### DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT SABARKANTHA District of GUJARAT UNDER REVAMPED REFORMS-BASED AND (Bill of Quantity)

Ex-works supply of materials

A (I) Augmentation, Renovation and Modernisation of existing Distribution Transformer			
Line Item	Description	Unit	Qty
A (I)	Augmentation & Renovation of 11/0.4 kV Distribution Transformer Substation		
1.00	Augmentation of Distribution Transformer Substation (ASSUMING 25 YEARS OF LIFE AND 10 YEARS IN SERVICE) using New Distribution Transformer (three star) as per technical specifications, approved drawings and scope of the work. Replaced material to be deposited in Employer's store:		
1.01	New 100 KVA (11/0.4 kV) Aluminium wound DTR (Replacing 63 KVA old DTR),	No	291
1.02	New 200 KVA (11/0.4 kV) Aluminium wound DTR (Replacing 100 KVA old DTR),	No	67

# BoQ DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT SABARKANTHA District of GUJARAT UNDER REVAMPED REFORMS-BASED AND (Bill of Quantity) Ex-works supply of materials

Ex-works supply of materials

A (II)	Crossing Removal (Safety)		1
Line Item No.	Description of Goods	Unit	Quantity
<b>1.00</b>	<b>Cables:</b> Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 KV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.	Mtr	20437
1.02	Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum depth of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical specification, approved drawings and scope of work.	Mtr	1880
2.00	Pre-fabricated steel items like V cross arm, top clamp, DC cross arm, bracket, clamps, cross bracings, bracings, strain plate, guarding channels, back clamp, transformer mounting structure etc made of MS Channels (100x50x6mm), MS angle (65x65x6mm), MS flats (65x8mm) of given sizes for over head structures as per technical specification, approved drawings and scope of work.	MT	4.059
3.00	MS Nuts, Bolts with Washers as per technical specification, approved drawings and scope of work.	MT	0.151536
4.00	Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer(PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations,providing compression type terminals,crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		0.131330
4.01	3Cx185 mm 2 11 KV XLPE	No	0
5.00	Outdoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer(PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		
5.01	3Cx185 mm 2 11 KV XLPE	No	492
6.00	Straight Joint: HT push on/heat shrink type straight joint preferably for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool.as per technical specification, approved drawings and scope of work.		
6.01	3Cx185 mm 2 11 KV XLPE	No	1
7.00	Earthing arrangement as per technical specificatons, approved drawings and scope of work.		
7.01	Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals,HT & LT switchgears for independent earthing in normal soil, Length of Pipe 3 mtrs.Backfilling compound 2 bagsof 25 Kg each	No	492
7.02	Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.	Mtr	3936
8.00	Providing 11kV Double Pole Structure with AB Switch 12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings on 8 Mtr PSC Poles as per technical specification, approved drawings and scope of work.	No	0
9.00	Supply and installation of clamps made from 50*6 mm GI Flat (Min. wieght of flat 1.6 kG per Set) for fitting for 110 mm GI / HDPE pipe above ground with pole (with cost of nuts & bolts) Cable Laying above ground in air for termination of cable on pole withas per Engineer In Charge	Set	492
10.00	Provinding of 100 mm Dia heavy duty GI pipe with clamping for the protection for the cable above the ground	Mtr	1476
11.00	Stay Set (Galvanised) with 50x8 mm stay clamp, stay insulator (2 Nos.), anchor plate (200x200x6), nut bolts, 2 Nos turn-buckles, 1.8 m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete as per technical specification, approved drawings and scope of work.	Set	984
12.00	Insulator and hardware as per technical specification, approved drawings and scope of work.		
12.01	11 KV Polymer (Composite) Disc insulator 45 KN along with suitable hardware fittings	set	1476
12.02	11 KV Polymer (Composite) Pin Insulators having GI PIN Cable Route Marker: Providing RCC cable Route marker as per drawing duly marked with "DANGER"	set	0

# BoQ DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT SABARKANTHA District of GUJARAT UNDER REVAMPED REFORMS-BASED AND (Bill of Quantity) works supply of materials

