BILL OF QUANTITY FOR ELECTRICAL WORKS FOR 11 KV SUB STATION AT GORAKHPUR MAIN BRANCH SECTION-I- TRANSFORMER AND VCB PANEL WORKS

	SECTION-I- TRANSFORMER AND VCB PANEL WORKS				
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S. No.	Item Description	Unit	Qty	Rate	Amount
	VACUUM CIRCUIT BREAKER AND TRANSFORMERS (A)- VACCUM CIRCUIT BREAKER				
1	(A)- VACCOM CIRCOIT BREAKER 630A, 11KV 18.4kA HT Vacuum Circuit Breaker(VCB) panel				
1	HT SECTION:				
	Supply, Design, Testing, Transportation, Installation and Commissioning of 11kV 630 Amps				
	18.4kA HT VCB Panel (Single VCB-ICOG) with Al Bus Bar consisting of following				
	components :				
Α	HT SWITCHGEAR Rating:				
	Supply, Design & manufacturing of 11 KV Incoming VCB Panel with 630 Amp., 18.4kA/1Sec, 100/50 Amp. CT ratio, PT & associated material, VCB panel conforming to IS/IEC 62271-200 & IS/IEC 62271-100 as approved by Engineer in charge having with VCB VI, relay shall be of same principal manufacturer make and all are original factory fitted panels. Not a system house makes panels. The bus bar and connectors should be made from copper with proper cross section area, tinned and insulated properly with HT insulation compound/sleeves. Interconnection between HT switchgear and transformer shall be using 1C x 3 x 240 sq.mm Al armorured XLPE HT Cable.(Make: Schneider/ABB/Crompton/CG Power/Siemens/LK/GE/Kirloskar)				
B	Fabricated Housing :				
B1	Housing with Al 630A Interconnections Incomer : 630A- 01 Nos.				
B2	630A Al Bus Bar with 11KV Grade Sleeving (Extension for future 4th VCB) Incomer :				
	630A- 01 Nos. Outgoing : 630A: 01 nos.				
B	CT & PT DETAILS :				
	DUAL CORE CT				
B1	CTR : 100/50A Core 1 : Class 1, BURDEN 15 VA				
DI	Core 2 : Class 5P10, BURDEN 15 VA (CT need to be $>50 \text{ A}$)				
	CT Position shall be in Cable Chamber of Panel Incomer : 03 Sets Outgoing : 03 Sets				
	3 No. Single Phase Potential Transformer (To be mounted at the rear end of the Panel and				
	position will be above breaker position)				
B5	Ratio : 11KV/rt3/110V/rt3				
	Class 1, BURDEN - VA				
	Material - Cast Resin type Incomer : 01 Sets Outgoing : 00 Set				
С	BREAKER PANEL INDICATION LAMPS :				
C1	Breaker On / Off / Trip / Spring Charge (As required) Incomer : 05 Sets Outgoing : 10 Sets				
C2	R-Ph. / Y-Ph. / B-Ph Incomer: 03 Sets Outgoing: 00 Sets				
D	SWITCHES AND OTHER ACCESSORIES :				
	DC ON/OFF Switch Incomer : 01 Set Outgoing : 01 Set				
	AC ON/OFF Switch Incomer : 01 Set Outgoing : 01 Set				
	Local Remote Switch Incomer : 01 Set Outgoing : 01 Set				-
D4 D5	T-N-C Switch Incomer: 01 Set Outgoing: 01 Set 15A, 230V, 3 pin plug blug & socket Incomer: 01 Set Outgoing: 01 Set				
	Mech. ON-OFF push button Incomer : 01 Set Outgoing : 01 Set				
	Heater with heater switch & thermostat Incomer : 01 Set Outgoing : 01 Set			1	1
	Cubicle illumination lamp Incomer : 01 Set Outgoing : 01 Set				
	METERS :				
	MFM EM6400 Incomer : 01 Set Outgoing : 01 Set				
	Ammeter with Selector Switch Incomer : 01 Set Outgoing : 01 Set				
	Voltmeter with Selector Switch Incomer: 01 Sets Outgoing: 01 Set				
F	RELAYS : Numerical Non -Directional 3 Over Current/ 1 Earth Fault Protection- P1F1 Incomer : 01				+
F1	Set Outgoing : 02 Sets				
	Trip Ckt Supervision Part of Main Numerical Relay				
	Antipumping Incomer : 01 Sets Outgoing : 02 Set				
