A	4,627.78
C	**Sub Total (A+B)**	**1,58,887.26**
D	Contigency @ 3% of C	4,766.62
E	Tools & Plants @ 2% of C	3,177.75
F	Transportation @ 7.5% of C	11,916.54
G	Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,723.48
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**1,90,054.27**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K	**Total Civil & Services**				**10,968.75**
L	**Total (J+K)**				**2,01,023.02**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**2,01,023.02**
O	Total GST @ 18% of (N)				36,184.14
O1	Total CESS @ 1% of (N)				2,010.23
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**2,39,217.40**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 148 sq.mm AAA conductor	NO.	806.00	18	14,508.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
16	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
17	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
20	Black Paint	Ltr	286.00	1.5	429.00
21	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A	**Total Cost of materials**				**1,82,662.16**
B	Stock, Storage & Insurance i.e 3% of A				5,479.86
C	**Sub Total (A+B)**				**1,88,142.02**
D	Contigency @ 3% of C				5,644.26
E	Tools & Plants @ 2% of C				3,385.24
F	Transportation @ 7.5% of C				14,110.65
G	Erection Charges @ 5% on Trf/Breaker/Joist				4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				7,760.96
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**2,23,625.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K	**Total Civil & Services**				**24,468.75**
L	**Total (J+K)**				**2,48,094.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**2,48,094.51**
O	Total GST @ 18% of (N)				44,657.01
O1	Total CESS @ 1% of (N)				2,480.95
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**2,95,232.47**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	37	10,97,457.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	37	38,961.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	37	7,215.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	37	3,848.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	11.13	1,085.50
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	111.00	11,544.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	44.53	4,341.99
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	111	28,860.00
9	Earthing of Support (Coil Type)	No.	215.80	37	7,984.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	9.69	945.17
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	53.65	5,440.11

12	148 sq.mm AAA conductor	Mtr.	106.60	9270.00	9,88,182.00
13	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	37.0	10,582.00
15	Yellow Colour Paint for Background	Ltr	216.00	74.0	15,984.00
A	**Total Cost of materials**				**22,24,007.61**
B	Stock, Storage & Insurance i.e 3% of A				66,720.23
C	**Sub Total (A+B)**				**22,90,727.84**
D	Contigency @ 3% of C				68,721.84
E	Tools & Plants @ 2% of C				45,814.56
F	Transportation @ 7.5% of C				1,71,804.59
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				56,519.04
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				1,16,034.71
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**27,49,622.56**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	16.65	1,08,225.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	4.16	27,056.25
3	Dismantling of 100 Sq.mm.AAAC	Mtr.	9.21	9270.00	85,376.70
K	**Total Civil & Services**				**2,20,657.95**
L	**Total Material+Services (I+K)**				**29,70,280.51**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**29,70,280.51**
O	Total GST @ 18% of (N)				5,34,650.49
O1	Total CESS @ 1% of (N)				29,702.81
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**35,34,633.81**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				6,97,647.04
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle				2,39,217.40
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				2,95,232.47
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				35,34,633.81
Q	**Gross Total Material +Services**				**47,66,730.72**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**47,67,855.72**

Annexture- 9.54

TPCODL

Name of the Division :-	CDD-2
Name of the Sub-Division : -	Jobra
Name of the Section : -	Jagatpur
Name of the Work :-	**PART A: -** Construction of Augmentation of Line from 80-100 SQ.MM. -AAA Conductor from Jagatpur Ipicol premises, near Pasupati Agrovet to Pragati cut point for 3.2 CKM. **PART B:-** Construction of 1.2km UG of 3CX400 sqmm (Refer SLD). **PART-C:-** Construction of 11kV 3 Nos. 3WAY RMU for new line from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati cut point. **PART D: -** 11kV Line DP with AB Switch from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati cut point.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from Jagatpur Ipicol premises, near Pasupati Agrovet to Pragati cut point for 3.2 CKM.	4145172.36
2	PART B: Construction of 1.2km UG of 3CX400 sqmm from Gangua Line AB switch to Vijay nagar Line AB switch	89,10,567.57
2	PART-C: Construction of 11kV 3 Nos. RMU for new line from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati cut point.	68,06,544.93
3	PART D: 11kV Line DP with AB Switch from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati cut point.	9,28,322.20
4	**Total Gross**	**2,07,90,607.07**

Total estimated cost is Rs. 2.08Cr.

PART A: Construction of Augmentation of Line using 100 SQ.MM. -AAA Conductor from Jagatpur Ipicol premises, near Pasupati Agrovet to Pragati cut point for 3.2 CKM.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
16	Black Paint	Ltr	286.00	1.5	429.00
17	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00

A	**Total Cost of materials**	**1,53,323.48**
B	Stock, Storage & Insurance i.e 3% of A	4,599.70
C	**Sub Total (A+B)**	**1,57,923.18**
D	Contigency @ 3% of C	4,737.70
E	Tools & Plants @ 2% of C	3,158.46
F	Transportation @ 7.5% of C	11,844.24
G	Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,627.07
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**1,88,873.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K	**Total Civil & Services**				**10,968.75**
L	**Total (J+K)**				**1,99,842.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**1,99,842.03**
O	Total GST @ 18% of (N)				35,971.56
O1	Total CESS @ 1% of (N)				1,998.42
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**2,37,812.01**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Earthing of Support (Coil Type)	EA	215.80	3	647.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	18	13,572.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
16	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
17	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
20	Black Paint	Ltr	286.00	1.5	429.00
21	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A	**Total Cost of materials**				**1,81,726.16**
B	Stock, Storage & Insurance i.e 3% of A				5,451.78
C	**Sub Total (A+B)**				**1,87,177.94**
D	Contigency @ 3% of C				5,615.34
E	Tools & Plants @ 2% of C				3,365.96
F	Transportation @ 7.5% of C				14,038.35
G	Erection Charges @ 5% on Trf/Breaker/Joist				4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				7,664.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**2,22,444.77**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K	**Total Civil & Services**				**24,468.75**
L	**Total (J+K)**				**2,46,913.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**2,46,913.52**
O	Total GST @ 18% of (N)				44,444.43
O1	Total CESS @ 1% of (N)				2,469.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**2,93,827.08**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	3.2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	42	12,45,762.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	42	44,226.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	42	8,190.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	42	4,368.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	12.64	1,232.19
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	126.00	13,104.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	50.55	4,928.74
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	126	32,760.00
9	Earthing of Support (Coil Type)	No.	215.80	42	9,063.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	11.00	1,072.89

11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	60.90	6,175.26
12	100 mm2 AAAC	Mtr.	71.50	9888.00	7,06,992.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
14	Black Paint	Ltr	286.00	42.0	12,012.00
15	Yellow Colour Paint for Background	Ltr	216.00	84.0	18,144.00
A				**Total Cost of materials**	**21,09,607.93**
B				Stock, Storage & Insurance i.e 3% of A	63,288.24
C				**Sub Total (A+B)**	**21,72,896.17**
D				Contigency @ 3% of C	65,186.88
E				Tools & Plants @ 2% of C	43,457.92
F				Transportation @ 7.5% of C	1,62,967.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	64,156.74
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	88,976.13
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**25,97,641.06**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	18.90	1,22,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	4.73	30,712.50
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	9888.00	88,992.00
K				**Total Civil & Services**	**2,42,554.50**
L				**Total Material+Services (I+K)**	**28,40,195.56**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**28,40,195.56**
O				Total GST @ 18% of (N)	5,11,235.20
O1				Total CESS @ 1% of (N)	28,401.96
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**33,79,832.72**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	2,32,080.55
3				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	2,37,812.01
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	2,93,827.08
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	33,79,832.72
Q				**Gross Total Material +Services**	**41,43,552.36**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**495.00**
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**41,45,172.36**

PART-C: Construction of 11kV 3 Nos. RMU for new line from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati c					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***80***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	80.00	1,950.00	1,56,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	12,456.60	1,99,305.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	18,075.20	2,89,203.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***	***3***		
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***1***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	3	4,99,340.00	14,98,020.00
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	6,97,696.00	6,97,696.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	52.80	97.50	5,148.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	8	1,365.00	10,920.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***4***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	4	1,21,744.00	4,86,976.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	4	1,00,000.00	4,00,000.00
4.3	Networking Accessories	No.	4	72.00	288.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	128	650.00	83,200.00
4.5	Interposing Relay for Digital Output	Nos.	64	467.94	29,948.16
4.6	Battery Charger	Nos.	4	15,385.00	61,540.00
4.7	Battery	Nos.	4	8,333.00	33,332.00
4.8	4G Modem cum Router	Nos.	4	18,500.00	74,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	160	204.87	32,779.20

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	160	305.58	48,892.80
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	160	275.23	44,036.80
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	80	165.25	13,220.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	40	150.00	6,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	80.0	148.43	11,874.40
4.15	Armored CAT6 SFTP Cable	Mtr.	80	45.87	3,669.60
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	80	89.45	7,156.00
4.17	Multi Function Meter	Nos.	8	18,651.00	1,49,208.00
	Sub Total (Supply Portion) (in Rs.)				**43,42,413.76**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	80.00	94.50	7,560.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	3	9,639.00	28,917.00
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	9,639.00	9,639.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	4.0	16,000.00	64,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,70,941.60**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	4	23,145.30	92,581.20
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	80	3,600.00	2,88,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	8	3,700.00	29,600.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	128	1,463.40	1,87,315.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**6,00,532.40**
A	**Sub Total (Supply Portion)**				**43,42,413.76**
B	Stock, Storage & Insurance @ 3 % of A				1,30,272.41
C	**Sub Total (A+B)**				**44,72,686.17**
D	Contingency @ 3 % of C				1,34,180.59
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				106.05
F	Transportation @ 7.5% of C				3,35,451.46
G	Erection Charges @ 10% of earthing items				530.24
H	**Total (C+D+E+F+G)**				**49,42,954.51**
I	Sub Total (Erection Portion + Civil Portion)				7,71,474.00
J	**Total Cost (H+I)**				**57,14,428.51**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				57,14,428.51
M	GST @ 18% of L				10,28,597.13
M1	Total CESS @ 1% of (L)				57,144.29
N	**Grand Total (L+M+M1)**				**68,00,169.93**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				6,000.00
R	Inspection Fee of Drawing Checking and Approval				
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**68,06,544.93**

PART D: 11kV Line DP with AB Switch from Jagatpur Ipicol premises, near Pasupati Agrovet & Pragati cut point.					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	2,37,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	171.36	13,023.36
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	26.768	2,034.37
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	22.848	1,736.45
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	342.72	26,046.72
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	252.864	19,217.66
9	Danger Plate, 2 no's.	No.	104.00	8	832.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
12	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
13	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	193.52	18,868.20
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	12	55,380.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	4	61,620.00
21	11 KV pin insulator polymer	No.	260.00	12	3,120.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	24	18,096.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	54.872	5,564.02
26	Black Paint	Ltr	286.00	4	1,144.00
27	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**5,70,512.00**
B				Stock, Storage & Insurance i.e 3% of A	17,115.36
C				**Sub Total (A+B)**	**5,87,627.36**
D				Contigency @ 3% of C	17,628.82
E				Tools & Plants @ 2% of C	11,024.13
F				Transportation @ 7.5% of C	44,072.05
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	30,679.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**7,03,252.69**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**76,850.00**
L				**Total (J+K)**	**7,80,102.69**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**7,80,102.69**
O				Total GST @ 18% of (N)	1,40,418.48
O1				Total CESS @ 1% of (N)	7,801.03
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**9,28,322.20**

PART B: Construction of 1.2km UG of 3CX400 sqmm from Gangua Line AB switch to Vijay nagar Line AB switch

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***840***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***360***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1200.00	2,563.51	30,76,212.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	4	32,912.10	1,31,648.40
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	832.00	775.40	6,45,132.80
	Sub Total (Supply Portion) (in Rs.)				**38,83,525.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	840.00	94.50	79,380.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	2,400.00	9,600.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	360	2,800.00	10,08,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	832.00	300.00	2,49,600.00
	Sub Total (Erection Portion) (in Rs.)				**13,50,381.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	832		