Ex-works supply of materials

Line item     Description of Goods     Unit     Quantity       1.00     Support for 11 KV overhead line as per technical specification, approved drawings and scope of work.     Mo     101       1.01     10 m / 270 kap ESC Poles - (PSC Poles as per state practice)     Mo     100	A (III)	New Feeder / Feeder Bifurcation		
1.00     Support for 11 KV overhead line as per technical specification, approved drawings and scope of work.     No.     76       1.01     10 m / 270 kap PSC Poles - (PSC Pole as per state practice)     No.     76       1.02     8. mr 200 kap PSC Poles - (PSC Pole as practice)     No.     76       2.00     Pre-fabricated steal items like V cross arm, bp clamp, Cross arm, bracket, dampe, cross bracings, strain plute, guarding channels, back clamp, transformer mounting structures ter made of MS. Channels (100:S0:Gom), MS anjel (65:C0:SSG mm), MS flats (C0:SSG mm) of given sizes for over head structures as per technical specification, approved drawings and scope of work.     MT     0.33       4.00     Nitus, Bolts with Washers as per technical specification, approved drawings and scope of work.     MT     0.33       5.00     Insultors, Nature buncks, J. and bung, 16 mm diameter solid GS stry of & 7/3.51     get     72       5.00     Insultors and bardware as per technical specification, approved drawings and scope of work.     ed     192       5.01     I.KV Polymer (Composte) Dest insultator SN atalog with subtle hardware fittings.     get     192       5.02     I.KV Polymer (Composte) Dest insultator SN atalog with solve and with set Earthing Earthin			Unit	Quantity
1.02 8 m / 200 kos PSC Poles - (PSC Pole as per state practice) No 110   2.00 Pre-fabricated steel items like V cross arm, top Camp, DC cross arm, bracket, clamps, cross bracings, train place, guarding Channels, back Channels, top Channels, to		Support for 11 KV overhead line as per technical specification, approved drawings and scope of work		
1.02 8 m / 200 kos PSC Poles - (PSC Pole as per state practice) No 110   2.00 Pre-fabricated steel items like V cross arm, top Camp, DC cross arm, bracket, clamps, cross bracings, train place, guarding Channels, back Channels, top Channels, to	1.01	10 m / 270 kgs PSC Poles - (PSC Pole as per state practice)	No	76
Pre-fabricated steel items like V cross arm, top clamp, DC cross arm, bracket, clamps, cross bracings, bracings, strain plate, guarding channels, back clamp, transformer mounting structure etc made of MS and structures as per technical specification, approved drawings and scope of work.     MT     3.959       3.00     MS Nuts, Bolts with Washers as per technical specification, approved drawings and scope of work.     MT     0.33       4.00     Stay Set (Galvanised) with 50x8 nm stay clamp, stay insulator (2 Nos.), anchor plate (200x200x6), nut bolts, 2 Nos turn-buckles, 1.8 m long, 16 m diameter solid GS stay rod 8 7(3.15 mm dia GI stranded wite complete as per technical specification, approved drawings and scope of work.     9et     72       5.00     Insulator and hardware as per technical specification, approved drawings and scope of work.     9et     531       5.02     11 kV Fohmer (Composite) Disc insulator 5 KM along with sutable hardware fittings.     9et     531       6.00     Farthing arrangement as per technical specifications, approved drawings and scope of work.     9et     531       6.01     IN Pohmer (Composite) Disc insulator 5 KM along with sutable hardware fittings.     9et     531       6.02     Farthing arrangement as per technical specifications, approved drawings and scope of work.     9et     531       6.03     Farthing arrangement as per technical specification with wore of anore score of the ore of minima score score of the				
4.00   Stay Set (Galvanised) with 50x8 mm stay clamp, stay insulator (2 Nos.), anchor plate (200x200x6), unt bolts, 2 Nos turn-buckles, 1.8 m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia G i stranded wire complete as per technical specification, approved drawings and scope of work.   9     5.00   Insulator and hardware as per technical specification, approved drawings and scope of work.   9     5.01   11 KV Polymer (Composite) Pin Insulator 5 NN along With subable hardware fittings   9     5.02   11 KV Polymer (Composite) Pin Insulators Namg OI PIN   set   912     6.00   Earthing arrangement as per technical specifications, approved drawings and scope of work.   set   912     6.01   Insulator on the origon of the Composite Pin Insulator SNM of SNA 3007 Mode or cornsoin fee Ca. J Pips having Outer pie dia of 50 mm having 80-200 Micron galvanising cornections, terminal dia of 12 mm with constant ohmic value surounded by high conductive compound with high charg designation with cvil works orderafting damber. For Electrical Installation covering Transformer neutrals,HT & LT switchgears for independent earthing in normal soil, Length of Pin Electrical installation covering of earthing conductor 38 x 3 G.1 strip for pole mounted transformer and upto FSP,RML as well as connection to be made to the earth PL relaxe inclusive of th dipped hardwares.   