	Master Trip Part of Main Numerical Relay Auxillary Relay for Trafo Fault (VAA33 or Equiv.) Incomer: Sets Outgoing : 02 Sets				
	Auxillary Relay for Trafo Fault (VAA33 or Equiv.) Incomer : Sets Outgoing : 02 Sets Power Pack Incomer : 01 Set Outgoing : 00 Set				
	8 Window Annunciator with Hooter Incomer : 01 Set Outgoing : 00 Set				
10	Relay shall be with communication port				1
	Protection CT shall be 40/1A 2.5VA 5P10.				1
	Mechanical ON-OFF-TRIP mimic diagram				
	Fault Passage Indicator				
	Manometer				
	Terminal Protectors (BOOTS)				

. No.	Item Description	Unit	Qty	Rate	Amount
	Operating Handle		C 7		
	Incoming and Outgoing modules of the panel shall be suitable for 3C x 120 sq.mm HT 11				
	KV Cable termination. Outgoing modules should have provision to connect another cable				
	of size 3C x 120 sq.mm, if required.				
	Sub Total(A)- Supply, Design, in house Testing of 11kV 630Amps 18.4 kA HT VCB Panel	SET	1		
	(ICOG) as Described as Above.	551	-		
	(B)- TRANSFORMER				
	Supply, Installation, Testing and Commissioning of 400 KVA 11/0.433 KV Delta-Star DYn11				
	COPPER Wound (HV and LV), ONAN Oil immerged type transformer with Off Circuit Tap				
	Change(OCTC) tap links of range +5% to - 10% @ 2.5% each. Insteps of 2.5% each total 6				
	steps. Class of Insulation: A, Temperature Rise: 98 Deg. C, Losses (As per ECBC 2017)				
	(Subjected to IS Tol.). Minimum 3 Star rated. (Make: Schneider/ABB/Crompton/CG Power/Siemens/LK/GE/BHEL/Kirloskar)				
	1. Type of Cooling : ONAN				
	2. Class of insulation Class A				
	3. No of phase and rated frequency : 3, 50 Hz				
	4. Winding				
	a) HV Copper				
	b) LV Copper				
	5 Insulation level (Impulse withstand)(kVpeak)				
	a) HV 75 b) LV				-
	6. Insulation level (power frequency withstand) (kVrms)				
	a) HV 28				1
	b) LV 3				
	7. Tapping- On HV yes				
	a) Range +5% to -10% @ 2.5% Each				
	b) No of Steps 6				
	c) Tap changer type OCTC				
	8. Temperature rise of oil/winding over design ambient temperature of 50°C : 40/45(°C)				
	9. Hot spot temperature rise over a maximum yearly weighted : 98 °C				
	10. Short circuit Thermal withstand time (secs) : 2				
	11. % Impedance at 75°C , rated current & Frequency % (subject to IS tol) : 4.50				
	12. Total losses @ 50% Load at rated voltage & frequency kW (MAX) : 1.225				
	13. Total losses @ 100% Load at rated voltage & frequency kW (MAX) : 3.450				
	14. Bushings : HV a) Reference standard : IS 2099 & IS 3349				
	b) Type of bushing : Porcelain				
	c) Voltage Rating (kV) : 17.5				
	d) Current Rating Amps : 250				
	15. Bushings : LV & LVN				
	a) Reference standard				
	b) Type of bushing : Epoxy				
	c) Voltage Rating (kV) : 1 d) Current Rating Amps : 630				
	d) Current Rating Amps : 630 16. Weight in Kgs (Approximate)				
	a) Core and winding : 1440				1
	b) Oil : 505				
	c) Total weight : 2835				
	20. Fitting & Accessories as per specification Yes, IS : 2026 & CBIP				
	a) Overall Length*Breadth*Height(in mm) +/- 10% : 2350*2150*2150				
	18. Approximate Weight of Heaviest package (KG) : 4100				
	19. Approximate transport dimensions LxBxH (mm) : 3300 X2000 X 1800 20. Fitting & Accessories as per specification Yes, IS : 2026 & CBIP				
	21. Reference standard : IS 1180 & IS:2028				1
	22. Termination				
	a) HV Cable Box : (1 Run / Ph)				
	b) LV Cable Box : (2 Run / Phase) B2B				
	c) Orientation : 180 Degree				
	23. % Efficiency at 75degC/Unity P.F.				