1.1.a	Earth work excavation of **soil**	Cum	582.4	700.00	4,07,680.00
1.1.b	Earth work excavation of **hard rock**	Cum	249.6	1,720.00	4,29,312.00
1.2	Back filling with excavated soil outside and above the trench	Cum	832	202.00	1,68,064.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	249.6	2,643.67	6,59,860.19
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	40	1,012.00	40,480.00
	Sub Total (Civil Portion) (in Rs.)				**17,17,103.39**
A	**Sub Total (Supply Portion)**				**38,83,525.00**
B	Stock, Storage & Insurance @ 3 % of A				1,16,505.75
C	**Sub Total (A+B)**				**40,00,030.75**
D	Contingency @ 3 % of C				1,20,000.92
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,00,002.31
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**44,20,033.98**
I	Sub Total (Erection Portion + Civil Portion)				30,67,484.99
J	**Total Cost (H+I)**				**74,87,518.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				74,87,518.97
M	GST @ 18% of L				13,47,753.41
M1	Total CESS @ 1% of (L)				74,875.19
N	**Grand Total (L+M+M1)**				**89,10,147.57**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				45.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**89,10,567.57**

Annexture- 9.55

TPCODL

Name of the Division :-	CDD-2
Name of the Sub-Division : -	Jagatpur
Name of the Section : -	Jagatpur
Name of the Work :-	**PART A:-** Construction of Augmentation of existing New Industry feeder of 0.8 KM from 55 Sq.mm to 100 Sq.mm. to increase the circuit capacity. **PART B:-** Construction of 1km UG of 3CX400 sqmm from Jagatpur(IPICOL) PSS to IDCO 4 pole. **PART-C:-** Construction of 2 Nos.11kV 3-WAY RMU & 3 Nos.11kV 4-WAY RMU (Refer SLD). **PART D:-** Construction of 11kV Line DP with AB Switch (Refer SLD).
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Augmentation of existing New Industry feeder of 0.8 KM from 55 Sq.mm to 100 Sq.mm. to increase the circuit capacity.	1175855.139
2	PART B: Construction of 1km UG of 3CX400 sqmm from Jagatpur(IPICOL) PSS to IDCO 4 pole.	74,14,202.45
2	PART-C: Construction of 2 Nos.11kV 3-WAY RMU & 3 Nos.11kV 4-WAY RMU (Refer SLD).	81,60,785.65
3	PART D: 11kV Line DP with AB Switch (Refer SLD).	13,92,483.30
4	**Total Gross**	**1,81,43,326.54**

Total estimated cost is Rs. 1.81Cr.

PART A: Construction of Augmentation of existing New Industry feeder of 0.8 KM from 55 Sq.mm to 100 Sq.mm. to increase the circuit capacity.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**1,42,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**1,46,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**1,75,813.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**1,95,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**1,95,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**2,32,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
16	Black Paint	Ltr	286.00	0.5	143.00
17	Yellow Colour Paint for Background	Ltr	216.00	2	432.00

A	**Total Cost of materials**	**51,107.83**
B	Stock, Storage & Insurance i.e 3% of A	1,533.23
C	**Sub Total (A+B)**	**52,641.06**
D	Contigency @ 3% of C	1,579.23
E	Tools & Plants @ 2% of C	1,052.82
F	Transportation @ 7.5% of C	3,948.08
G	Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,209.02
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**62,957.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K	**Total Civil & Services**				**3,656.25**
L	**Total (J+K)**				**66,614.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**66,614.01**
O	Total GST @ 18% of (N)				11,990.52
O1	Total CESS @ 1% of (N)				666.14
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**79,270.67**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Earthing of Support (Coil Type)	EA	215.80	1	215.80
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
15	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
16	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
17	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
18	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
19	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
20	Black Paint	Ltr	286.00	0.5	143.00
21	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A	**Total Cost of materials**				**60,575.39**
B	Stock, Storage & Insurance i.e 3% of A				1,817.26
C	**Sub Total (A+B)**				**62,392.65**
D	Contigency @ 3% of C				1,871.78
E	Tools & Plants @ 2% of C				1,121.99
F	Transportation @ 7.5% of C				4,679.45
G	Erection Charges @ 5% on Trf/Breaker/Joist				1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				2,554.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**74,148.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K	**Total Civil & Services**				**8,156.25**
L	**Total (J+K)**				**82,304.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**82,304.51**
O	Total GST @ 18% of (N)				14,814.81
O1	Total CESS @ 1% of (N)				823.05
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**97,942.36**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	0.8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	9	2,66,949.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	9	9,477.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	9	1,755.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	9	936.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.71	264.04
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	27.00	2,808.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	10.83	1,056.16
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	27	7,020.00
9	Earthing of Support (Coil Type)	No.	215.80	9	1,942.20
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.36	229.91

11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	13.05	1,323.27
12	100 mm2 AAAC	Mtr.	71.50	2472.00	1,76,748.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
14	Black Paint	Ltr	286.00	9.0	2,574.00
15	Yellow Colour Paint for Background	Ltr	216.00	18.0	3,888.00
A	**Total Cost of materials**				**4,76,970.57**
B	Stock, Storage & Insurance i.e 3% of A				14,309.12
C	**Sub Total (A+B)**				**4,91,279.69**
D	Contigency @ 3% of C				14,738.39
E	Tools & Plants @ 2% of C				9,825.59
F	Transportation @ 7.5% of C				36,845.98
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				13,747.87
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				21,632.22
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**5,88,069.75**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.05	26,325.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.01	6,581.25
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	2472.00	22,248.00
K	**Total Civil & Services**				**55,154.25**
L	**Total Material+Services (I+K)**				**6,43,224.00**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**6,43,224.00**
O	Total GST @ 18% of (N)				1,15,780.32
O1	Total CESS @ 1% of (N)				6,432.24
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**7,65,436.56**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				2,32,080.55
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle				79,270.67
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				97,942.36
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				7,65,436.56
Q	**Gross Total Material +Services**				**11,74,730.14**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**11,75,855.14**

PART-C: Construction of 2 Nos.11kV 3-WAY RMU & 3 Nos.11kV 4-WAY RMU (Refer SLD).					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***80***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	80.00	1,950.00	1,56,000.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set		32,912.10	-
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	12,456.60	1,99,305.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	16	18,075.20	2,89,203.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	0.00	775.40	-
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3Way RMU (LLV)***	***nos.***	***2***		
b	***No. of 11kV 4Way RMU (LLVV)***	***nos.***	***3***		
c	***No. of 11kV 3Way RMU (LLV+M)***	***nos.***			
d	***No. of 11kV 4Way RMU (LLVV+M)***	***nos.***			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	2	4,99,340.00	9,98,680.00
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	6,97,696.00	20,93,088.00
2.3	Supply of RMU 3W 11kV 630A with metering unit (LLV+M)**(CT Ratio to be mentioned)**	Nos.	0	5,99,901.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)**(CT Ratio to be mentioned)**	Nos.	0	8,25,045.00	-
3	**Earthing**				
3.1	Earthing Conductor: **50X6 mm** (2.4kg./mtr.) **GI Flat** for equipment, structure etc.)	kg	66.00	97.50	6,435.00
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	10	1,365.00	13,650.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***nos.***	***4***		
4.1	Pre-Wired FRTU Panel with FRTU	No.	4	1,21,744.00	4,86,976.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	4	1,00,000.00	4,00,000.00
4.3	Networking Accessories	No.	4	72.00	288.00
4.4	CMR with Mounting Base for Digital Inputs	Nos.	128	650.00	83,200.00
4.5	Interposing Relay for Digital Output	Nos.	64	467.94	29,948.16
4.6	Battery Charger	Nos.	4	15,385.00	61,540.00
4.7	Battery	Nos.	4	8,333.00	33,332.00
4.8	4G Modem cum Router	Nos.	4	18,500.00	74,000.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	160	204.87	32,779.20

4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	160	305.58	48,892.80
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	160	275.23	44,036.80
4.12	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	80	165.25	13,220.00
4.13	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	40	150.00	6,000.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	80.0	148.43	11,874.40
4.15	Armored CAT6 SFTP Cable	Mtr.	80	45.87	3,669.60
4.16	Un-Armored CAT6 SFTP Cable	Mtr.	80	89.45	7,156.00
4.17	Multi Function Meter	Nos.	8	18,651.00	1,49,208.00
	Sub Total (Supply Portion) (in Rs.)				**52,42,482.76**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	80.00	94.50	7,560.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	2,400.00	-
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	16	1,900.80	30,412.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	0	2,800.00	-
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	0.00	300.00	-
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	2	9,639.00	19,278.00
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	3	9,639.00	28,917.00
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	4.0	16,000.00	64,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,80,580.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	0		
1.1.a	Earth work excavation of **soil**	Cum	0	700.00	-
1.1.b	Earth work excavation of **hard rock**	Cum	0	1,720.00	-
1.2	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	0	2,643.67	-
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	5	23,145.30	1,15,726.50
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	100	3,600.00	3,60,000.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	10	3,700.00	37,000.00
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	128	1,463.40	1,87,315.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	3	1,012.00	3,036.00
	Sub Total (Civil Portion) (in Rs.)				**7,03,077.70**
A	**Sub Total (Supply Portion)**				**52,42,482.76**
B	Stock, Storage & Insurance @ 3 % of A				1,57,274.48
C	**Sub Total (A+B)**				**53,99,757.24**
D	Contingency @ 3 % of C				1,61,992.72
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				132.56
F	Transportation @ 7.5% of C				4,04,981.79
G	Erection Charges @ 10% of earthing items				662.81
H	**Total (C+D+E+F+G)**				**59,67,527.12**
I	Sub Total (Erection Portion + Civil Portion)				8,83,658.30
J	**Total Cost (H+I)**				**68,51,185.42**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				68,51,185.42
M	GST @ 18% of L				12,33,213.38
M1	Total CESS @ 1% of (L)				68,511.85
N	**Grand Total (L+M+M1)**				**81,52,910.65**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				7,500.00
R	Inspection Fee of Drawing Checking and Approval				
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**81,60,785.65**

PART D: 11kV Line DP with AB Switch (Refer SLD).

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	6

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	12	3,55,932.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	344.16	26,156.16
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	23.7888	2,319.41
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	257.04	19,535.04
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	40.152	3,051.55
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	34.272	2,604.67
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	514.08	39,070.08
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	379.296	28,826.50
9	Danger Plate, 2 no's.	No.	104.00	12	1,248.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	3.6108	352.05
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	12	1,950.00
12	H.T. Stay set (Complete)	Set	1,365.00	12	16,380.00
13	H.T. Stay Insulator Type-C	No.	65.00	12	780.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	180	17,550.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	12	16,380.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	290.28	28,302.30
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	36	3,744.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	14.4432	1,408.21
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	18	83,070.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	6	92,430.00
21	11 KV pin insulator polymer	No.	260.00	18	4,680.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	36	16,380.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	36	53,820.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	36	27,144.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	82.308	8,346.03
26	Black Paint	Ltr	286.00	6	1,716.00
27	Yellow Colour Paint for Background	Ltr	216.00	12	2,592.00
A				**Total Cost of materials**	**8,55,768.00**
B				Stock, Storage & Insurance i.e 3% of A	25,673.04
C				**Sub Total (A+B)**	**8,81,441.04**
D				Contigency @ 3% of C	26,443.23
E				Tools & Plants @ 2% of C	16,536.20
F				Transportation @ 7.5% of C	66,108.08
G				Erection Charges @ 5% on Trf/Breaker/Joist	18,330.50
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	46,019.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**10,54,879.04**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	12	27,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	5.40	35,100.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.35	8,775.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	12	44,400.00
K				**Total Civil & Services**	**1,15,275.00**
L				**Total (J+K)**	**11,70,154.04**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**11,70,154.04**
O				Total GST @ 18% of (N)	2,10,627.73
O1				Total CESS @ 1% of (N)	11,701.54
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**13,92,483.30**

PART B: Construction of 1km UG of 3CX400 sqmm from Jagatpur(IPICOL) PSS to IDCO 4 pole.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***700***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	Mtr.	1000.00	2,563.51	25,63,510.00
1.2	Supply of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	3	32,912.10	98,736.30
1.3	Supply of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	12,456.60	12,456.60
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	1	18,075.20	18,075.20
1.5	Supply of **HDPE** PE 80-PN8 pipe of **160mm** diameter (for 400sqmm HT cable laying)	Mtr.	692.00	775.40	5,36,576.80
	Sub Total (Supply Portion) (in Rs.)				**32,29,354.90**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method**				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by **open trench method**.	Mtr.	700.00	94.50	66,150.00
1.2	Erection of **Straight through jointing kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	3	2,400.00	7,200.00
1.3	Erection of **Indoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	1	1,900.80	1,900.80
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	8,40,000.00
1.6	Laying of **160mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	Mtr.	692.00	300.00	2,07,600.00
	Sub Total (Erection Portion) (in Rs.)				**11,24,751.60**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth) Route Length	Mtr	692		