Mr   1804     6.02   as well as connection to be made to the earth PL relaxe inclusive of th dipped hardwares.   Mr   11804     7.00   ACSR Conductors of following sizes with Jointing	2.00	bracings, strain plate, guarding channels, back clamp, transformer mounting structure etc made of MS Channels (100x50x6mm), MS angle (65x65x6mm), MS flats (65x8mm) of given sizes for over head	MT	3.959
4.00 nut botts, 2 Nos turn-buckles, 1.8 m long, 16 mm diameter solid GS stay rod & 7/3.515 mm dia G1 set 72   5.00 Insulator and hardware as per technical specification, approved drawings and scope of work.     5.00 Insulator and hardware as per technical specification, approved drawings and scope of work.     5.01 11 KV Polymer (Composite) Disc insulator 45 KN along with subble hardware fittings set 192   5.02 11 KV Polymer (Composite) Disc insulator 45 KN along with subble hardware fittings set 192   5.02 11 KV Polymer (Composite) Disc insulator 45 KN along with subble hardware fittings set 192   6.01 Earthing arrangement as per technical specifications, approved drawings and scope of work.     6.01 Noving 80-200 Micron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing normal soil, Length of Pipe 3 microslaw field of 50 mm isolalized for aching conductions 38 x 3 G.1. strip for pole mounted transformer and upto FSP,RNU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares. No 220   7.00 ACSR Conductors of following sizes with Jointing sleeves, binding materials, PG Clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work. 116.12   7.01 64/32 mm+7/1.52 mm (100 mm PiA. Area9	3.00	MS Nuts, Bolts with Washers as per technical specification, approved drawings and scope of work.	MT	0.33
5.01 11 KV Polymer (Composite) Disc insulator 45 KN along with suitable hardware fittings set 192   5.02 11 KV Polymer (Composite) Pin Insulators having GI PIN set 531   6.00 Earthing arrangement as per technical specificatons, approved drawings and scope of work. set 531   6.01 Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per 15 303-1987 made of corrosion free G.1. Pipes having Outeron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical Installation covering Transforme neutrals, HX & Li Switchgears for independent earthing in normal soil, Length of Pipe 3 mits, Backfilling compound 2 baasol 25 Ka each No 220   6.02 Installation covering Transforme neutrals, HX & Li Switchgears for independent earthing in normal soil, Length of Pipe 3 mits, Backfilling compound 2 baasol 25 Ka each No 220   7.00 ACSR Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware at core or work. No 1804   7.01 6/4.72 mm+7/1.57 mm (100 mm* AL Area) - Dog Km 7.13   8.00 DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specification, approved drawings and scope of work. Set 10   9.01 Cables: Supply of 11 KV (E), XLPE	4.00	nut bolts, 2 Nos turn-buckles, 1.8 m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI	set	72
5.02 11 KV Polymer (Composite) Pin Insulators having GI PIN set 531   6.00 Earthing arrangement as per technical specifications, approved drawings and scope of work. supplying & creating earth pin of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 304-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micro agavansing connections, terminal dia of 12 mm with constant othnic value surrounded by high conductive compound with high charge dissipation with out works dearthing chamber. For Electrical installation covering Transformer neutrals, HT & LT switchgears for independent earthing in normal soil, Length of Pipe 3 mtrs.Backfilling combound 2 basis 275 KG each No 220   6.02 as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares. Mtr 1804   7.00 Canductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work mtr 1804   8.00 12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM) (sing Operated, AB switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specification, scope of work. set 521   9.00 Cables: Set 10 10 230 230 230   9.01 Supply of 11 kV/(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as p	5.00	Insulator and hardware as per technical specification, approved drawings and scope of work.		