	a) At 100% load/75%/50%/25% : 99.14/99.29/99.39/99.34				
	24. % Efficiency at 75degC/0.8 P.F.				
	a)At 100% load/75%/50%/25% : 98.93/99.11/99.24/99.17 25. Maximum efficiency at unity P.F : 99.40				+
	26. % Regulation at full load : at Unity PF 0.84 and at 0.8 PF 3.30				1
	Sub Total (B) :11/0.433 KV, 400 KVA ONAN Type Transformer Described as Above.			-	1
	• • •	SET	1		1

3 (C: MANN LT, PANEJ. 2 commissioning of new hilly compartmentilsdy. Will Floor mounted, if floor mounted than stard should be made of MS channel (angle ground to floor with the panel 450 mm alove ground level, bottom log cable cutry, from openning, indeed and explosing and the panel should be made of 16g CRCA sheet steel pained with one cout of red oxide primer and two cout of routdoor type synthest cannel paint (spray painted) after de gressing, de maining and the panel shall have changevore failing is lutenticking through PLC to achieve clearing and the panel shall have changevore failing is lutenticking through PLC to achieve clearing and the suitable for alternative decays the strength of the following: (Each Incomming MCCB shall have thermal magnetic release and variable current setting from from, adjustable over current, short circuit. (For 1 v 500 KVA Incomer) (50 KA) Induction of the following: (Each Incomming MCCB shall have thermal magnetic release and variable current setting from from, adjustable over current, short circuit. (For 1 v 500 KVA Incomer) (50 KA) Induction: (For 1 v 500 KVA Incomer) (50 KA) Outgoing: 110: ed 15X, PL 200A, 35KA breaking capacity MCCB with adjustable thermal and freed magnetic release outgoing Greatbyar Main Brench). ii. One nos. 415V, 4P, 16JA, 25KA breaking capacity MCCB with adjustable thermal and freed magnetic release out going. vi. Two no. 415V, 4P, 16JA, 25KA breaking capacity MCCB with adjustable thermal and freed magnetic release out going. vi. Two no. 415V, 4P, 16JA, 25KA breaking capacity MCCB with adjustable thermal and freed magnetic release out going.						