1.1.a	Earth work excavation of **soil**	Cum	484.4	700.00	3,39,080.00
1.1.b	Earth work excavation of **hard rock**	Cum	207.6	1,720.00	3,57,072.00
1.2	Back filling with excavated soil outside and above the trench	Cum	692	202.00	1,39,784.00
1.3	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	Mtr	207.6	2,643.67	5,48,826.02
2	**Civil works for Prefabricated RCC foundation with supply of all materials**				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each **RMU**	sqmtr	0	3,600.00	-
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	Set	0	3,700.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	8	1,463.40	11,707.20
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	33	1,012.00	33,396.00
	Sub Total (Civil Portion) (in Rs.)				**14,29,865.22**
A	**Sub Total (Supply Portion)**				**32,29,354.90**
B	Stock, Storage & Insurance @ 3 % of A				96,880.65
C	**Sub Total (A+B)**				**33,26,235.55**
D	Contingency @ 3 % of C				99,787.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,49,467.67
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**36,75,490.28**
I	Sub Total (Erection Portion + Civil Portion)				25,54,616.82
J	**Total Cost (H+I)**				**62,30,107.10**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				62,30,107.10
M	GST @ 18% of L				11,21,419.28
M1	Total CESS @ 1% of (L)				62,301.07
N	**Grand Total (L+M+M1)**				**74,13,827.45**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**				**74,14,202.45**

Annexure-9.57

TPCODL

Name of the Division :-	KED-1
Name of the Sub-Division : -	Rajnagar
Name of the Section : -	Rajnagar-2
Name of the Work :-	Proposal for augmentation of 5 CKM 11 KV line of 11 KV Rajnagar Fdr. From 55 Sq.mm. AAAC to 100 Sq.mm. AAAC using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor from 33/11 KV Rajnagar PSS to Khurunti Line AB Switch.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: Augmentation of 5 CKM 11 KV line (from 55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Rajnagar PSS to Kurunti Mainline AB Switch	6,481,143.16
2	**Total Gross**	**6,481,143.16**

Total estimated cost is Rs. 0.64Cr.

PART-A: Augmentation of 5 CKM 11 KV line (from 55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Rajnagar PSS to Kurunti Mainline AB Switch

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	6	4,524.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
26	Black Paint	Ltr	286.00	1	286.00
27	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,628.00**
B				Stock, Storage & Insurance i.e 3% of A	4,278.84
C				**Sub Total (A+B)**	**146,906.84**
D				Contigency @ 3% of C	4,407.21
E				Tools & Plants @ 2% of C	2,756.03
F				Transportation @ 7.5% of C	11,018.01
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	7,670.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,813.17**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**195,025.67**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**195,025.67**
O				Total GST @ 18% of (N)	35,104.62
O1				Total CESS @ 1% of (N)	1,950.26
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**232,080.55**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
17	Black Paint	Ltr	286.00	2.5	715.00
18	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**274,259.13**
B				Stock, Storage & Insurance i.e 3% of A	8,227.77
C				**Sub Total (A+B)**	**282,486.91**
D				Contigency @ 3% of C	8,474.61
E				Tools & Plants @ 2% of C	5,649.74
F				Transportation @ 7.5% of C	21,186.52
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,973.28
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**338,408.75**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**356,690.00**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**356,690.00**
O				Total GST @ 18% of (N)	64,204.20
O1				Total CESS @ 1% of (N)	3,566.90
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**424,461.10**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	30	22,620.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	30	18,720.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
17	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
18	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00

20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
21	Black Paint	Ltr	286.00	2.5	715.00
22	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**321,596.93**
B				Stock, Storage & Insurance i.e 3% of A	9,647.91
C				**Sub Total (A+B)**	**331,244.83**
D				Contigency @ 3% of C	9,937.35
E				Tools & Plants @ 2% of C	5,995.57
F				Transportation @ 7.5% of C	24,843.36
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	14,702.42
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**394,361.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**435,142.49**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**435,142.49**
O				Total GST @ 18% of (N)	78,325.65
O1				Total CESS @ 1% of (N)	4,351.42
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**517,819.56**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	66	1,957,626.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	66	69,498.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	66	12,870.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	66	6,864.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.86	1,936.29
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	198.00	20,592.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	79.44	7,745.17
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	198	51,480.00
9	Earthing of Support (Coil Type)	No.	215.80	66	14,242.80
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	17.29	1,685.97
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	95.70	9,703.98
12	100 mm2 AAAC	Mtr.	71.50	15450.00	1,104,675.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
14	Black Paint	Ltr	286.00	66.0	18,876.00
15	Yellow Colour Paint for Background	Ltr	216.00	132.0	28,512.00
A				**Total Cost of materials**	**3,308,935.96**
B				Stock, Storage & Insurance i.e 3% of A	99,268.08
C				**Sub Total (A+B)**	**3,408,204.04**
D				Contigency @ 3% of C	102,246.12
E				Tools & Plants @ 2% of C	68,164.08
F				Transportation @ 7.5% of C	255,615.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	100,817.74
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	139,184.93
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**4,074,232.21**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	29.70	193,050.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.43	48,262.50
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	15450.00	142,234.25
K				**Total Civil & Services**	**383,546.75**
L				**Total Material+Services (I+K)**	**4,457,778.95**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**4,457,778.95**
O				Total GST @ 18% of (N)	802,400.21
O1				Total CESS @ 1% of (N)	44,577.79
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**5,304,756.95**

	Gross Total Summary	
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	232,080.55
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	424,461.10
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	517,819.56
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	5,304,756.95
Q	**Gross Total Material +Services**	**6,479,118.16**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**900.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**6,481,143.16**

Annexure-9.58

TPCODL

Name of the Division :-	KED-1
Name of the Sub-Division : -	Kendrapada
Name of the Section : -	Kendrapada-1
Name of the Work :-	Proposal for augmentation of 2.5 CKM 11 KV line of Tinimuhani Fdr.(from 34/55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kendrapara PSS to Dandamunda 250 KVA DSS.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: Augmentation of 2.5 CKM 11 KV line (from 34/55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kendrapara PSS to Dandamunda 250 KVA DSS.	3,441,899.93
2	**Total Gross**	**3,441,899.93**

Total estimated cost is Rs. 0.34Cr.

PART-A: Augmentation of 2.5 CKM 11 KV line (from 34/55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kendrapara PSS to Dandamunda 250 KVA DSS.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	12	7,488.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
17	Black Paint	Ltr	286.00	1	286.00
18	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**109,703.65**
B				Stock, Storage & Insurance i.e 3% of A	3,291.11
C				**Sub Total (A+B)**	**112,994.76**
D				Contigency @ 3% of C	3,389.84
E				Tools & Plants @ 2% of C	2,259.90
F				Transportation @ 7.5% of C	8,474.61
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,189.31
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**135,363.50**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K				**Total Civil & Services**	**7,312.50**
L				**Total (J+K)**	**142,676.00**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**142,676.00**
O				Total GST @ 18% of (N)	25,681.68
O1				Total CESS @ 1% of (N)	1,426.76
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**	**169,784.44**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Earthing of Support (Coil Type)	EA	215.80	2	431.60
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	12	7,488.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
17	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
18	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
21	Black Paint	Ltr	286.00	1	286.00
22	Yellow Colour Paint for Background	Ltr	216.00	4	864.00

A	**Total Cost of materials**	**128,638.77**
B	Stock, Storage & Insurance i.e 3% of A	3,859.16
C	**Sub Total (A+B)**	**132,497.93**
D	Contigency @ 3% of C	3,974.94
E	Tools & Plants @ 2% of C	2,398.23
F	Transportation @ 7.5% of C	9,937.35
G	Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,880.97
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**157,744.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K	**Total Civil & Services**				**16,312.50**
L	**Total (J+K)**				**174,056.99**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**174,056.99**
O	Total GST @ 18% of (N)				31,330.26
O1	Total CESS @ 1% of (N)				1,740.57
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**207,127.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	2.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	32	949,152.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	32	33,696.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	32	6,240.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	32	3,328.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	9.63	938.81
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	96.00	9,984.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	38.52	3,755.23
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	96	24,960.00
9	Earthing of Support (Coil Type)	No.	215.80	32	6,905.60
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	8.38	817.44
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	46.40	4,704.96
12	100 mm2 AAAC	Mtr.	71.50	7725.00	552,337.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
14	Black Paint	Ltr	286.00	32.0	9,152.00
15	Yellow Colour Paint for Background	Ltr	216.00	64.0	13,824.00
A	**Total Cost of materials**				**1,620,847.04**
B	Stock, Storage & Insurance i.e 3% of A				48,625.41
C	**Sub Total (A+B)**				**1,669,472.45**
D	Contigency @ 3% of C				50,084.17
E	Tools & Plants @ 2% of C				33,389.45
F	Transportation @ 7.5% of C				125,210.43
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				48,881.33
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				69,184.59
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**1,996,222.42**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	14.40	93,600.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	3.60	23,400.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	7725.00	71,117.12
K	**Total Civil & Services**				**188,117.12**
L	**Total Material+Services (I+K)**				**2,184,339.55**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**2,184,339.55**
O	Total GST @ 18% of (N)				393,181.12
O1	Total CESS @ 1% of (N)				21,843.40
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**2,599,364.06**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	169,784.44

3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	207,127.82
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	2,599,364.06
Q	**Gross Total Material +Services**	**3,440,437.43**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**337.50**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**3,441,899.93**

Annexure-9.59

TPCODL

Name of the Division :-	PDP
Name of the Sub-Division : -	Kujanga
Name of the Section : -	Kujanga
Name of the Work :-	Proposal for augmentation of 10.5 CKM 11 KV line of Chatua Fdr.(from 55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kujanga PSS to Patarpur.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: Augmentation of 10.5 CKM 11 KV line (from 55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kujanga PSS to Patarpur.	13,557,289.99
2	**Total Gross**	**13,557,289.99**

Total estimated cost is Rs. 1.36Cr.

PART-A: Augmentation of 10.5 CKM 11 KV line (from 55 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Kujanga PSS to Patarpur.

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	10

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	10	296,610.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	10	1,040.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.009	293.38
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30	3,120.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.036	1,173.51
9	11 KV pin insulator polymer	No.	260.00	30	7,800.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	60	27,300.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	60	89,700.00
12	Earthing of Support (Coil Type)	EA	215.80	10	2,158.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	60	45,240.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	60	37,440.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	35.5	3,599.70
17	Black Paint	Ltr	286.00	5	1,430.00
18	Yellow Colour Paint for Background	Ltr	216.00	20	4,320.00
A				**Total Cost of materials**	**548,518.26**
B				Stock, Storage & Insurance i.e 3% of A	16,455.55
C				**Sub Total (A+B)**	**564,973.81**
D				Contigency @ 3% of C	16,949.21
E				Tools & Plants @ 2% of C	11,299.48
F				Transportation @ 7.5% of C	42,373.04
G				Erection Charges @ 5% on Trf/Breaker/Joist	15,275.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	25,946.55
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**676,817.51**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.50	29,250.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.13	7,312.50
K				**Total Civil & Services**	**36,562.50**
L				**Total (J+K)**	**713,380.01**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**713,380.01**
O				Total GST @ 18% of (N)	128,408.40
O1				Total CESS @ 1% of (N)	7,133.80
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**848,922.21**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	10	296,610.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	458.88	34,874.88
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	105.728	10,308.48
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	117.0144	8,893.09
5	Danger Plate, 1 no's.	No.	104.00	10	1,040.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	3.009	293.38
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	30	3,120.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	12.036	1,173.51
9	11 KV pin insulator polymer	No.	260.00	40	10,400.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	60	27,300.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	60	89,700.00
12	Earthing of Support (Coil Type)	EA	215.80	10	2,158.00
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.62	255.45
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	60	45,240.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	60	37,440.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	20	3,250.00
17	H.T. Stay set (Complete)	Set	1,365.00	20	27,300.00
18	H.T. Stay Insulator Type-C	No.	65.00	20	1,300.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	300	29,250.00