5.02 11 KV Polymer (Composite) Pin Insulators having GI PIN set 531   6.00 Earthing arrangement as per technical specifications, approved drawings and scope of work. supplying & creating earth pin of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 304-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micro agavansing connections, terminal dia of 12 mm with constant othnic value surrounded by high conductive compound with high charge dissipation with out works dearthing chamber. For Electrical installation covering Transformer neutrals, HT & LT switchgears for independent earthing in normal soil, Length of Pipe 3 mtrs.Backfilling combound 2 basis 275 KG each No 220   6.02 as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares. Mtr 1804   7.00 Canductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work mtr 1804   8.00 12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM) (sing Operated, AB switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specification, scope of work. set 521   9.00 Cables: Set 10 10 230 230 230   9.01 Supply of 11 kV/(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as p		11 KV Polymer (Composite) Disc insulator 45 KN along with suitable hardware fittings	set	192
Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant obmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals, IT & I. T switchears for independent earthing in normal soil, Length of Pipe. 3 mtrs, Backfillm compound 2 bassof 25 Ke each     No     220       6.02     Installation comcound 2 bassof 25 Ke each     Mtr     1804       7.00     CarRe Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work     Mtr     1804       7.01     6/4.72 mm+7/1.57 mm (100 mm² AL Area) - Dog     km     7.13       7.02     AL.Alley Conductor 55mm² Size     km     16.12       8.00     DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings     Set     10       9.00     Cables:     Set     10       9.01     Supply of 11 kV (E), XLPE insulated Aluminium Conductor, Armoured cable as per technical specification, approved drawings and scope of work.     Mtr <td>5.02</td> <td>11 KV Polymer (Composite) Pin Insulators having GI PIN</td> <td>set</td> <td>531</td>	5.02	11 KV Polymer (Composite) Pin Insulators having GI PIN	set	531
Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant obmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals, IT & I. T switchears for independent earthing in normal soil, Length of Pipe. 3 mtrs, Backfillm compound 2 bassof 25 Ke each     No     220       6.02     Installation comcound 2 bassof 25 Ke each     Mtr     1804       7.00     CarRe Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work     Mtr     1804       7.01     6/4.72 mm+7/1.57 mm (100 mm² AL Area) - Dog     km     7.13       7.02     AL.Alley Conductor 55mm² Size     km     16.12       8.00     DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings     Set     10       9.00     Cables:     Set     10       9.01     Supply of 11 kV (E), XLPE insulated Aluminium Conductor, Armoured cable as per technical specification, approved drawings and scope of work.     Mtr <td>6.00</td> <td>Earthing arrangement as per technical specificatons, approved drawings and scope of work.</td> <td></td> <td></td>	6.00	Earthing arrangement as per technical specificatons, approved drawings and scope of work.		
6.02   Installation & commissioning of earthing conductor 38 x 3 G.1. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.   Mtr   1804     ACSR Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work.   7.00   ACSR Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work.   7.01   6(4.72 mm+7/1.57 mm (100 mm² Al. Area) - Dog   km   7.13     7.02   AL.Aloy Conductor S5mm² Size   km   16.12     8.00   12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specification a core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable. (Make as approved by UGVCL). Laying of 11 kV (E) XLPE insulated aluminium armoured cable as per each vice with half round Hume pipe and refiling the trench. (rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.01   Orables:          9.01   Cables: </td <td></td> <td>Supplying &amp; erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals,HT &amp; LT switchgears for independent earthing in normal soil, Length of</td> <td>No</td> <td>220</td>		Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals,HT & LT switchgears for independent earthing in normal soil, Length of	No	220