commissioning of new fully compartmentalised, valle 'Hoor mounted, if 'Hoor mounted that stand should be made of MS channel/angle ground of Hoor with the parel 450 rm above ground level, bottomitop cable entry, front operating, indoor duty, dut & vernin proof, cladb back main electrical parel made of 10g (CFA sheet steep paralied) with response of consistent and two cost of outdoor type synthetic enamel pain (spray painted) with response of consistent and two cost of outdoor type synthetic enamel pain (spray painted) with response of the following: (Bach Incomming MCCB shall have themal magnetic release and variable current setting from front, adjustable over current, short circuit & earth fluit protection, front estended lockable for administre bases that / cables and as per specification.) (Bach Incomming MCCB shall have themal magnetic release and variable current setting from front, adjustable over current, short circuit. (Fort 1 s 500 KVA Incomer 160 KVA) (Bach Incomming MCCB shall have themaid magnetic release cand variable current setting from front, adjustable magnetic hased algustable over current, short circuit. (Fort 1 s 500 KVA Incomer) (50 KA) (Detagerie; 1 to As 30 KA preshing capacity MCCB (or grav) (Detagerie; 1 to As 35 KA preshing capacity MCCB (or grav) (Den ens. 415V, 4P, 100A, 25KA breaking capacity MCCB (sprav) (Den ens. 415V, 4P, 100A, 25KA breaking capacity MCCB (sprav) (Den ens. 415V, 4P, 10A, 25KA breaking capacity MCCB with adjustable thermal and free magnetic release on graving. (Den ens. 415V, 4P, 10A, 25KA breaking capacity MCCB (spra			Unit	Qty	Rate	Amount
front, adjustable overcurrent, short circuit & earth fault protection, front extended lockable handle, pat lockable in off periodins, shording on incomer side, termination shall be suitable for aluminium bus bars / cables and as per specification.) Incomer: 1: 10n, 63A ang PF Moulded Case Circuit Breaker with thermal magnetic based adjustable over current, short circuit, (For 1 x 630 KVA Incomer) (50 KA) Outgoing: 1: One 115V, 4P, 400A, 35KA breaking capacity MCCB with adjustable thermal and fixed magnetic release outgoing (Gorakhyur Mia Branch). ii. Three nos, 415V, 4P, 160A, 25KA breaking capacity MCCB (spare) ii. One nos, 415V, 4P, 160A, 25KA breaking capacity MCCB (spare) iii. One nos, 415V, 4P, 160A, 25KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going. (One for DGM Bangalow and one spare) iv. One nos, 415V, 4P, 160A, 10 KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going. (Hip HDs and one spare) iv. One nos, 415V, 4P, 160A, 10 KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going. v. One spare compartment for 4P, 100A MCCB and 4P 63 MCB(with fixing of MCCB and MCB). Bus ber chamber with R,Y.B and N bus bars made of 25x10 mm Aluminium(Indal, Hindalco, Balco). Digital Ammeter with CT 1 set 3 phase digital ammeter with CT 1 set 3 phase digital ammeter with CT 1 set 3 phase digital partneter with CT 1 set 3 phase digital partnets to be provided. All bus thar shuild be sevend by hear shirklable PUC ed. yellow,	-	commissioning of new fully compartmentalised, wall/ Floor mounted, if floor mounted than stand should be made of MS channel/angle grouted to floor with the panel 450 mm above ground level, bottom/top cable entry, front operating, indoor duty, dust & vermin proof, dead back main electrical panel made of 16g CRCA sheet steel painted with one coat of red oxide primer and two coat of outdoor type synthetic enamel paint (spray painted) after de greasing, de rusting and phosphading, with two earth studs, 30x6 mm G.I. Earth bus, SMC/DMC insulator, the panel shall have changeover facility & interlocking through PLC to achieve electrical interlocking, as				
fixed magnetic release outgoing(Gorakhpur Main Branch). ii. Three nos. 415V, 4P, 250A, 35KA breaking capacity MCCB(one for PB branch, Capacitor panel and one for SCB) ii. One nos. 415V, 4P, 160A, 25KA breaking capacity MCCB (spare) ii. lii. Two nos. 415V, 4P, 125A, 25 KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going. (Der for DCM Bungalow and one spare) iv. One nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. (Jight Dbs and one spare) iv. One nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. iv. Two no. 320V, DP, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. w. One spare compariment for 4P, 100A MCCB and 4P 63 MCB(With fixing of MCCB and MCCB). iv. One spare compariment for 4P, 100A MCCB and 4P 63 MCB(With fixing of MCCB and MCCB). Bus bar chamber with CT Set and selector switch, RYB LED LAMP iv. One spare compariment for 4P. 100A MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Mealic partition