20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	74.33	7,537.06
21	Black Paint	Ltr	286.00	5	1,430.00
22	Yellow Colour Paint for Background	Ltr	216.00	20	4,320.00
A				**Total Cost of materials**	**643,193.85**
B				Stock, Storage & Insurance i.e 3% of A	19,295.82
C				**Sub Total (A+B)**	**662,489.67**
D				Contigency @ 3% of C	19,874.69
E				Tools & Plants @ 2% of C	11,991.13
F				Transportation @ 7.5% of C	49,686.73
G				Erection Charges @ 5% on Trf/Breaker/Joist	15,275.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	29,404.84
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**788,722.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	20	45,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	4.5	29,250.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	1.1	7,312.50
K				**Total Civil & Services**	**81,562.50**
L				**Total (J+K)**	**870,284.97**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**870,284.97**
O				Total GST @ 18% of (N)	156,651.29
O1				Total CESS @ 1% of (N)	8,702.85
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**1,035,639.11**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	10.5	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	140	4,152,540.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	140	147,420.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	140	27,300.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	140	14,560.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	42.13	4,107.29
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	420.00	43,680.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	168.50	16,429.14
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	420	109,200.00
9	Earthing of Support (Coil Type)	No.	215.80	140	30,212.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	36.68	3,576.30
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	203.00	20,584.20
12	100 mm2 AAAC	Mtr.	71.50	32445.00	2,319,817.50
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	30	5,257.50
14	Black Paint	Ltr	286.00	140.0	40,040.00
15	Yellow Colour Paint for Background	Ltr	216.00	280.0	60,480.00
A				**Total Cost of materials**	**6,995,203.93**
B				Stock, Storage & Insurance i.e 3% of A	209,856.12
C				**Sub Total (A+B)**	**7,205,060.04**
D				Contigency @ 3% of C	216,151.80
E				Tools & Plants @ 2% of C	144,101.20
F				Transportation @ 7.5% of C	540,379.50
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	213,855.81
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	292,794.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**8,612,342.74**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	63.00	409,500.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	15.75	102,375.00
	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.00	32445.00	292,005.00
K				**Total Civil & Services**	**803,880.00**
L				**Total Material+Services (I+K)**	**9,416,222.74**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**9,416,222.74**
O				Total GST @ 18% of (N)	1,694,920.09
O1				Total CESS @ 1% of (N)	94,162.23
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**11,205,305.06**

	Gross Total Summary	
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	848,922.21
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	1,035,639.11
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	11,205,305.06
Q	**Gross Total Material +Services**	**13,554,027.49**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**2,137.50**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**13,557,289.99**

Annexure-9.60

TPCODL

Name of the Division :-	KED-1
Name of the Sub-Division : -	Rajnagar
Name of the Section : -	Rajnagar-I
Name of the Work :-	Proposal for augmentation of 8 CKM 11 KV line of Keredagara Fdr. (from 34 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Olara to Rajpur.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: Augmentation of 8 CKM 11 KV line (from 34 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Olara to Rajpur	10,430,549.45
2	**Total Gross**	**10,430,549.45**

Total estimated cost is Rs. 1.04Cr.

PART-A: Augmentation of 8 CKM 11 KV line (from 34 Sq.mm. to 100 Sq.mm. AAAC) using 11 Mtr. WPB pole & 100 Sq.mm. AAA Conductor from Olara to Rajpur

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	12	9,048.00
25	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
26	Black Paint	Ltr	286.00	2	572.00
27	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**285,256.00**
B				Stock, Storage & Insurance i.e 3% of A	8,557.68
C				**Sub Total (A+B)**	**293,813.68**
D				Contigency @ 3% of C	8,814.41
E				Tools & Plants @ 2% of C	5,512.07
F				Transportation @ 7.5% of C	22,036.03
G				Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	15,340.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**351,626.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**38,425.00**
L				**Total (J+K)**	**390,051.35**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**390,051.35**
O				Total GST @ 18% of (N)	70,209.24
O1				Total CESS @ 1% of (N)	3,900.51
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**464,161.10**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	8

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	237,288.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	183.552	13,949.95
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	42.2912	4,123.39
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	46.80576	3,557.24
5	Danger Plate, 1 no's.	No.	104.00	8	832.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.4072	234.70
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	24	2,496.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	9.6288	938.81
9	11 KV pin insulator polymer	No.	260.00	24	6,240.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	48	21,840.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	48	71,760.00
12	Earthing of Support (Coil Type)	EA	215.80	8	1,726.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.096	204.36
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	48	36,192.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	48	29,952.00
16	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	28.4	2,879.76
17	Black Paint	Ltr	286.00	4	1,144.00
18	Yellow Colour Paint for Background	Ltr	216.00	16	3,456.00
A				**Total Cost of materials**	**438,814.61**
B				Stock, Storage & Insurance i.e 3% of A	13,164.44
C				**Sub Total (A+B)**	**451,979.05**
D				Contigency @ 3% of C	13,559.37
E				Tools & Plants @ 2% of C	9,039.58
F				Transportation @ 7.5% of C	33,898.43
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	20,757.24
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**541,454.00**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
K				**Total Civil & Services**	**29,250.00**
L				**Total (J+K)**	**570,704.00**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**570,704.00**
O				Total GST @ 18% of (N)	102,726.72
O1				Total CESS @ 1% of (N)	5,707.04
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle**				**679,137.77**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	8

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	237,288.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	367.104	27,899.90
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	84.5824	8,246.78
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	93.61152	7,114.48
5	Danger Plate, 1 no's.	No.	104.00	8	832.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.4072	234.70
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	24	2,496.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	9.6288	938.81
9	11 KV pin insulator polymer	No.	260.00	32	8,320.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	48	21,840.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	48	71,760.00
12	Earthing of Support (Coil Type)	EA	215.80	8	1,726.40
13	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	2.096	204.36
14	PG Clamp for 100 sq.mm AAA conductor	NO.	754.00	48	36,192.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	48	29,952.00
16	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	16	2,600.00
17	H.T. Stay set (Complete)	Set	1,365.00	16	21,840.00
18	H.T. Stay Insulator Type-C	No.	65.00	16	1,040.00
19	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	240	23,400.00

20	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	59.464	6,029.65
21	Black Paint	Ltr	286.00	4	1,144.00
22	Yellow Colour Paint for Background	Ltr	216.00	16	3,456.00
A				**Total Cost of materials**	**514,555.08**
B				Stock, Storage & Insurance i.e 3% of A	15,436.65
C				**Sub Total (A+B)**	**529,991.74**
D				Contigency @ 3% of C	15,899.75
E				Tools & Plants @ 2% of C	9,592.91
F				Transportation @ 7.5% of C	39,749.38
G				Erection Charges @ 5% on Trf/Breaker/Joist	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	23,523.87
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**630,977.98**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	16	36,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.6	23,400.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.9	5,850.00
K				**Total Civil & Services**	**65,250.00**
L				**Total (J+K)**	**696,227.98**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**696,227.98**
O				Total GST @ 18% of (N)	125,321.04
O1				Total CESS @ 1% of (N)	6,962.28
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**828,511.29**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	105	3,114,405.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	105	110,565.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	105	20,475.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	105	10,920.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	31.59	3,080.46
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	315.00	32,760.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	126.38	12,321.86
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	315	81,900.00
9	Earthing of Support (Coil Type)	No.	215.80	105	22,659.00
10	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	27.51	2,682.23
11	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	152.25	15,438.15
12	100 mm2 AAAC	Mtr.	71.50	24720.00	1,767,480.00
13	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	24	4,206.00
14	Black Paint	Ltr	286.00	105.0	30,030.00
15	Yellow Colour Paint for Background	Ltr	216.00	210.0	45,360.00
A				**Total Cost of materials**	**5,274,282.69**
B				Stock, Storage & Insurance i.e 3% of A	158,228.48
C				**Sub Total (A+B)**	**5,432,511.17**
D				Contigency @ 3% of C	162,975.34
E				Tools & Plants @ 2% of C	108,650.22
F				Transportation @ 7.5% of C	407,438.34
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	160,391.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	222,467.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**6,494,434.33**

Civil & Services

1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	47.25	307,125.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	11.81	76,781.25
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	24720.00	227,574.79
K				**Total Civil & Services**	**611,481.04**
L				**Total Material+Services (I+K)**	**7,105,915.37**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**7,105,915.37**
O				Total GST @ 18% of (N)	1,279,064.77
O1				Total CESS @ 1% of (N)	71,059.15
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**8,456,039.29**

	Gross Total Summary	
1	Gross Total Material +Services (N+O+O1) for DP With AB Switch	464,161.10
2	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 180 Degree Angle	679,137.77
3	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	828,511.29
4	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	8,456,039.29
Q	**Gross Total Material +Services**	**10,427,849.45**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	**1,575.00**
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**10,430,549.45**

Annexure-9.61

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	ANED
Name of the Sub-Division : -	Angul
Name of the Section : -	ANGUL-III
Name of the Work :-	Proposal for construction of Construction of 5.8KM of New Linking line using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Badkera feeder eminating from Badkera PSS to Benagadia of Jarasingha feeder eminating from Hemsarpada PSS.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Amount
1	Part A: Proposal for Construction of new linking line of 5.8kM from Badkera Feeder to Benagadia	14709287.79
2	PART B: Construction of 0.15KM of 3CX400SQMM UG Cable New line for railway crossing	2217070.205
3	PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing	138,000.98
4	**Total Gross**	**17,064,358.97**

Total estimated cost is Rs. 1.71Cr.

Part A: Proposal for Construction of new linking line of 5.8kM from Badkera Feeder to Benagadia					
No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)				4	
MATERIALS OF DP Without AB Switch					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	8	237,288.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	175.904	13,368.70
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	189.6384	14,412.52
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	192.312	14,615.71
6	Danger Plate, 2 no's.	No.	104.00	8	832.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	2.4072	234.70
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	8	1,300.00
9	H.T. Stay set (Complete)	Set	1,365.00	8	10,920.00
10	H.T. Stay Insulator Type-C	No.	65.00	8	520.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	120	11,700.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	47.2	4,602.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	24	2,496.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	9.6288	938.81
16	11 KV pin insulator polymer	No.	260.00	12	3,120.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	24	10,920.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	24	35,880.00
19	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	12	3,012.00
20	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	24	8,904.00
21	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	16	5,312.00
22	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	49.044	4,973.06
23	Black Paint	Ltr	286.00	4	1,144.00
24	Yellow Colour Paint for Background	Ltr	216.00	8	1,728.00
A				**Total Cost of materials**	**395,227.78**
B				Stock, Storage & Insurance i.e 3% of A	11,856.83
C				**Sub Total (A+B)**	**407,084.61**
D				Contigency @ 3% of C	12,212.54
E				Tools & Plants @ 2% of C	7,525.75
F				Transportation @ 7.5% of C	30,531.35
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	12,220.33
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	13,188.10
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**482,762.68**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	8	18,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.60	23,400.00

3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.90	5,850.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00
K				**Total Civil & Services**	**62,050.00**
L				**Total (J+K)**	544,812.68
M	Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)				-
N				**Sub Total (L+M)**	**544,812.68**
O				Total GST @ 18% of (N)	98,066.28
O1				Total CESS @ 1% of (N)	5,448.13
P				**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**648,327.09**
	No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		1		

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00

A	**Total Cost of materials**	**142,411.00**
B	Stock, Storage & Insurance i.e 3% of A	4,272.33
C	**Sub Total (A+B)**	**146,683.33**
D	Contigency @ 3% of C	4,400.50
E	Tools & Plants @ 2% of C	2,751.56
F	Transportation @ 7.5% of C	11,001.25
G	Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**175,539.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K	**Total Civil & Services**				**19,212.50**
L	**Total (J+K)**				**194,751.87**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N	**Sub Total (L+M)**				**194,751.87**
O	Total GST @ 18% of (N)				35,055.34
O1	Total CESS @ 1% of (N)				1,947.52
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**231,754.73**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	15	3,765.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00

