PACKAGE 67(I)/2014-15

ODISHA POWER TRANSMISSION CORPORATION LIMITED

NAME OF THE WORK:-Construction of 2X20 MVA,132/33 KV S/s at GHENS in Baragarh district with associated 132 KV DC Transmission Line from proposed 220/132/33 KV Baragarh Grid S/s. (App. Line Length: 28.872Kms.)

NOTICE INVITING TENDER-NIT NO. 67/2014-15 & BID DOCUMENT No.:Sr. G.M- CPC- TENDER- GHENS(BARAGARH)- PACKAGE- 67(I) / 2014-15

SCHEDULE-2A-SUPPLY (Equipment/Materials Price Break-up of Ex-works Prices against Package-67(I)-GHENS)

NAME OF THE BIDDER

SUPPLY_SUBSTATION EQUIPMENT & MATERIALS

Sl. No.	DESCRIPTION OF ITEMS(SCHEDULE-2A-SS) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNITS	QUANTITY: for Construction of 2X20 MVA, 132/33 KV S/S, GHENS (132 KV Bay-05 Nos.: 02 FDR, 02 TRF & 01 B/C) & (33 KV Bay-07 Nos.: 04 FDR, 02 TRF & 01 B/C)	Unit Ex-Works Price IN INR	Total Ex-Works Price IN INR	Unit F&I Charges IN INR	Total F&I Charges IN INR	Mode of Transaction (Direct or Bought-out item)	Unit Excise duty IN INR	Unit VAT IN INR	Unit CST in INR	Any other tax IN INR	Total Taxes and duties IN INR	Unit FORD Price IN INR	TOTAL FORD Price IN INR
1	2	3	4	5	6=4X5	7	8= 4X7	9	10	11	12	13	14 = 10+11+12+13	15=5+7+10+11+12+13	16=15x4
1	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	15		0.00		0.00						0.00	0.00	0.00
2	145 KV,1250A,31.5KA,ISOLATORS														
'2.1	S/I WITH OUT EARTH SWITCH	NOS	9		0.00		0.00						0.00	0.00	0.00
'2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		0.00		0.00						0.00	0.00	0.00
'2.3	D/I WITHOUT EARTH SWITCH	NOS	2		0.00		0.00						0.00	0.00	0.00
3	145 KV, 6600pF, 3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		0.00		0.00						0.00	0.00	0.00
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		0.00		0.00						0.00	0.00	0.00
5	145 KV, 2 CORE, SINGLE PHASE, IVT	NOS	3		0.00		0.00						0.00	0.00	0.00
6	132 KV Bus Post Insulators	NOS	16		0.00		0.00						0.00	0.00	0.00
7	145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		0.00		0.00						0.00	0.00	0.00
7.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	15		0.00		0.00						0.00	0.00	0.00
7.2	36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	6		0.00		0.00						0.00	0.00	0.00
8	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	4		0.00		0.00						0.00	0.00	0.00
9	**36 KV,1250A,25KA,ISOLATORS**														
'9.1	S/I WITH OUT EARTH SWITCH	NOS	8		0.00		0.00						0.00	0.00	0.00
'9.2	D/I WITH SINGLE EARTH SWITCH	NOS	4		0.00		0.00						0.00	0.00	0.00
'9.3	D/I WITHOUT EARTH SWITCH	NOS	2		0.00		0.00						0.00	0.00	0.00
'9.4	S/I WITH BEAM MOUNTED	NOS	2		0.00		0.00						0.00	0.00	0.00
10	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	24		0.00		0.00						0.00	0.00	0.00
11	36 KV ,2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)	NOS	3		0.00		0.00						0.00	0.00	0.00
12	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	7		0.00		0.00						0.00	0.00	0.00
13	33 KV Bus Post Insulators	NOS	7		0.00		0.00						0.00	0.00	0.00
14	**BUS BAR & CIRCUIT MATERIALS**														
14.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING														