should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Mealic partition should be provided. All withing to be done by PVC insulated 1100V grade coper flexible conductor wire of following isze. CT ciccut: 2.5 sq. mn PT circut: 1.5 sq. mm all wires to be provided by means of suitable gasket around all door/cover senrowable galad plates to be provided do incoming is the stread and insulation resistance t		front, adjustable overcurrent, short circuit & earth fault protection, front extended lockable handle, pad lockable in off position, shrouding on incomer side, termination shall be suitable for aluminium bus bars / cables and as per specification.) Incomer :: 1 No. 630 Amp FP Moulded Case Circuit Breaker with thermal magnetic based				
ii. Three nos. 415V, 4P, 250A, 35KA breaking capacity MCCB(one for PB branch, Capacitor panel and one for SCB) ii. One nos. 415V, 4P, 160A, 25KA breaking capacity MCCB (spare) iii. Two nos. 415V, 4P, 160A, 25KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going.(One for DGB Bungdow and one spare) iv. One nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. w. Two no. 230V, DP, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. v. One spare compartment for 4P, 100A MCCB and 4P 63 MCB(With fixing of MCCB and MCB) Bus bar chamber with R,Y,B and N bus bars made of 25x10 mm Aluminium(Indal, Hindalco, Balco). Digital Ammeter with CT Set and selector switch, RYB LED LAMP ON/OFF Indicating Lamp ON/OFF indicating Lamp I set 3 phase digital onimeter i set 3 phase digital frequency meter with CT Darger plate should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminak. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Metallic partition should be provided. All bus bars should be seleved by hear shrinkable PVC red, yellow, blue and back coloured. All bus bar should be skeeted by hear shrinkable PVC red, yellow, blue and back coloured. All bus bar should be skeeted by hear shrinkable PVC red, yellow, blue and back coloured. All bus bar should be skeeted by hear shrinkable PVC red, yellow, blue and back coloured. All bus bar should be skeeted by hear shrinkable P						
Iii. Two nos. 415V, 4P, 125A, 25 KA breaking capacity MCCB with adjustable thermal and fixed magnetic release out going. (One for DGM Bungalow and one spare) IV. One nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. IV. One nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. IV. Two no. 230V, DP, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. V. One spare compartment for 4P, 100A MCCB and 4P 63 MCB(With fixing of MCCB and MCB). IV. Two no. 230V, DP, 43A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going. Bus bar chamber with R,Y,B and N bus bars made of 25x10 mm Aluminium(Indal, Hindalco, Balco). IV. Two intercent the thermal intercent thermal intercent thermal intercent the thermal intercent thermal intercent the thermal intercent th		ii. Three nos. 415V, 4P, 250A, 35KA breaking capacity MCCB(one for PB branch, Capacitor				
fixed magnetic release out going_(One for DGM Bungalow and one spare)		ii. One nos. 415V, 4P, 160A, 25KA breaking capacity MCCB (spare)				
magnetic release out going. (light Dbs and one spare)						
magnetic release out going.						
MCB). MCB. Bus bar chamber with R,Y,B and N bus bars made of 25x10 mm Aluminium(Indal, Hindalco, Balco). Digital Anmeter with CT Set and selector switch, RYB LED LAMP DN/OFF Indicating Lamp Image: Comparison of the select						
Balco). Digital Ammeter with CT Set and selector switch, RYB LED LAMP Image: Comparison of the selector switch, RYB LED LAMP ON/OFF Indicating Lamp Image: Comparison of the selector switch, RYB LED LAMP Image: Comparison of the selector switch, RYB LED LAMP 1 set 3 phase digital ammeter with CT Image: Comparison of the selector switch, RYB LED LAMP Image: Comparison of the selector switch, RYB LED LAMP 1 set 3 phase digital ammeter with CT Image: Comparison of the selector switch, RYB LED LAMP Image: Comparison of the selector switch, RYB LED LAMP Danger plate should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers: removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT circuit : 1.5 sq. mm anti acture and the parolisation to be provided on incoming side of incomer and on normally live parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming manufacture and the panel should be tested in the presence of Consultant/Bank's Engineer at manufacture and the panel should be tested in the presence of Consultant/Bank's Engineer at manufacture and the panel should be tested above Set 1 4 It KV END TERMINATION:						