14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
18	Black Paint	Ltr	286.00	2.5	715.00
19	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**251,134.13**
B				Stock, Storage & Insurance i.e 3% of A	7,534.02
C				**Sub Total (A+B)**	**258,668.16**
D				Contigency @ 3% of C	7,760.04
E				Tools & Plants @ 2% of C	5,173.36
F				Transportation @ 7.5% of C	19,400.11
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	10,591.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**309,230.78**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K				**Total Civil & Services**	**18,281.25**
L				**Total (J+K)**	**327,512.03**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	-
N				**Sub Total (L+M)**	**327,512.03**
O				Total GST @ 18% of (N)	58,952.17
O1				Total CESS @ 1% of (N)	3,275.12
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**389,739.32**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00

11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	20	5,020.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
18	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
19	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
22	Black Paint	Ltr	286.00	2.5	715.00
23	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**299,726.93**
B				Stock, Storage & Insurance i.e 3% of A	8,991.81
C				**Sub Total (A+B)**	**308,718.73**
D				Contigency @ 3% of C	9,261.56
E				Tools & Plants @ 2% of C	5,545.04
F				Transportation @ 7.5% of C	23,153.91
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,449.81
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**366,766.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**407,548.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**407,548.01**
O				Total GST @ 18% of (N)	73,358.64
O1				Total CESS @ 1% of (N)	4,075.48
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**484,982.13**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		5.8		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	130	3,855,930.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	130	136,890.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	130	25,350.00

4	Danger Plate, 1 no's. for each pole	No.	104.00	130	13,520.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	39.12	3,813.91
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	390.00	40,560.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	156.47	15,255.63
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	390	101,400.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	260	86,320.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	390	97,890.00
11	Earthing of Support (Coil Type)	No.	215.80	130	28,054.00
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	34.06	3,320.85
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	188.50	19,113.90
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	17.92	3,853,230.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	15	33,015.00
16	Black Paint	Ltr	286.00	130.0	37,180.00
17	Yellow Colour Paint for Background	Ltr	216.00	260.0	56,160.00
A				**Total Cost of materials**	**8,407,003.29**
B				Stock, Storage & Insurance i.e 3% of A	252,210.10
C				**Sub Total (A+B)**	**8,659,213.39**
D				Contigency @ 3% of C	259,776.40
E				Tools & Plants @ 2% of C	173,184.27
F				Transportation @ 7.5% of C	649,441.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	198,580.40
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	468,760.55
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**10,408,956.00**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	58.50	380,250.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	14.63	95,062.50
K				**Total Civil & Services**	**475,312.50**
L				**Total Material+Services (J+K)**	**10,884,268.50**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**10,884,268.50**
O				Total GST @ 18% of (N)	1,959,168.33
O1				Total CESS @ 1% of (N)	108,842.69
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**12,952,279.52**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	648,327.09
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	389,739.32
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	484,982.13
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	12,952,279.52
Q				**Gross Total Material +Services**	**14,707,082.79**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	1,080.00
T				Inspection Fee of Drawing Checking and Approval	750.00

U	Gross Total Material, Services and Inspection Fees (Q+R+S+T)	14,709,287.79

PART B: Construction of 0.15KM of 3CX400SQMM UG Cable New line for railway crossing					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***Mtr.***	***0***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***Mtr.***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-15kA)	Mtr.	300.00	2,563.51	769,053.00
1.4	Supply of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	18,075.20	72,300.80
	Sub Total (Supply Portion) (in Rs.)				**841,353.80**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1.4	Erection of **Outdoor termination kits** Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
1.5	Installation, Laying, Commissioning & Testing of 11kV, 3Core, 2Runs, 400sqmm, XLPE U/G cable by **HDD method with** HDPE pipe (160mm dia, PN8 PE80) including suply of HDPE Pipe.	Mtr.	300	2,800.00	840,000.00
	Sub Total (Erection Portion) (in Rs.)				**847,603.20**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works with supply of all materials like cement, MS tor rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench**				
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	32	1,463.40	46,828.80
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	10	1,012.00	10,120.00
	Sub Total (Civil Portion) (in Rs.)				**56,948.80**
A	**Sub Total (Supply Portion)**				**841,353.80**
B	Stock, Storage & Insurance @ 3 % of A				25,240.61
C	**Sub Total (A+B)**				**866,594.41**
D	Contingency @ 3 % of C				25,997.83
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				64,994.58
G	Erection Charges @ 10% of earthing items				-
H	**Total (C+D+E+F+G)**				**957,586.83**
I	Sub Total (Erection Portion + Civil Portion)				904,552.00
J	**Total Cost (H+I)**				**1,862,138.83**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	**Total Estimated Capital Cost i.e. (J+K)**				1,862,138.83

M	GST @ 18% of L	335,184.99
M1	Total CESS @ 1% of (L)	18,621.39
N	**Grand Total (L+M+M1)**	**2,215,945.20**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	**Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)**	**2,217,070.20**

PART-C: Construction of Guarding for Line Protecting Guarding on Double Pole for Road Crossing

Materials for Line Protecting Guarding for Road Crossing

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Guarding Channel 75x40x4.8 mm, 7.14 KG/Mtr., each channel length 3.5 mtr., 4 no's channel required =(4x7.14x3.5) (For Double Pole)	KG	76.00	399.84	30,387.84
2	No-6 GI wire (0.192 kg/mtr.) for Main String	Kg.	97.50	61.44	5,990.40
3	No-8 GI wire (0.131 kg/mtr.) for lacing	Kg.	97.50	13.1	1,277.25
4	Eye Bolt (236mm, 16mm dia, 1.577kg/mtr.)	No	78.00	16	1,248.00
6	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	8	10,920.00
7	50x6mm GI Flat for earthing, 2.36kg/mtr., (10.7 mtr For raising)= 10.7x2.36	KG	97.50	202.016	19,696.56
A				**Total Cost of materials**	**69,520.05**
B				Stock, Storage & Insurance i.e 3% of A	2,085.60
C				**Sub Total (A+B)**	**71,605.65**
D				Contigency @ 3% of C	2,148.17
E				Tools & Plants @ 2% of C	1,207.16
F				Transportation @ 7.5% of C	5,370.42
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,035.81
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**86,367.21**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	8	29,600.00
K				**Total Civil & Services**	**29,600.00**
L				**Total (J+K)**	115,967.21
M				Other overheads (Including 6% supervision charges) of L	0.00
N				**Sub Total (L+M)**	**115,967.21**
O				Total GST @ 18% of (N)	20,874.10
P				Total CESS @ 1% of (N)	1,159.67
Q	**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**				**138,000.98**

Annexure-9.62

TPCODL

Name of the Division :-	ANED
Name of the Sub-Division : -	Chainpal
Name of the Section : -	Banarpal
Name of the Work :-	Proposal for Construction of 2KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Truck Association to Raniguda Pump House
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A; Construction of 2KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Truck Association to Raniguda Pump House	4,112,182.68
2	**Total Gross**	**4,112,182.68**

Total estimated cost is Rs. 0.41Cr.

PART-A; Construction of 2KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Truck Association to Raniguda Pump House					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)			1		
MATERIALS OF DP With AB Switch					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,411.00**
B				Stock, Storage & Insurance i.e 3% of A	4,272.33
C				**Sub Total (A+B)**	**146,683.33**
D				Contigency @ 3% of C	4,400.50
E				Tools & Plants @ 2% of C	2,751.56
F				Transportation @ 7.5% of C	11,001.25
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,539.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**194,751.87**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**194,751.87**
O				Total GST @ 18% of (N)	35,055.34
O1				Total CESS @ 1% of (N)	1,947.52
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**231,754.73**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		2		

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	6	1,506.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	PG Clamp for 80 sq.mm AAA conductor	NO.	689.00	6	4,134.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	6	3,744.00
16	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
17	Earthing of Support (Coil Type)	EA	215.80	2	431.60
18	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
19	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
20	Black Paint	Ltr	286.00	1	286.00
21	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**108,331.65**
B				Stock, Storage & Insurance i.e 3% of A	3,249.95
C				**Sub Total (A+B)**	**111,581.60**

D	Contigency @ 3% of C	3,347.45
E	Tools & Plants @ 2% of C	2,231.63
F	Transportation @ 7.5% of C	8,368.62
G	Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,047.99
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**133,632.38**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K	**Total Civil & Services**				**7,312.50**
L	**Total (J+K)**				**140,944.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**140,944.88**
O	Total GST @ 18% of (N)				25,370.08
O1	Total CESS @ 1% of (N)				1,409.45
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**167,724.41**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2			

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	8	2,008.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	PG Clamp for 80 sq.mm AAA conductor	NO.	689.00	6	4,134.00
15	PG Clamp for 55 sq.mm AAA conductor	NO.	624.00	6	3,744.00
16	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
17	Earthing of Support (Coil Type)	EA	215.80	2	431.60
18	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
19	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
20	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
21	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
22	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00

23	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41
24	Black Paint	Ltr	286.00	1	286.00
25	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**127,768.77**
B				Stock, Storage & Insurance i.e 3% of A	3,833.06
C				**Sub Total (A+B)**	**131,601.83**
D				Contigency @ 3% of C	3,948.06
E				Tools & Plants @ 2% of C	2,380.30
F				Transportation @ 7.5% of C	9,870.14
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,791.36
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**156,646.77**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**172,959.27**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**172,959.27**
O				Total GST @ 18% of (N)	31,132.67
O1				Total CESS @ 1% of (N)	1,729.59
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**205,821.53**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		2		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	26	771,186.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	26	27,378.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	26	5,070.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	26	2,704.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	7.82	762.78
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	78.00	8,112.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	31.29	3,051.13
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	78	20,280.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	52	17,264.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	78	19,578.00
11	Earthing of Support (Coil Type)	No.	215.80	26	5,610.80
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	6.81	664.17

13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	37.70	3,822.78
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	6.18	1,328,700.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	6	13,206.00
16	Black Paint	Ltr	286.00	26.0	7,436.00
17	Yellow Colour Paint for Background	Ltr	216.00	52.0	11,232.00
A				**Total Cost of materials**	**2,246,057.66**
B				Stock, Storage & Insurance i.e 3% of A	67,381.73
C				**Sub Total (A+B)**	**2,313,439.39**
D				Contigency @ 3% of C	69,403.18
E				Tools & Plants @ 2% of C	46,268.79
F				Transportation @ 7.5% of C	173,507.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	39,716.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	151,911.78
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**2,794,247.17**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	11.70	76,050.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	2.93	19,012.50
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	6180.00	56,893.70
K				**Total Civil & Services**	**151,956.20**
L				**Total Material+Services (J+K)**	**2,946,203.37**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**2,946,203.37**
O				Total GST @ 18% of (N)	530,316.61
O1				Total CESS @ 1% of (N)	29,462.03
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**3,505,982.01**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	167,724.41
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	205,821.53
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	3,505,982.01
Q				**Gross Total Material +Services**	**4,111,282.68**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	(225.00)
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**4,112,182.68**

Annexure-9.63

TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		ANED	
Name of the Sub-Division : -		Angul	
Name of the Section : -		Angul-1	
Name of the Work :-		Proposal for construction of 2.5KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Raaz Chhak to Turanga Chhaka	
Names of Schemes: -		**CAPEX 24-25**	
Abstract of Estimate			
Sl. No.	**Description**		**Gross**
1	PART-A; Construction of 2.5KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Raza Chhak to Turanga Chhaka		5,012,828.35
2	**Total Gross**		**5,012,828.35**
Total estimated cost is Rs. 0.50Cr.			