'14.1.1	120 kN ANTIFOG INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	NOS	1,080		0.00		0.00						0.00	0.00	0.00
'14.1.2	90 kN ANTIFOG INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	NOS	240		0.00		0.00						0.00	0.00	0.00
14.2	ACSR MOOSE CONDUCTOR	KMS	4		0.00		0.00						0.00	0.00	0.00
14.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS														
'14.3.1	132 KV Double Tension H/W fitting suitable for twin ACSR Moose .	NOS	36		0.00		0.00						0.00	0.00	0.00
'14.3.2	132 KV Single Tension H/W fitting suitable for twin ACSR Moose .	NOS	18		0.00		0.00						0.00	0.00	0.00
'14.3.2	132 KV Single suspension H/W fitting suitable for single ACSR Moose = 15 Nos.	NOS	15		0.00		0.00						0.00	0.00	0.00
'14.3.3	132 KV Single Tension H/W fitting suitable for single ACSR Moose.	NOS	42		0.00		0.00						0.00	0.00	0.00
'14.3.4	33 KV Single Tension H/W fitting suitable for single ACSR Moose.	NOS	45		0.00		0.00						0.00	0.00	0.00
'14.3.5	33 KV Single Suspension H/W fitting suitable for single ACSR Moose = 27 Nos.	NOS	27		0.00		0.00						0.00	0.00	0.00
'14.3.6	33 KV Single Tension H/W fitting suitable for twin ACSR Moose = 18 Nos.	NOS	18		0.00		0.00						0.00	0.00	0.00
'14.3.7	T CLAMP FOR ACSR PANTHER RUN ACSR MOOSE DROP	NOS	42		0.00		0.00						0.00	0.00	0.00
'14.3.8	T CLAMP FOR ACSR MOOSE RUN ACSR MOOSE DROP	NOS	42		0.00		0.00						0.00	0.00	0.00
'14.3.9	SPACER T CLAMP FOR ACSR MOOSE RUN ACSR MOOSE DROP	NOS	30		0.00		0.00						0.00	0.00	0.00
'14.3.10	132KV CT STUD CLAMP	NOS	30		0.00		0.00						0.00	0.00	0.00
'14.3.11	132KV PT STUD CLAMP	NOS	12		0.00		0.00						0.00	0.00	0.00
'14.3.12	132KV LA PAD CLAMP	NOS	3		0.00		0.00						0.00	0.00	0.00
'14.3.13	132KV ISOLATOR PAD CLAMP	NOS	93		0.00		0.00						0.00	0.00	0.00
'14.3.14	132KV CB BI-METTALIC PAD CLAMP	NOS	30		0.00		0.00						0.00	0.00	0.00
'14.3.15	132KV PI PAD CLAMP	NOS	10		0.00		0.00						0.00	0.00	0.00
'14.3.16	33 KV CT STUD CLAMP	NOS	42		0.00		0.00						0.00	0.00	0.00
'14.3.17	33 KV PT STUD CLAMP	NOS	3		0.00		0.00						0.00	0.00	0.00
'14.3.18	33 KV LA PAD CLAMP	NOS	21		0.00		0.00						0.00	0.00	0.00
'14.3.19	33 KV ISOLATOR PAD CLAMP	NOS	105		0.00		0.00						0.00	0.00	0.00
'14.3.20	33 KV CB BI-METTALIC PAD CLAMP	NOS	42		0.00		0.00						0.00	0.00	0.00
'14.3.21	33 KV PI PAD CLAMP	NOS	7		0.00		0.00						0.00	0.00	0.00
14.4	**EARTH SPIKES & IT'S HARDWARES & FITTING**														
14.4.1	FOR 132KV SIDE : 21 NOS @ 7 MTRS LENGTH EACH	SET	21		0.00		0.00						0.00	0.00	0.00
14.4.2	FOR 33 KV SIDE: 19 NOS @ 5 MTRS EACH	SET	19		0.00		0.00						0.00	0.00	0.00
14.5	**SUBSTATION EARTHING SYSTEMS**														
'14.5.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m both way*)	MT	30.00		0.00		0.00						0.00	0.00	0.00
'14.5.2	EARTHING CONDUCTOR: 50X6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	MT	8.50		0.00		0.00						0.00	0.00	0.00
'14.5.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	NOS	145		0.00		0.00						0.00	0.00	0.00
'14.5.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	NOS	110		0.00		0.00						0.00	0.00	0.00