Digital Ammeter with CT Set and selector switch, RYB LED LAMP ON/OFF Indicating Lamp 1 set 3 phase digital ammeter with CT 1 set 3 phase digital voltmeter 1 set 3 phase digital voltmeter 1 set 4 phase digital voltmeter 1 set 3 phase digital voltmeter 1 set 4 phase digital voltmeter 1 set 4 phase digital voltmeter 1 set 9 phase digital voltmeter 1 lit 000 grade copper lexible conductor wire of following size of 3 core,						
1 set 3 phase digital ammeter with CT 1 1 set 3 phase digital voltmeter		Digital Ammeter with CT Set and selector switch, RYB LED LAMP				
1 set 3 phase digital voltmeter I set phase digital frequency meter with CT Danger plate should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT circuit : 1.5 sq. mm all wires to be provided on incoming side of incomer and on normally live parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawings from consultant/Bank's Engineer is required before commencing manufacture's premises before dispatch to site along with HV withstand and insulation resistance test reports. Sub Total(C) for Main LT panel as described above Set 1 4 Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV XLPE 41 3C x 120 Sqmm, 11KV XLPE SET 4						
Danger plate should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT circuit : 1.5 sq. mm all wires to be provided on incoming side of incomer and on normally live parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawings from consultant/Bank's Engineer is required before commencing manufacturer's premises before dispatch to site along with HV withstand and insulation resistance test reports.Set14INKVEND TERMINATION:Set15Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :SET4		1 set 3 phase digital voltmeter				
earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT circuit : 1.5 sq. mm all wires to be provided on incoming side of incomer and on normally live parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawings from consultant/Bank's Engineer is required before commencing manufacturer and the panel should be tested in the presence of Consultant/Bank's Engineer at manufacturer's premises before dispatch to site along with HV withstand and insulation resistance test reports.Set14It KV END TERMINATION:Image: suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :Set443C x 120 Sqmm, 11KV XLPESET4Image: suitable for following size of 3 core, XLPESET4		Danger plate should be provided. All MCCB should be with external rotary handle, separator				
parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawings from consultant/Bank's Engineer is required before commencing manufacture and the panel should be tested in the presence of Consultant/Bank's Engineer at manufacturer's premises before dispatch to site along with HV withstand and insulation resistance test reports. Set 1 Sub Total(C) for Main LT panel as described above Set 1 In two END TERMINATION: Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Compute the structure is including lugs suitable for following size of 3 core, XLPE aluminium compute the structure is including lugs suitable for following size of 3 core, XLPE al		earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT				
Sub Total(C) for Main LT panel as described above Set 1 (D) - HT Cabling Image: Comparison of the system of the syst		parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawings from consultant/Bank's Engineer is required before commencing manufacture and the panel should be tested in the presence of Consultant/Bank's Engineer at manufacturer's premises before dispatch to site along with HV withstand and insulation				
4 11 KV END TERMINATION: Image: Constraint of the synthesis of the synthe synthesis of the synthesis of the synthes		1	Set	1		
4 Image: Constraint of the synthesis in the synthesis in the synthesis in the synthesis in the synthesis including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Constraint of the synthesis in the synthes						
with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required : Image: Core of the second secon	4	11 KV END TERMINATION:				
		with all accessories including lugs suitable for following size of 3 core, XLPE aluminium				
	4.1	3C x 120 Sqmm, 11KV XLPE	SET	4		
5 11 KV H.T. CABLE:	-					

S. No.	Item Description	Unit	Qty	Rate	Amount
5. 110.	Supply of 11 KV grade aluminium conductor, cross linked polyethylene (XLPE) insulated	Omt	Qij	Nate	Amount
	individual core screened, flat steel/strip armoured PVC sheathed cable complete as required.				
5.1	3C x 120 Sqmm, 11 KV XLPE	м	50		
5.1		М	50		
	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of				
6	following size in existing trench including excavation and dismanteling, safe keeping of existing				
	cable at at, protective covering and refilling as required the trench etc as required.				