PART-A; Construction of 2.5KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Raza Chhak to Turanga Chhaka					
No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)		1			
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,411.00**
B				Stock, Storage & Insurance i.e 3% of A	4,272.33
C				**Sub Total (A+B)**	**146,683.33**
D				Contigency @ 3% of C	4,400.50
E				Tools & Plants @ 2% of C	2,751.56
F				Transportation @ 7.5% of C	11,001.25
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,539.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**194,751.87**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**194,751.87**
O				Total GST @ 18% of (N)	35,055.34
O1				Total CESS @ 1% of (N)	1,947.52
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**231,754.73**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		2		

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	6	1,560.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	6	1,506.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	PG Clamp for 80 sq.mm AAA conductor	NO.	689.00	12	8,268.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
15	Earthing of Support (Coil Type)	EA	215.80	2	431.60
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	7.1	719.94
18	Black Paint	Ltr	286.00	1	286.00
19	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**108,721.65**
B				Stock, Storage & Insurance i.e 3% of A	3,261.65
C				**Sub Total (A+B)**	**111,983.30**
D				Contigency @ 3% of C	3,359.50

E	Tools & Plants @ 2% of C	2,239.67
F	Transportation @ 7.5% of C	8,398.75
G	Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,088.16
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**134,124.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
K	**Total Civil & Services**				**7,312.50**
L	**Total (J+K)**				**141,436.96**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**141,436.96**
O	Total GST @ 18% of (N)				25,458.65
O1	Total CESS @ 1% of (N)				1,414.37
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**168,309.99**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	2			

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	91.776	6,974.98
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	21.1456	2,061.70
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	23.40288	1,778.62
5	Danger Plate, 1 no's.	No.	104.00	2	208.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.6018	58.68
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	6	624.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	2.4072	234.70
9	11 KV pin insulator polymer	No.	260.00	8	2,080.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	8	2,008.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
14	PG Clamp for 80 sq.mm AAA conductor	NO.	689.00	12	8,268.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
15	Earthing of Support (Coil Type)	EA	215.80	2	431.60
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.524	51.09
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
18	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
19	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	14.866	1,507.41

22	Black Paint	Ltr	286.00	1	286.00
23	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**128,158.77**
B				Stock, Storage & Insurance i.e 3% of A	3,844.76
C				**Sub Total (A+B)**	**132,003.53**
D				Contigency @ 3% of C	3,960.11
E				Tools & Plants @ 2% of C	2,388.34
F				Transportation @ 7.5% of C	9,900.27
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	5,831.53
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**157,138.85**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.9	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.2	1,462.50
K				**Total Civil & Services**	**16,312.50**
L				**Total (J+K)**	**173,451.35**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**173,451.35**
O				Total GST @ 18% of (N)	31,221.24
O1				Total CESS @ 1% of (N)	1,734.51
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**206,407.11**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)	2.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	33	978,813.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	33	34,749.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	33	6,435.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	33	3,432.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	9.93	968.15
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	99.00	10,296.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	39.72	3,872.58
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	99	25,740.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	66	21,912.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	99	24,849.00
11	Earthing of Support (Coil Type)	No.	215.80	33	7,121.40
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	8.65	842.99
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	47.85	4,851.99
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	7.73	1,660,875.00

15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	6	13,206.00
16	Black Paint	Ltr	286.00	33.0	9,438.00
17	Yellow Colour Paint for Background	Ltr	216.00	66.0	14,256.00
A				**Total Cost of materials**	**2,821,658.10**
B				Stock, Storage & Insurance i.e 3% of A	84,649.74
C				**Sub Total (A+B)**	**2,906,307.85**
D				Contigency @ 3% of C	87,189.24
E				Tools & Plants @ 2% of C	58,126.16
F				Transportation @ 7.5% of C	217,973.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	50,408.87
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	189,813.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**3,509,818.24**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	14.85	96,525.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	3.71	24,131.25
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/site store	Mtr.	9.21	7725.00	71,117.12
K				**Total Civil & Services**	**191,773.37**
L				**Total Material+Services (J+K)**	**3,701,591.62**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**3,701,591.62**
O				Total GST @ 18% of (N)	666,286.49
O1				Total CESS @ 1% of (N)	37,015.92
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**4,404,894.02**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	168,309.99
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	206,407.11
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	4,404,894.02
Q				**Gross Total Material +Services**	**5,011,365.85**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	337.50
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**5,012,828.35**

Annexure-9.64		
TPCODL		
Name of the Division :-	TED	
Name of the Sub-Division : -	Chainpal	
Name of the Section : -	Banarpal	
Name of the Work :-	Proposal for construction of new 11 KV O/H linking line for Bifurcation of load for Kulad feeder from Badudisahi proposed cutpoint to Banarpal Polce station 25KVA DTR	
Names of Schemes: -	**CAPEX 24-25**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Proposal for construction of 0.4KM new 11 KV O/H linking line for Bifurcation of load for Kulad feeder from Badudisahi proposed cutpoint to Banarpal Polce station 25KVA DTR using 99 SQ.MM. -AAA Conductor	1,190,059.17
2	**Total Gross**	**1,190,059.17**
Total estimated cost is Rs. 0.12Cr.		

Proposal for construction of 0.4KM new 11 KV O/H linking line for Bifurcation of load for Kulad feeder from Badudisahi proposed cutpoint to Banarpal Polce station 25KVA DTR using 99 SQ.MM. -AAA Conductor

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**142,411.00**
B				Stock, Storage & Insurance i.e 3% of A	4,272.33
C				**Sub Total (A+B)**	**146,683.33**
D				Contigency @ 3% of C	4,400.50
E				Tools & Plants @ 2% of C	2,751.56
F				Transportation @ 7.5% of C	11,001.25
G				Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**175,539.37**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***

1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**194,751.87**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N				**Sub Total (L+M)**	**194,751.87**
O				Total GST @ 18% of (N)	35,055.34
O1				Total CESS @ 1% of (N)	1,947.52
P				**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**231,754.73**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	22.944	1,743.74
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	5.2864	515.42
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	5.85072	444.65
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	3	780.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	2	664.00
15	Earthing of Support (Coil Type)	EA	215.80	1	215.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	3.55	359.97
18	Black Paint	Ltr	286.00	0.5	143.00
19	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**50,226.83**
B				Stock, Storage & Insurance i.e 3% of A	1,506.80
C				**Sub Total (A+B)**	**51,733.63**
D				Contigency @ 3% of C	1,552.01
E				Tools & Plants @ 2% of C	1,034.67
F				Transportation @ 7.5% of C	3,880.02
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	2,118.28
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**61,846.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.45	2,925.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.11	731.25
K				**Total Civil & Services**	**3,656.25**
L				**Total (J+K)**	**65,502.41**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N				**Sub Total (L+M)**	**65,502.41**
O				Total GST @ 18% of (N)	11,790.43
O1				Total CESS @ 1% of (N)	655.02
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**77,947.86**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)		1		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	1	29,661.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	45.888	3,487.49
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	10.5728	1,030.85
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	11.70144	889.31
5	Danger Plate, 1 no's.	No.	104.00	1	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.3009	29.34
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	3	312.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	1.2036	117.35
9	11 KV pin insulator polymer	No.	260.00	4	1,040.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	4	1,004.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	2	664.00
15	Earthing of Support (Coil Type)	EA	215.80	1	215.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.262	25.55
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
18	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
19	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	7.433	753.71
22	Black Paint	Ltr	286.00	0.5	143.00
23	Yellow Colour Paint for Background	Ltr	216.00	2	432.00
A				**Total Cost of materials**	**59,945.39**
B				Stock, Storage & Insurance i.e 3% of A	1,798.36
C				**Sub Total (A+B)**	**61,743.75**
D				Contigency @ 3% of C	1,852.31
E				Tools & Plants @ 2% of C	1,109.01
F				Transportation @ 7.5% of C	4,630.78
G				Erection Charges @ 5% on Trf/Breaker/Joist	1,527.54
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				2,489.96
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-

J				**Sum of (C to I)**	**73,353.35**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.5	2,925.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.1	731.25
K				**Total Civil & Services**	**8,156.25**
L				**Total (J+K)**	**81,509.60**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N				**Sub Total (L+M)**	**81,509.60**
O				Total GST @ 18% of (N)	14,671.73
O1				Total CESS @ 1% of (N)	815.10
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**96,996.43**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		0.4		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	7	207,627.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	7	7,371.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	7	1,365.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	7	728.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	2.11	205.36
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	21.00	2,184.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	8.43	821.46
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	21	5,460.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	14	4,648.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	21	5,271.00
11	Earthing of Support (Coil Type)	No.	215.80	7	1,510.60
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.83	178.82
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	10.15	1,029.21
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	1.24	265,740.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	0	-
16	Black Paint	Ltr	286.00	7.0	2,002.00
17	Yellow Colour Paint for Background	Ltr	216.00	14.0	3,024.00
A				**Total Cost of materials**	**509,165.45**
B				Stock, Storage & Insurance i.e 3% of A	15,274.96
C				**Sub Total (A+B)**	**524,440.41**
D				Contigency @ 3% of C	15,733.21
E				Tools & Plants @ 2% of C	10,488.81
F				Transportation @ 7.5% of C	39,333.03
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	10,692.79
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	31,058.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**631,746.71**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	3.15	20,475.00

2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.79	5,118.75
K				**Total Civil & Services**	**25,593.75**
L				**Total Material+Services (J+K)**	**657,340.46**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N				**Sub Total (L+M)**	**657,340.46**
O				Total GST @ 18% of (N)	118,321.28
O1				Total CESS @ 1% of (N)	6,573.40
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**782,235.15**

Gross Total Summary

1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	77,947.86
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	96,996.43
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	782,235.15
Q	**Gross Total Material +Services**	**1,188,934.17**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**1,190,059.17**

Annexure-9.65

TPCODL

Name of the Division :-	TED
Name of the Sub-Division : -	Talcher
Name of the Section : -	Hatatota
Name of the Work :-	Proposal for Construction for Augmentation of RE-2 feeder from existing conductor 35sqmm to 100sqmm from Hatatota PSS to 4pole Talagda AB switch.
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A; Construction of 5KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Hatatota PSS to Talgadia Line AB Switch	10,231,440.73
2	**Total Gross**	**10,231,440.73**

Total estimated cost is Rs. 1.02Cr.

PART-A; Construction of 5KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Hatatota PSS to Talgadia Line AB Switch

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	172.08	13,078.08
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	11.8944	1,159.70
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	128.52	9,767.52
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	20.076	1,525.78
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	17.136	1,302.34
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	257.04	19,535.04
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	189.648	14,413.25
9	Danger Plate, 2 no's.	No.	104.00	6	624.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.8054	176.03
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
12	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
13	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	6	8,190.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	145.14	14,151.15
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	18	1,872.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	7.2216	704.11
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	9	41,535.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	3	46,215.00
21	11 KV pin insulator polymer	No.	260.00	9	2,340.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	9	2,259.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	18	6,678.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	12	3,984.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	41.154	4,173.02
28	Black Paint	Ltr	286.00	3	858.00
29	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**427,233.00**
B				Stock, Storage & Insurance i.e 3% of A	12,816.99
C				**Sub Total (A+B)**	**440,049.99**
D				Contigency @ 3% of C	13,201.50
E				Tools & Plants @ 2% of C	8,254.69
F				Transportation @ 7.5% of C	33,003.75
G				Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	22,942.94
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**526,618.12**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	6	22,200.00
K				**Total Civil & Services**	**57,637.50**
L				**Total (J+K)**	**584,255.62**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**584,255.62**
O				Total GST @ 18% of (N)	105,166.01
O1				Total CESS @ 1% of (N)	5,842.56
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**695,264.19**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		5		

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	26.432	2,577.12
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	29.2536	2,223.27
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	15	3,900.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	15	3,765.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	17.75	1,799.85
18	Black Paint	Ltr	286.00	2.5	715.00
19	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**251,134.13**
B				Stock, Storage & Insurance i.e 3% of A	7,534.02
C				**Sub Total (A+B)**	**258,668.16**
D				Contigency @ 3% of C	7,760.04

E	Tools & Plants @ 2% of C	5,173.36
F	Transportation @ 7.5% of C	19,400.11
G	Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	10,591.40
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**309,230.78**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.25	14,625.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.56	3,656.25
K	**Total Civil & Services**				**18,281.25**
L	**Total (J+K)**				**327,512.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**327,512.03**
O	Total GST @ 18% of (N)				58,952.17
O1	Total CESS @ 1% of (N)				3,275.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**389,739.32**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	5	148,305.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	229.44	17,437.44
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	52.864	5,154.24
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	58.5072	4,446.55
5	Danger Plate, 1 no's.	No.	104.00	5	520.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.5045	146.69
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	15	1,560.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	6.018	586.76
9	11 KV pin insulator polymer	No.	260.00	20	5,200.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	30	13,650.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	30	44,850.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	20	5,020.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	30	11,130.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	10	3,320.00
15	Earthing of Support (Coil Type)	EA	215.80	5	1,079.00
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.31	127.73
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	10	1,625.00
18	H.T. Stay set (Complete)	Set	1,365.00	10	13,650.00
19	H.T. Stay Insulator Type-C	No.	65.00	10	650.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	150	14,625.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	37.165	3,768.53
22	Black Paint	Ltr	286.00	2.5	715.00