14.6	**G.I Cable Trays including G.I. support Angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.**														
'14.6.1	G.I Cable Trays(size: 450x75x2500mm)	MTRS	1400		0.00		0.00						0.00	0.00	0.00
'14.6.2	G.I Cable Trays(size: 300x75x2500mm)	MTRS	1000		0.00		0.00						0.00	0.00	0.00
'14.6.3	G.I Cable Trays(size: 150x75x2500mm)	MTRS	750		0.00		0.00						0.00	0.00	0.00
'14.6.4	Support G. I angle 50x50x6 mm for fixing of above cable trays	MT	2.5		0.00		0.00						0.00	0.00	0.00
14.7	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES														
'14.7.1	BAY MARSHALLING KIOSK (03 Nos 132 kv bay & 04 Nos 33 KV bay)	NOS	7		0.00		0.00						0.00	0.00	0.00
'14.7.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 Nos 132 kv bay & 01 No in 33KV bay)	NOS	2		0.00		0.00						0.00	0.00	0.00
'14.7.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	NOS	1		0.00		0.00						0.00	0.00	0.00
'14.7.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2		0.00		0.00						0.00	0.00	0.00
'14.7.5	CT, PT & CVT Out Door Console Boxes (132 KV CT-4 Nos.+ 1 No., 33 KV CT-8 Nos., 132 KV CVT-1 No. + 1 No., 132 KV IVT-1 No., 33 KV IVT-1 No.	NOS	15		0.00		0.00						0.00	0.00	0.00
15	**SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.**														
15.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**														
'15.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) = 16 Sets.	NOS	16												
'15.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.92 MT) =5 Sets.	NOS	5												
'15.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) = 09 Sets.	NOS	9												
'15.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) = 11 Sets.	NOS	11												
15.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**														
'15.2.1	G1 - 132 KV(NOMINAL UNIT WT- 0.58 MT) = 11 Sets.	NOS	11												
'15.2.2	G1X - 132 KV (NOMINAL UNIT WT- 0.582 MT) = 5 Sets.	NOS	5												
'15.2.3	G2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 04 Sets	NOS	4												
'15.2.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) = Nil	NOS	0												
'15.2.5	G6 - 33KV (NOMINAL UNIT WT- 0.36 MT) = 03 Sets.	NOS	3												
'15.2.6	G4 - 33KV(NOMINAL UNIT WT- 0.3 MT) = 9 Sets.	NOS	9												
'15.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.52 MT) = 02 Sets.	NOS	2												
15.3	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	51.68		0.00		0.00						0.00	0.00	0.00
15.4	**SWITCH YARD EQUIPMENT STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.**														
'15.4.1	ISOLATORS-132KV														
'15.4.2	S.I. WITHOUT E/S (Unit weight - 658.767 Kg) = 9 Nos.	NOS	9												
'15.4.3	D.I. WITHOUT E/S (Unit Weight - 979.10 Kg) = 2 Nos.	NOS	2												
'15.4.4	D.I. WITH E/S (Unit Weight - 1120.559 Kg) = 2 Nos.	NOS	2												
'15.4.5	ISOLATORS-33 KV														
'15.4.6	S.I. WITHOUT E/S (Unit weight - 294.893 Kg) = 8 Nos.	NOS	8												
'15.4.7	D.I. WITHOUT E/S (Unit weight - 655.764 Kg) = 2 Nos.	NOS	2												
'15.4.8	D.I. WITH E/S (Unit weight - 670.555 Kg) = 4 Nos.	NOS	4												
'15.4.9	CTS-132 KV (Unit Weight - 214.546 Kg) = 15 Nos .	NOS	15												