	Upto 120 sq. mm				
6.1	Sub Total (D) HT Cabling	Μ	50		
	(E) -LT Cabling				
7	DISTRIBUTION CABLE:				
	SUPPLY AND LAYING OF LT CABLE:				
	Supply of following sizes of 1.1KV grade aluminium conductor XLPE insulated and FRLS PVC				
	sheathed armoured cable conforming to relevant IS. (Cable shall be purchased only after approval of cable schedule by Engineer In charge/ architect / consultant).				
7.1	3.5 core, 300 sq.mm.	М	50		
7.2	3.5 core, 150 sq.mm.	М	30		
7.3	3.5 core, 95 sq.mm.	М	40		
7.4	3.5 core, 70 sq.mm.	М	50		
7.5	3.5 core, 50 sq.mm.	М	40		
7.6	3.5 core, 35 sq.mm.	М	60		
7.7	3.5 core, 25 sq.mm.	М	70		
	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of				
8	following size direct in ground including excavation and refilling the trench etc as required, excluding sand cushioning, protective coverin.				
8.1	Above 185 sq. mm and upto 400 sq. mm	м	50		
8.2	Above 95 sq. mm and upto 185 sq. mm	M	50		
8.3	Above 35 sq. mm and upto 95 sq. mm	М	30		
	upto 35 sq. mm	М	130		
8.4	upo 55 sq. nin	М	130		
	Supplying and making end termination with brass compression gland and aluminium lugs for				1
9	following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
9.1	3.5 Core X 300 sq. mm	Each	12		
9.2	3.5 core, 150 sq.mm.	Each	8		
9.3	3.5 core, 95 sq.mm.	Each	8		
9.4	3.5 core, 70 sq.mm.	Each	10		
9.5	3.5 core, 50 sq.mm.	Each	10		
9.6	3.5 core, 35 sq.mm.	Each	14		
9.7	3.5 core, 25 sq.mm.	Each	12		
		Lucii			
	Sub Total (E) LT Cabling				

S. No.	Item Description	Unit	Qty	Rate	Amount
	(F)- Earthing and other works				
10	Earthing with G.I. plate 600mmx600mmx6mm thick, top of the plate placed at least 3 mt. below ground level with 20 mm Class-B, G.I. pipe for watering, as per IS 3043, with 32x6 mm GI earthing lead in 50mm B class GI pipe from plate to masonry inspection pit, with salt and charcoal and providing 12 mm diax 80mm long GI bolt, nut and double washers for connecting earth lead including restoring the surface duly rammed as per specification with 300 mmX300mmX300mm(inside) finished masonry chamber with 8 mm thick MS sheet hinged,lockable cover and MS frame on top of chamber.	Each	3		
11	Earthing with copper plate 600mmx600mmx3mm thick, top of the plate placed at least 3M below ground level with 20 mm Class-B, G.I. pipe for watering as per IS 3043-1987 with 32x6 mm Cu earthing lead in 40 mm B class GI pipe from plate to masonry inspection pit, with salt and charcoal including passivated 2 mm diax80 mm long brass bolt, nut and double washers for connecting earth lead including restoring the surface duly rammed as per specification with 300 mmX300mmX300mm(inside) finished masonry chamber with 8 mm thick MS sheet hinged,lockable cover and MS frame on top of chamber.	Each	3		
12	Providing and fixing earth bus of 40 mm X 6 mm copper strip on surface or underground as required for connections etc. as required.	М	40		
13	Providing and fixing 40 mm X 6 mm G.I. strip on surface or in recess or underground as required for connections etc. as required.	М	60		
14	Dismantling, shifting at suitable place in same premises and safekeeping of existing 01 nos. 250KVA 11/0.433 KV old transformer	L.S.	1		
15	Charges for liaisoning with power supply and other statutory authorities like Directorate of electrical Safety for obtaining necessary clearances/ approvals including preparation of drawings, filling up norms, follow-up on behalf of Employer etc. in connection with the subject installation. And getting power supply off and on from UPPCL. Sub Total (F) - Earthing and other works	L.S.	1		
	TOTAL (A+B+C+D+E+F)				
	GST @%				
	Total amount including GST				
					Including GS