23	Yellow Colour Paint for Background	Ltr	216.00	10	2,160.00
A				**Total Cost of materials**	**299,726.93**
B				Stock, Storage & Insurance i.e 3% of A	8,991.81
C				**Sub Total (A+B)**	**308,718.73**
D				Contigency @ 3% of C	9,261.56
E				Tools & Plants @ 2% of C	5,545.04
F				Transportation @ 7.5% of C	23,153.91
G				Erection Charges @ 5% on Trf/Breaker/Joist	7,637.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,449.81
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**366,766.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	10	22,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.3	14,625.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.6	3,656.25
K				**Total Civil & Services**	**40,781.25**
L				**Total (J+K)**	**407,548.01**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**407,548.01**
O				Total GST @ 18% of (N)	73,358.64
O1				Total CESS @ 1% of (N)	4,075.48
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**484,982.13**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	64	1,898,304.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	64	67,392.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	64	12,480.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	64	6,656.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	19.26	1,877.62
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	192.00	19,968.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	77.03	7,510.46
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	192	49,920.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	128	42,496.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	192	48,192.00
11	Earthing of Support (Coil Type)	No.	215.80	64	13,811.20
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	16.77	1,634.88
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	92.80	9,409.92
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	15.45	3,321,750.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	15	33,015.00

16	Black Paint	Ltr	286.00	64.0	18,304.00
17	Yellow Colour Paint for Background	Ltr	216.00	128.0	27,648.00
A	**Total Cost of materials**				**5,580,369.08**
B	Stock, Storage & Insurance i.e 3% of A				167,411.07
C	**Sub Total (A+B)**				**5,747,780.15**
D	Contigency @ 3% of C				172,433.40
E	Tools & Plants @ 2% of C				114,955.60
F	Transportation @ 7.5% of C				431,083.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				97,762.66
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				379,252.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**6,943,268.03**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	28.80	187,200.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	7.20	46,800.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/ site store	Mtr.	6.44	15450.00	99,563.97
K	**Total Civil & Services**				**333,563.97**
L	**Total Material+Services (J+K)**				**7,276,832.00**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**7,276,832.00**
O	Total GST @ 18% of (N)				1,309,829.76
O1	Total CESS @ 1% of (N)				72,768.32
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**8,659,430.08**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				695,264.19
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				389,739.32
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				484,982.13
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				8,659,430.08
Q	**Gross Total Material +Services**				**10,229,415.73**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				900.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**10,231,440.73**

Annexure-9.66

TPCODL

Name of the Division :-	TED
Name of the Sub-Division : -	Dhenkanal
Name of the Section : -	Hatatota
Name of the Work :-	Proposal for Construction of 3km for augmentation of siminai feeder from Ankartipur Cut point to Ankartipur Village to mitigate overload condition
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A; Construction of 3KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Ankartipur Cut point to Ankartipur Village	5,986,669.04
2	**Total Gross**	**5,986,669.04**

Total estimated cost is Rs. 0.60Cr.

PART-A; Construction of 3KM of Augmentation using 11mtr long 160x152 ,30.44KG/MTR WPB Pole with 99 SQ.MM. -AAA Conductor from Ankartipur Cut point to Ankartipur Village

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	2	59,322.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	57.36	4,359.36
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	3.9648	386.57
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	42.84	3,255.84
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	6.692	508.59
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	5.712	434.11
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	85.68	6,511.68
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	63.216	4,804.42
9	Danger Plate, 2 no's.	No.	104.00	2	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	0.6018	58.68
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	2	325.00
12	H.T. Stay set (Complete)	Set	1,365.00	2	2,730.00
13	H.T. Stay Insulator Type-C	No.	65.00	2	130.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	30	2,925.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	48.38	4,717.05
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	6	624.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	2.4072	234.70
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	3	13,845.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	1	15,405.00
21	11 KV pin insulator polymer	No.	260.00	3	780.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	6	2,730.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	6	8,970.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	3	753.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	6	2,226.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	4	1,328.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	13.718	1,391.01
28	Black Paint	Ltr	286.00	1	286.00
29	Yellow Colour Paint for Background	Ltr	216.00	2	432.00

A	**Total Cost of materials**	**142,411.00**
B	Stock, Storage & Insurance i.e 3% of A	4,272.33
C	**Sub Total (A+B)**	**146,683.33**
D	Contigency @ 3% of C	4,400.50
E	Tools & Plants @ 2% of C	2,751.56
F	Transportation @ 7.5% of C	11,001.25
G	Erection Charges @ 5% on Trf/Breaker/Joist	3,055.08
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	7,647.65
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**175,539.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	2	4,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	0.90	5,850.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.23	1,462.50
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00
K				**Total Civil & Services**	**19,212.50**
L				**Total (J+K)**	**194,751.87**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				-
N				**Sub Total (L+M)**	**194,751.87**
O				Total GST @ 18% of (N)	35,055.34
O1				Total CESS @ 1% of (N)	1,947.52
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**				**231,754.73**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)		3		

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	68.832	5,231.23
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	15.8592	1,546.27
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	17.55216	1,333.96
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	9	2,340.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	9	2,259.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	18	6,678.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	6	1,992.00
15	Earthing of Support (Coil Type)	EA	215.80	3	647.40
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	10.65	1,079.91
18	Black Paint	Ltr	286.00	1.5	429.00
19	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**150,680.48**
B				Stock, Storage & Insurance i.e 3% of A	4,520.41
C				**Sub Total (A+B)**	**155,200.89**
D				Contigency @ 3% of C	4,656.03

E	Tools & Plants @ 2% of C	3,104.02
F	Transportation @ 7.5% of C	11,640.07
G	Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	6,354.84
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**185,538.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.35	8,775.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.34	2,193.75
K	**Total Civil & Services**				**10,968.75**
L	**Total (J+K)**				**196,507.22**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**196,507.22**
O	Total GST @ 18% of (N)				35,371.30
O1	Total CESS @ 1% of (N)				1,965.07
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**233,843.59**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	3	88,983.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	3	312.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	0.9027	88.01
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	9	936.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	3.6108	352.05
9	11 KV pin insulator polymer	No.	260.00	12	3,120.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	18	8,190.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	18	26,910.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	12	3,012.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	18	6,678.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	6	1,992.00
15	Earthing of Support (Coil Type)	EA	215.80	3	647.40
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	0.786	76.64
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	6	975.00
18	H.T. Stay set (Complete)	Set	1,365.00	6	8,190.00
19	H.T. Stay Insulator Type-C	No.	65.00	6	390.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	90	8,775.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	22.299	2,261.12
22	Black Paint	Ltr	286.00	1.5	429.00

23	Yellow Colour Paint for Background	Ltr	216.00	6	1,296.00
A				**Total Cost of materials**	**179,836.16**
B				Stock, Storage & Insurance i.e 3% of A	5,395.08
C				**Sub Total (A+B)**	**185,231.24**
D				Contigency @ 3% of C	5,556.94
E				Tools & Plants @ 2% of C	3,327.03
F				Transportation @ 7.5% of C	13,892.34
G				Erection Charges @ 5% on Trf/Breaker/Joist	4,582.62
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	7,469.89
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**220,060.06**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	6	13,500.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.4	8,775.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.3	2,193.75
K				**Total Civil & Services**	**24,468.75**
L				**Total (J+K)**	**244,528.81**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	-
N				**Sub Total (L+M)**	**244,528.81**
O				Total GST @ 18% of (N)	44,015.19
O1				Total CESS @ 1% of (N)	2,445.29
P				**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**	**290,989.28**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		3		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	39	1,156,779.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	39	41,067.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	39	7,605.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	39	4,056.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	11.74	1,144.17
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	117.00	12,168.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	46.94	4,576.69
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	117	30,420.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	78	25,896.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	117	29,367.00
11	Earthing of Support (Coil Type)	No.	215.80	39	8,416.20
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	10.22	996.26
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	56.55	5,734.17
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	9.27	1,993,050.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	9	19,809.00

16	Black Paint	Ltr	286.00	39.0	11,154.00
17	Yellow Colour Paint for Background	Ltr	216.00	78.0	16,848.00
A				**Total Cost of materials**	**3,369,086.49**
B				Stock, Storage & Insurance i.e 3% of A	101,072.59
C				**Sub Total (A+B)**	**3,470,159.08**
D				Contigency @ 3% of C	104,104.77
E				Tools & Plants @ 2% of C	69,403.18
F				Transportation @ 7.5% of C	260,261.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	59,574.12
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	227,867.67
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**4,191,370.76**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	17.55	114,075.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	4.39	28,518.75
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line, recoiling, loading, transportation, unloading and staking at a proper place in safe position/ site store	Mtr.	6.44	9270.00	59,738.38
K				**Total Civil & Services**	**202,332.13**
L				**Total Material+Services (J+K)**	**4,393,702.89**
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	-
N				**Sub Total (L+M)**	**4,393,702.89**
O				Total GST @ 18% of (N)	790,866.52
O1				Total CESS @ 1% of (N)	43,937.03
P				**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**	**5,228,506.44**
	Gross Total Summary				
1				Gross Total Material +Services (N+O+O1) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O+O1) for DP With AB Switch	231,754.73
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	233,843.59
4				Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle	290,989.28
5				Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB	5,228,506.44
Q				**Gross Total Material +Services**	**5,985,094.04**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	450.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**	**5,986,669.04**

Annexure-9.67

TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	DED
Name of the Sub-Division : -	Kamakhyanagar
Name of the Section : -	Mathkargola
Name of the Work :-	Proposal for Construction of new linking line of 0.5km from OLIC 25KVA to Vodafone Tower 16KVA and 0.5km of linking line from seed farm DTR of barun feeder to Odisha bella 16KVA DTR of 11kv Kanheipal feeder
Names of Schemes: -	**CAPEX 24-25**

Abstract of Estimate

Sl. No.	Description	Amount
1	Part A: Proposal for Construction of new linking line of 0.5km from OLIC 25KVA to Vodafone Tower 16KVA and 0.5km of linking line from seed farm DTR of barun feeder to Odisha bella 16KVA DTR of 11kv Kanheipal feeder	15219148.79
2	**Total Gross**	**15,219,148.79**

Total estimated cost is Rs. 1.52Cr.

Part A: Proposal for Construction of new linking line of 0.5km from OLIC 25KVA to Vodafone Tower 16KVA and 0.5km of linking line from seed farm DTR of barun feeder to Odisha bella 16KVA DTR of 11kv Kanheipal feeder

No. of DP required Without AB switch (Ref. Drawing No.- TPCODL-MVD-0012)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 2.3 mtr., 2 no's channel required =(2x9.56x2.3)	KG	76.00	87.952	6,684.35
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 1.66 Mtr., 4 no's channel required =(7.14x1.66x4)	KG	76.00	94.8192	7,206.26
5	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 2.671 mtr., 4 nos angle required = (4.5x2.671x4)	KG	76.00	96.156	7,307.86
6	Danger Plate, 2 no's.	No.	104.00	4	416.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
8	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
9	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
10	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
11	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
12	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	2	2,730.00
13	50x6mm GI Flat for earthing, 2.36kg/mtr., (2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 5x2.36	KG	97.50	23.6	2,301.00
14	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
15	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
16	11 KV pin insulator polymer	No.	260.00	6	1,560.00
17	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
18	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
19	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	6	1,506.00
20	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
21	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	8	2,656.00
22	GI Nut , Bolt & Washer of different sizes (12.261 Kg each DP without AB Switch)	K.g.	101.40	24.522	2,486.53
23	Black Paint	Ltr	286.00	2	572.00
24	Yellow Colour Paint for Background	Ltr	216.00	4	864.00
A				**Total Cost of materials**	**197,613.89**
B				Stock, Storage & Insurance i.e 3% of A	5,928.42
C				**Sub Total (A+B)**	**203,542.31**
D				Contigency @ 3% of C	6,106.27
E				Tools & Plants @ 2% of C	3,762.88
F				Transportation @ 7.5% of C	15,265.67
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	6,110.17
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole)	6,594.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J				**Sum of (C to I)**	**241,381.34**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	2	7,400.00

K	**Total Civil & Services**	**31,025.00**
L	**Total (J+K)**	272,406.34
M	Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	-
N	**Sub Total (L+M)**	**272,406.34**
O	Total GST @ 18% of (N)	49,033.14
O1	Total CESS @ 1% of (N)	2,724.06
P	**Gross Total Material +Services (N+O+O1) for DP Without AB Switch**	**324,163.54**