7.00   clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work   1     7.01   6/4.72 mm 1/01 mm 2/1.5 mm 1/20 mm 2/1.4 rea) - Dog   km   7.13     7.02   AL.Alloy Conductor 55mm 2 Size   km   16.12     8.00   12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings   Set   10     9.00   Cables:   Supply of 11 kV/(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable. (Make as approved by UGVCL). Laying of 11 kV (E) XLPE insulated aluminium armoured cable and covering with half round Hume pipe and refilling the trench. (rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.01   9.02   HOPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum armoured cable up to 240/185 sqm through method by drilling the road with HDD machine without breaking the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable (rinternal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqm through the duct as per the instructions of EIC as per technical specification, approve	6.02	Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU	Mtr	1804
7.01   6/4.72 mm+7/1.57 mm (100 mm² Al. Area) - Dog   km   7.13     7.02   AL.Alloy Conductor 55mm² Size   km   16.12     7.02   AL.Alloy Conductor 55mm² Size   km   16.12     8.00   12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings   Set   10     9.00   Cables:   500 mm wide cable specification including rates for approval of local Authorities for laying of cable. (Make as approved by UGVCL) Laying of 11 kV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench. (rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.01   9.02   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer (PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Mtr   0     9.01   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer (PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Mtr   0 <td>7.00</td> <td>clamp, hardware etc for overhead line and jumpers as required as per technical specification,</td> <td></td> <td></td>	7.00	clamp, hardware etc for overhead line and jumpers as required as per technical specification,		
7.02   AL.Alloy Conductor 55mm <sup>2</sup> Size   km   16.12     8.00   12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings   Set   10     9.00   Cables:   50   10     9.01   Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 kV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.02   Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum dept of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical specification, approved drawings and scope of work.   Mtr   0     10.00   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer(PAD/Pole	7.01		km	7.13
Image: constraint of the second sec				
9.01   Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 KV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.02   Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum depth of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical specification, approved drawings and scope of work.   Mtr   0     10.00   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with conn	8.00	12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing	Set	10
9.01   Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 KV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.   Mtr   230     9.02   Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum depth of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical specification, approved drawings and scope of work.   Mtr   0     10.00   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specification, approved drawings and scope of work.   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with conn	9.00	Cables:		
9.02   Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum depth of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical specification, approved drawings and scope of work.   Mtr   0     10.00   Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations,providing compression type terminals,crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 KV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification,	Mtr	230
boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations,providing compression type terminals,crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.	9.02	Providing of HDPE (DWC) ducts confirming to IS:4984 having dia OD/ID 120/90.mm, 6kg/cm2, 11.63 kg/6 RMT at a minimum depth of 1200mm below the road surface by pushthrough method by drilling the road with HDD machine without breaking the road surface for laying of cable for internal road crossing for enclosing HT/LT XLPE insulated aluminum armoured cable up to 240/185 sqmm through the duct as per the instructions of EIC as per technical	Mtr	0
	10.00	boxes, transformer( PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool, as per technical specification,		
	10.01	3Cx185 mm 2 11 KV XLPE	No	5

specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		
3Cx185 mm 2 11 KV XLPE	No	5
Straight Joint: HT push on/heat shrink type straight joint preferably for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool.as per technical specification, approved drawings and scope of work.		
3Cx185 mm 2 11 KV XLPE	No	0
Earthing arrangement as per technical specificatons, approved drawings and scope of work.		
Supplying of maintaince free earthing sysytem comprising of 17.2 mm dia 3 mtr Long Earthing Electrode of low carbon steel electrode with 250 micrns copper coating + carbon based conductive concrete back fill safe compound(resisitivity of less than 0.10 ohm mtr) & GI clamp.Supply, Earcting and Install pre cast RCC Earth pit Chamber (300*300 MM),Making 100 mm Dia Bore, 3 Mtr Long, Making of Earth pit chamber in normal Soil.	No	
Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.	Mtr	
Supply and installation of clamps made from 50*6 mm GI Flat (Min. wieght of flat 1.6 kG per Set) for fitting for 110 mm GI / HDPE pipe above ground with pole (with cost of nuts & bolts) Cable Laying above ground in air for termination of cable on pole withas per Engineer In Charge	Set	5
Provinding of 100 mm Dia heavy duty GI pipe with clamping for the protection for the cable above the ground	Mtr	15
Cable Route Marker: Providing RCC cable Route marker as per drawing duly marked with "DANGER" Mark, "UGVCL POWER CABLE" and Arrow of route of cable.	No	0
11kV 3 C x 70 Sq. MM. + 1 X 70 Sq. MM. bare messenger Aerial Bunched Cable (to be erected on 10Mtr	1-54	0.15
	approved drawings and scope of work. 3Cx185 mm 2 11 KV XLPE Straight Joint: HT push on/heat shrink type straight joint preferably for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations,providing compression type terminals,crimping of lugs with suitable crimping tool.as per technical specification, approved drawings and scope of work. 3Cx185 mm 2 11 KV XLPE Earthing arrangement as per technical specificatons, approved drawings and scope of work. Supplying of maintaince free earthing sysytem comprising of 17.2 mm dia 3 mtr Long Earthing Electrode of low carbon steel electrode with 250 micrns copper coating + carbon based conductive concrete back fill safe compound(resisitivity of less than 0.10 ohm mtr) & GI clamp.Supply, Earcting and Install pre cast RCC Earth pit Chamber (300*300 MM),Making 100 mm Dia Bore, 3 Mtr Long, Making of Earth pit chamber in normal Soil. Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares. Supply and installation of clamps made from 50*6 mm GI Flat (Min. wieght of flat 1.6 kG per Set) for fitting for 110 mm GI / HDPE pipe above ground with pole (with cost of nuts & bolts) Cable Laying above ground in air for termination of cable on pole withas per Engineer In Charge Provinding of 100 mm Dia heavy duty GI pipe with clamping for the protection for the cable above the ground Cable Route Marker: Providing RCC cable Route marker as per drawing duly marked with "DANGER" Mark, "UGVCL POWER CABLE" and Arrow of route of cable.	approved drawings and scope of work.   3Cx185 mm 2 11 KV XLPE   No     3Cx185 mm 2 11 KV XLPE   No     Straight Joint: HT push on/heat shrink type straight joint preferably for 11 kV XLPE Aluminium   No     Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations, providing compression type terminals,crimping of lugs with suitable crimping tool.as per technical specification, approved drawings and scope of work.   No     3Cx185 mm 2 11 KV XLPE   No   No     Earthing arrangement as per technical specificatons, approved drawings and scope of work.   No     Supplying of maintaince free earthing system comprising of 17.2 mm dia 3 mtr Long Earthing Electrode of low carbon steel electrode with 250 micrns copper coating + carbon based conductive concrete back fill safe   No     Compound(resistivity of less than 0.10 ohm mtr) & GI clamp.Supply, Earcting and Install pre cast RCC Earth pit   No     Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.   Mtr     Supply and installation of clamps made from 50*6 mm GI Flat (Min. wieght of flat 1.6 kG per Set) for fitting for 110 mm GI / HDPE pipe above ground with pole (with cost of nuts & bolts) Cable Laying above ground in air for termination of cable on pole withas per Engineer In Charge   Mtr     Cable Route Marker: Providing RCC cable Route marker as per drawing duly marked with "DANGER

### DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT SABARKANTHA District of GUJARAT UNDER REVAMPED REFORMS-BASED AND (Bill of Quantity)

Ex-works supply of materials

Bidder's Name & Address:

A (IV)	Maintenance free, Ready capsule, Pipe-in-cage (PiC) type earthing and connections to the various parts of transformer center using GI Strip and GI Nut Bolts		
Line Item No.	Description of Goods	Unit	Quantity
1.00	Supply of Maintenance free, Ready capsule, Pipe-in-cage (PiC) type Earthing with 3 Mtr Electrode as per technical specification, approved drawings and scope of work.	No	645.00
2.00	Supply of 25 X 3 mm GI Strip having hot dip- galvanized-zinc coating of 80-100 microns without any joints or welding. Both the end of the GI strip should be connected with GI nut bolts and required fabrication work for giving separate earthing connections to (1) Neutral of the transformer (2) MS structures of the transformer center (3) Lightening Arrestor (Approximately 30 meter GI strip per transformer centre -as per requirement and instruction of Engineer in-charge) (3 earth Pits required for three separate earthings) as per technical specification, approved drawings and scope of work.	Mtr	6450.00
3.00	Supply of uPVC standard make Pipe of 1.25" diameter for covering GI strip with UV protected Cable Ties of 550 X 7.6 mm size to bind with pole face(Approximately 25 meter uPVC pipe for GI strip covering per transformer centre -as per requirement and instruction of Engineer in-charge) as per technical specification, approved drawings and scope of work.	Mtr	5375.00

BoQ

# BoQ DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT SABARKANTHA District of GUJARAT UNDER REVAMPED REFORMS-BASED AND (Bill of Quantity) works supply of materials

Ex-works supply of materials

A (V)	Interlinking of 11kV Feeder (Reliability)		
Line Item No.	Description of Goods	Unit	Quantity
1.00	Support for 11 KV overhead line as per technical specification, approved drawings and scope of work		
1.01	10 m / 270 kgs PSC Poles - (PSC Pole as per state practice)	No	0
2.00	Pre-fabricated steel items like V cross arm, top clamp, DC cross arm, bracket, clamps, cross bracings, bracings, strain plate, guarding channels, back clamp, transformer mounting structure etc made of MS Channels (100x50x6mm), MS angle (65x65x6mm), MS flats (65x8mm) of given sizes for over head structures as per technical specification, approved drawings and scope of work.	MT	
3.00	MS Nuts, Bolts with Washers as per technical specification, approved drawings and scope of work.	MT	
4.00	Stay Set (Galvanised) with 50x8 mm stay clamp, stay insulator (2 Nos.), anchor plate (200x200x6), nut bolts, 2 Nos turn-buckles, 1.8 m long, 16 mm diameter solid GS stay rod & 7/3.15 mm dia GI stranded wire complete as per technical specification, approved drawings and scope of work.	set	128
5.00	Insulator and hardware as per technical specification, approved drawings and scope of work.		
5.01	11 KV Polymer (Composite) Disc insulator 45 KN along with suitable hardware fittings	set	
5.02	11 KV Polymer (Composite) Pin Insulators having GI PIN	set	1
			Ĺ
<b>6.00</b>	Earthing arrangement as per technical specificatons, approved drawings and scope of work. Supplying & erecting earth pit of minimum bore dia. 150 mm size approved make safe Earthing Electrode consisting Pipe in pipe Technology as per IS 3043-1987 made of corrosion free G.I. Pipes having Outer pipe dia of 50 mm having 80-200 Micron galvanising connections, terminal dia of 12 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation with civil works ofearthing chamber. For Electrical installation covering Transformer neutrals,HT & LT switchgears for independent earthing in normal soil, Length of Pipe 3 mtrs.Backfilling compound 2 bagsof 25 Kg each	No	128
6.02	Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.	Mtr	640
7.00	ACSR Conductors of following sizes with Jointing sleeves, binding materials, PG clamps, bi-metallic clamp, hardware etc for overhead line and jumpers as required as per technical specification, approved drawings and scope of work		
7.01	6/4.72 mm+7/1.57 mm (100 mm <sup>2</sup> Al. Area) - Dog	km	0
8.00	12kV, 600A, 25kA for 3sec, 3-ph, 3 Pin type, Horizontal/Vertical Mounting type (as desired by DISCOM), Gang Operated, AB Switch along with Support Insulators, Base Channel down Pipe, Arcing Horns etc. complete as per technical specifications, scope of works and approved drawings	Set	0
0.00	College		
<b>9.00</b> 9.01	<b>Cables:</b> Supply of 11 kV,(E),XLPE insulated Aluminium Conductor, Armoured cable as per enclosed specification 3 core 185 sq. mm. as perenclosed specification including rates for approval of local Authorities for laying of cable.(Make as approved by UGVCL) Laying of 11 KV (E) XLPE insulated aluminium armoured cable in ground up to 1200 mm deep, 500 mm wide cable trench provinding sand cushioning before and after laying cable and covering with half round Hume pipe and refilling the trench.( rate shall include cost of excavation of trench) as per technical specification, approved drawings and scope of work.	Mtr	6980
10.00	Indoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer(PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting,stripping of cable, insulations,providing compression type terminals,crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		
10.01	3Cx185 mm 2 11 KV XLPE	No	96
11.00	Outdoor application: HT push on/heat shrink type end termination preferably for at switchgear end boxes, transformer(PAD/Pole mounted) for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool, as per technical specification, approved drawings and scope of work.		
11.01	3Cx185 mm 2 11 KV XLPE	No	96
12.00	Straight Joint: HT push on/heat shrink type straight joint preferably for 11 kV XLPE Aluminium Conductor Armoured cable as specified with connection of leads including cutting, stripping of cable, insulations, providing compression type terminals, crimping of lugs with suitable crimping tool.as per technical specification, approved drawings and scope of work.		
	3Cx185 mm 2 11 KV XLPE	No	11