'15.4.10	CTS-33 KV (Unit Weight - 148.80 Kg) = 21 Nos	NOS	21												
'15.4.11	CVTS-132 KV (Unit Weight - 236.628 Kg) = 6 Nos.	NOS	6												
'15.4.12	IVTS-132 KV (Unit Weight - 231.195 Kg) = 3 Nos	NOS	3												
'15.4.13	IVTS-33 KV (Unit Weight - 124.336 Kg) = 3 Nos	NOS	3												
'15.4.14	Surge Arrester-132 kV (Unit Weight - 179.893 Kg) = 12 Nos .	NOS	12												
'15.4.15	Wave Trap-132 KV (Unit Weight - 247.254 Kg) = 4 Nos.	NOS	4												
'15.4.16	BPI-132 KV (Unit Weight - 309.883 Kg) = 16 Nos.	NOS	16												
'15.4.17	BPI-33 KV (Unit Weight - 148.80 Kg) = 7 Nos	NOS	7												
'15.4.18	NCTS (Unit Weight - 138.24 Kg) = 4 Nos	NOS	4												
'15.4.19	**TOTAL WEIGHT OF EQUIPMENT STRUCTURE**	MT	39.943		0.00		0.00						0.00	0.00	0.00
15.5	**Total weight of GI Nuts and bolts for the above Column, Beam & structures**	MT	8.00		0.00		0.00						0.00	0.00	0.00
16	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**														
16.1	**POWER CABLES,1.1KV,XLPE/PVC ARMOURED, ALUMINIUM CONDUCTOR (As per**														
'16.1.1	XLPE 3.5 CX300 mm^2	MTRS	500		0.00		0.00						0.00	0.00	0.00
'16.1.2	XLPE 3.5 CX185 mm^2	MTRS	300		0.00		0.00						0.00	0.00	0.00
'16.1.3	XLPE 3.5 CX120 mm^2	MTRS	200		0.00		0.00						0.00	0.00	0.00
'16.1.4	PVC 3.5 CX70 mm^2	MTRS	600		0.00		0.00						0.00	0.00	0.00
'16.1.5	PVC 3.5 CX35 mm^2	MTRS	1500		0.00		0.00						0.00	0.00	0.00
'16.1.6	PVC 4 CX 16 mm^2	MTRS	1000		0.00		0.00						0.00	0.00	0.00
'16.1.7	PVC 4 CX 6 mm^2	MTRS	3500		0.00		0.00						0.00	0.00	0.00
'16.1.8	PVC 2CX 6 mm^2	MTRS	2000		0.00		0.00						0.00	0.00	0.00
16.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**														
'16.2.1	2 CX 2.5 mm2	MTRS	5000		0.00		0.00						0.00	0.00	0.00
'16.2.2	4 CX 2.5 mm^2	MTRS	16000		0.00		0.00						0.00	0.00	0.00
'16.2.3	5 CX 2.5 mm^2	MTRS	4000		0.00		0.00						0.00	0.00	0.00
'16.2.4	7CX 2.5 mm^2	MTRS	9000		0.00		0.00						0.00	0.00	0.00
'16.2.5	10 CX 2.5 mm^2	MTRS	10000		0.00		0.00						0.00	0.00	0.00
'16.2.6	12 CX 2.5 mm^2	MTRS	9000		0.00		0.00						0.00	0.00	0.00
'16.2.7	16 CX 2.5 mm^2	MTRS	5000		0.00		0.00						0.00	0.00	0.00
'16.2.8	19 CX 2.5 mm^2	MTRS	2000		0.00		0.00						0.00	0.00	0.00
'16.2.9	1CX 120 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	600		0.00		0.00						0.00	0.00	0.00

17	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**														
'17.1	132 kV Line Trap for Pedestal mounting with complete accessories :1200A, 0.5 mH, (90-500kHZ).Isc=31.5kA compatible to IEC 353 specifications	NOS	4		0.00		0.00						0.00	0.00	0.00
'17.2	LINE MATCHING UNIT HAVING BUILT-IN PROTECTIVE DEVICES LIKE DRAINAGE COIL, SURGE ARRESTOR AND EARTH SWITCH. TUNABLE BAND PASS COUPLING FILTER: 90-500KHZ, HF POWER RATING: 650 W & LINE MATCHING DISTRIBUTION UNIT	SET	2		0.00		0.00						0.00	0.00	0.00
'17.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000		0.00		0.00						0.00	0.00	0.00
'17.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1		0.00		0.00						0.00	0.00	0.00
'17.5	25PAIR ARMOURED TELEPHONE CABLES	MTRS	1000		0.00		0.00						0.00	0.00	0.00