No. of DP required With AB Switch (Ref. Drawing No.- TPCODL-MVD-0001)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	4	118,644.00
2	Top Channel 100X50X6mm, 9.56 KG/Mtr., each channel length 3 mtr., 2 no's channel required =(2x9.56x3)	KG	76.00	114.72	8,718.72
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 6 no's required = (6x2.36x0.280)	KG	97.50	7.9296	773.14
4	AB switch Mounting Channel 75X40X4.8mm, 7.14KG/Mtr, each channel length 3 Mtr., 2 no's channel required =(7.14x3x2)	KG	76.00	85.68	6,511.68
5	AB Switch Side Support Channel 100X50X6mm,9.56 KG/Mtr., each channel length 0.35 mtr., 2 no's channel required =(9.56x2x0.35)	KG	76.00	13.384	1,017.18
6	Channel Support for down Pipe 75X40X 4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no's channel required =(7.14x0.8x1)	KG	76.00	11.424	868.22
7	Double Pole Belting Channel 75X40X 4.8mm., 7.14KG/Mtr., each channel length 3.0 Mtr., 4 no's channel required =(7.14x3x4)	KG	76.00	171.36	13,023.36
8	50x50x6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required = (4.5x3.512x4)	KG	76.00	126.432	9,608.83
9	Danger Plate, 2 no's.	No.	104.00	4	416.00
10	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 2 no's = (2x0.59x0.510)	KG	97.50	1.2036	117.35
11	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	4	650.00
12	H.T. Stay set (Complete)	Set	1,365.00	4	5,460.00
13	H.T. Stay Insulator Type-C	No.	65.00	4	260.00
14	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	60	5,850.00
15	Gi Pipe Earthing 40mm. 3 Mtr. Long	No.	1,365.00	4	5,460.00
16	50x6mm GI Flat for earthing, 2.36kg/mtr., (12.5 Mtr. For L.A, 3 Mtr for AB Switch Body, 2.5 mtr. For mesh formation and 2.5 mtr. For raising)= 20.5x2.36	KG	97.50	96.76	9,434.10
17	GI barbed wire anticlimbing device 3 Kg. Per support, 2 no's qty. required =(2x3kg)	Kg	104.00	12	1,248.00
18	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 8 no's = (8x0.59x0.510)	KG	97.50	4.8144	469.40
19	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	4,615.00	6	27,690.00
20	AB Switch (11KV,400A.3pole,50Hz)	Set	15,405.00	2	30,810.00
21	11 KV pin insulator polymer	No.	260.00	6	1,560.00
22	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	12	5,460.00
23	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	12	17,940.00
24	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	6	1,506.00
25	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	12	4,452.00
26	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	8	2,656.00
27	GI Nut , Bolt & Washer of different sizes (13.718 Kg each DP with AB Switch)	K.g.	101.40	27.436	2,782.01
28	Black Paint	Ltr	286.00	2	572.00
29	Yellow Colour Paint for Background	Ltr	216.00	4	864.00

A	**Total Cost of materials**	**284,822.00**
B	Stock, Storage & Insurance i.e 3% of A	8,544.66
C	**Sub Total (A+B)**	**293,366.66**
D	Contigency @ 3% of C	8,801.00
E	Tools & Plants @ 2% of C	5,503.13
F	Transportation @ 7.5% of C	22,002.50
G	Erection Charges @ 5% on Trf/Breaker/Joist	6,110.17

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pole/PSC pole)	15,295.29
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**351,078.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	4	9,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	1.80	11,700.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.45	2,925.00
4	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe .	No.	3,700.00	4	14,800.00

K	**Total Civil & Services**	**38,425.00**
L	**Total (J+K)**	**389,503.75**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	-
N	**Sub Total (L+M)**	**389,503.75**
O	Total GST @ 18% of (N)	70,110.67
O1	Total CESS @ 1% of (N)	3,895.04
P	**Gross Total Material +Services (N+O+O1) for DP With AB Switch**	**463,509.46**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0004)	6

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 2 no's channel required =(2x9.56x1.2)	KG	76.00	137.664	10,462.46
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 8 no's required = (8x2.36x0.280)	KG	97.50	31.7184	3,092.54
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 2 no's channel required =(2x9.56x0.306)	KG	76.00	35.10432	2,667.93
5	Danger Plate, 1 no's.	No.	104.00	6	624.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.8054	176.03
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	18	1,872.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	7.2216	704.11
9	11 KV pin insulator polymer	No.	260.00	18	4,680.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	36	16,380.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	36	53,820.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	18	4,518.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	36	13,356.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	12	3,984.00
15	Earthing of Support (Coil Type)	EA	215.80	6	1,294.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.572	153.27
17	GI Nut , Bolt & Washer of different sizes (3.55 Kg each Cut Pole)	K.g.	101.40	21.3	2,159.82
18	Black Paint	Ltr	286.00	3	858.00
19	Yellow Colour Paint for Background	Ltr	216.00	12	2,592.00

A	**Total Cost of materials**	**301,360.96**
B	Stock, Storage & Insurance i.e 3% of A	9,040.83
C	**Sub Total (A+B)**	**310,401.79**
D	Contigency @ 3% of C	9,312.05
E	Tools & Plants @ 2% of C	6,208.04

F	Transportation @ 7.5% of C	23,280.13
G	Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	12,709.68
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**371,076.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.70	17,550.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.68	4,387.50
K	**Total Civil & Services**				**21,937.50**
L	**Total (J+K)**				**393,014.44**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				-
N	**Sub Total (L+M)**				**393,014.44**
O	Total GST @ 18% of (N)				70,742.60
O1	Total CESS @ 1% of (N)				3,930.14
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**467,687.18**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- TPCODL-MVD-0005)	6			

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No	29,661.00	6	177,966.00
2	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 1.2 mtr., 4 no's channel required =(4x9.56x1.2)	KG	76.00	275.328	20,924.93
3	Fish Plate 50x6 mm., 2.36 kg/Mtr., each 0.280 mtr. length, 16 no's required = (16x2.36x0.280)	K.g.	97.50	63.4368	6,185.09
4	Straight Cross Arm 100X50X6mm, 9.56 KG/Mtr., each channel length 0.306 mtr., 4 no's channel required =(4x9.56x0.306)	KG	76.00	70.20864	5,335.86
5	Danger Plate, 1 no's.	No.	104.00	6	624.00
6	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	1.8054	176.03
7	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	18	1,872.00
8	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	7.2216	704.11
9	11 KV pin insulator polymer	No.	260.00	24	6,240.00
10	H W fitting(B&S) 70KN, 3Bolt	No.	455.00	36	16,380.00
11	Disc insulator (B&S) 70 KN polymer	No.	1,495.00	36	53,820.00
12	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	24	6,024.00
13	IPC for 99 sq.mm AAA conductor (For covered conductor)	NO.	371.00	36	13,356.00
14	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	12	3,984.00
15	Earthing of Support (Coil Type)	EA	215.80	6	1,294.80
16	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	1.572	153.27
17	H.T. Stay clamp, 50x8 mm. flat, 3.14Kg/Mtr., 0.551 Mtr. Length, 2 no's qty. required (1 Pair)	Pair	162.50	12	1,950.00
18	H.T. Stay set (Complete)	Set	1,365.00	12	16,380.00
19	H.T. Stay Insulator Type-C	No.	65.00	12	780.00
20	7/10 SWG Stay Wire 15kg /stay	K.g.	97.50	180	17,550.00
21	GI Nut , Bolt & Washer of different sizes (7.433 Kg each Cut Pole)	K.g.	101.40	44.598	4,522.24
22	Black Paint	Ltr	286.00	3	858.00
23	Yellow Colour Paint for Background	Ltr	216.00	12	2,592.00
A	**Total Cost of materials**				**359,672.31**
B	Stock, Storage & Insurance i.e 3% of A				10,790.17
C	**Sub Total (A+B)**				**370,462.48**
D	Contigency @ 3% of C				11,113.87

E	Tools & Plants @ 2% of C	6,654.05
F	Transportation @ 7.5% of C	27,784.69
G	Erection Charges @ 5% on Trf/Breaker/Joist	9,165.25
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)	14,939.77
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv	-
J	**Sum of (C to I)**	**440,120.12**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5)Stay clamps with Nuts & bolts BA will do the excvation including excvation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPCODL Drawing & Standard.	No.	2,250.00	12	27,000.00
2	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	2.7	17,550.00
3	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	0.7	4,387.50
K	**Total Civil & Services**				**48,937.50**
L	**Total (J+K)**				**489,057.62**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				-
N	**Sub Total (L+M)**				**489,057.62**
O	Total GST @ 18% of (N)				88,030.37
O1	Total CESS @ 1% of (N)				4,890.58
P	**Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle**				**581,978.56**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- TPCODL-MVD-0003)		6		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 (11Mtr. Long, 30.44KG/Mtr.)	No.	29,661.00	134	3,974,574.00
2	11 KV V cross Arm (10.2 K.g. each)	No.	1,053.00	134	141,102.00
3	Top bracket 100x50X6 mm GI channel (2kg each)	No.	195.00	134	26,130.00
4	Danger Plate, 1 no's. for each pole	No.	104.00	134	13,936.00
5	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 1 no's = (1x0.59x0.510)	KG	97.50	40.32	3,931.26
6	GI barbed wire anticlimbing device 3 Kg. Per support	Kg	104.00	402.00	41,808.00
7	Back Clamp for anticlimbing device 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr length 4 no's = (4x0.59x0.510)	KG	97.50	161.28	15,725.03
8	11 KV pin insulator polymer, 3 Nos. required for each support	No.	260.00	402	104,520.00
9	Spike (GI) (using 50x6mm Flat welded with 8 mm square bar) (2 Nos of spike per Set in each Pole)	Set	332.00	268	88,976.00
10	Non Metallic Ties 11KV (For covered conductor)	No.	251.00	402	100,902.00
11	Earthing of Support (Coil Type)	No.	215.80	134	28,917.20
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	K.g.	97.50	35.11	3,423.03
13	GI Nut , Bolt & Washer of different sizes (1.45 Kg/ Pin Point)	K.g.	101.40	194.30	19,702.02
14	99 SQ.MM. AAAC XLPE Covered Conductor	K.M.	215,000.00	18.54	3,986,100.00
15	Midspan Joint for 99 sq.mm AAAC XLPE Covered Conductor	EA	2,201.00	18	39,618.00
16	Black Paint	Ltr	286.00	134.0	38,324.00
17	Yellow Colour Paint for Background	Ltr	216.00	268.0	57,888.00
A	**Total Cost of materials**				**8,685,576.54**
B	Stock, Storage & Insurance i.e 3% of A				260,567.30
C	**Sub Total (A+B)**				**8,946,143.84**
D	Contigency @ 3% of C				268,384.32
E	Tools & Plants @ 2% of C				178,922.88
F	Transportation @ 7.5% of C				670,960.79
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				204,690.56

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC pole)				485,233.26
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv				-
J	**Sum of (C to I)**				**10,754,335.64**
	Civil & Services				
1	Concreting ratio 1:1.5:3 (500mmX500mmX1800mm) = 0.45Cu.mtr	Cu.mtr	6,500.00	60.30	391,950.00
2	Couping ratio 1:1.5:3 with dimension (500X500X450)= 0.1125 Cu mtr	Cu.mtr	6,500.00	15.08	97,987.50
K	**Total Civil & Services**				**489,937.50**
L	**Total Material+Services (J+K)**				**11,244,273.14**
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				-
N	**Sub Total (L+M)**				**11,244,273.14**
O	Total GST @ 18% of (N)				2,023,969.17
O1	Total CESS @ 1% of (N)				112,442.73
P	**Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB**				**13,380,685.04**
	Gross Total Summary				
1	Gross Total Material +Services (N+O+O1) for DP Without AB Switch				324,163.54
2	Gross Total Material +Services (N+O+O1) for DP With AB Switch				463,509.46
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				467,687.18
4	Gross Total Material +Services (N+O+O1) for 11 KV Cut Point with 90 Degree Angle				581,978.56
5	Gross Total Material +Services (N+O+O1) for 11 KV Pin Points With WPB				13,380,685.04
Q	**Gross Total Material +Services**				**15,218,023.79**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 upto 1 KM				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Gross Total Material, Services and Inspection Fees (Q+R+S+T)**				**15,219,148.79**