13.00	Earthing arrangement as per technical specificatons, approved drawings and scope of work.		
13.01	Supplying of maintaince free earthing sysytem comprising of 17.2 mm dia 3 mtr Long Earthing Electrode of low		
	carbon steel electrode with 250 micrns copper coating + carbon based conductive concrete back fill safe	No	
15.01	compound(resisitivity of less than 0.10 ohm mtr) & GI clamp.Supply, Earcting and Install pre cast RCC Earth pit	INO	
	Chamber (300*300 MM), Making 100 mm Dia Bore, 3 Mtr Long, Making of Earth pit chamber in normal Soil.		
13.02	Installation & commissioning of earthing conductor 38 x 3 G.I. strip for pole mounted transformer and upto FSP,RMU	Mtr	
13.02	as well as connection to be made to the earth pit. Rates inclusive of hot dipped hardwares.	Mu	
	Supply and installation of clamps made from 50*6 mm GI Flat (Min. wieght of flat 1.6 kG per Set) for		
14.00	fitting for 110 mm GI / HDPE pipe above ground with pole (with cost of nuts & bolts) Cable Laying	Set	64
	above ground in air for termination of cable on pole withas per Engineer In Charge		
15.00	Provinding of 100 mm Dia heavy duty GI pipe with clamping for the protection for the cable above the	Mtr	192
15.00	ground	Più	172
16.00	Cable Route Marker: Providing RCC cable Route marker as per drawing duly marked with "DANGER"	No	230
10.00	Mark, "UGVCL POWER CABLE" and Arrow of route of cable.	NO	230
17.00	RMU : Supply of SF6 gas insulated, 630Amp both sides extensible, SCADA compatible Ring Mains Units		
	(RMU) as per technical specification, approved drawings and scope of work.		
17.01	2 Isolator (2-Way)	No	
17.02	1 Circuit Breaker 1 Isolator (2-Way)	No	
17.03	3 Isolator (3-Way)	No	
17.04	1 Circuit Breaker 2 Isolator (3-Way)	No	32
17.05	2 Circuit Breaker 1 Isolator (3-Way)	No	
17.06	1 Circuit Breaker 3 Isolator (4-Way)	No	0
17.07	4 Isolator (4-Way)	No	
17.08	2 Circuit Breaker 2 Isolator (4-Way)	No	
17.09	1 Circuit Breaker 4 Isolator (5-Way)	No	
17.10	1 Circuit Breaker 5 Isolator (6-Way)	No	
18.00	Provinding chain link fencing to RMU as per Specification and drawing(approx. total running length of	RMT	0
	each fencing 10.8 meters)	Nº11	U