'17.5	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	500		0.00		0.00						0.00	0.00	0.00
'17.6	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300		0.00		0.00						0.00	0.00	0.00
'17.7	2 WIRE TELEPHONE SET	NO	20		0.00		0.00						0.00	0.00	0.00
'17.8	FAX MACHINE	NO	1		0.00		0.00						0.00	0.00	0.00
'17.9	48 V, 350 AH, maintenance free VRLA Battery set.	SET	1		0.00		0.00						0.00	0.00	0.00
'17.10	75A, 48V Float cum Boost Charger: (Float/Boost current as recommended by VRLA Battery vendor)	SET	1		0.00		0.00						0.00	0.00	0.00
'17.11	48 V DCDB	SET	1		0.00		0.00						0.00	0.00	0.00
18	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION**														
18.1	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	2		0.00		0.00						0.00	0.00	0.00
18.2	Supply of materials for erection of station transformers														
'18.2.1	**DP STRUCTURE**: each set shall comprise of [2X **9.0 Mtrs** (ISBM:200X100 mm(min) RS Joist(beam) with bracings of suitable channels(ISMC 75X40) & angles (L50X50X6) & different size Steel plate of 10 mm thick etc].	SET	2		0.00		0.00						0.00	0.00	0.00
'18.2.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down) & handle for operation of AB switch	SET	2		0.00		0.00						0.00	0.00	0.00
'18.2.3	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single HG fuse)	SET	2		0.00		0.00						0.00	0.00	0.00
'18.2.4	OUT DOOR KIOSK MADE OUT OF 3mm thick CRCA steel duly galvanised having gland plates OR BETTER quality WITH 3 NOS. OF CUT-OUTS(1000 AMPS) AT THE INCOMING SIDE , 1No. OF 3 PHASE SFU (500AMPS) AT THE OUTGOING SIDE AND SUITABLE BUS BAR ARRANGEMENT FOR TERMINATION of incoming cable from transformer & outgoing cable to Main ACDB.	SET	2		0.00		0.00						0.00	0.00	0.00
19	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)**														
'19.1	**SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of** reputed make (Philips/CGL/Bajaj) **with switch gear etc.(Lighting fixtures are to be fixed rigidly on the Column at a suitable height so that the required lux can be achieved.(150 watt each)**	SET	45		0.00		0.00						0.00	0.00	0.00
'19.2	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).(100 watt each)														
'19.2.1	LED LIGHTING FIXTURESincluding LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light.	SET	35		0.00		0.00						0.00	0.00	0.00
'19.2.2	GI Tubular Pole: (410-SP-24: IS 2713-Part-II-1980 or latest) Length of pole 8.5 mtrs(minimum weight 158 Kgs). (ALL THE STREET LIGHT POLE SHALL BE OF GI TUBULAR POLE AND PROVISION OF A GI JUNCTION BOX WITH SUITABLE COVERS AT A HEIGHT OF 1 METRE FROM THE GROUND. THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT	SET	35		0.00		0.00						0.00	0.00	0.00
'19.2.3	OUTDOOR KIOSK of 3 mm thick CRCA sheet duly hot dip galvanised FOR STREET LIGHT HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND 10 NOS. OUT LETS OF 32 AMP MCB.	Nos	1		0.00		0.00						0.00	0.00	0.00
'19.3	**OUTDOOR KIOSK of 3 mm thick CRCA sheet duly hot dip galvanised FOR COLONY SUPPLY PURPOSE:** HAVING 2 NOS 200Amp SWITCH FUSE UNIT. 10 NOS. OUTLETS OF 32 A MCB.	Nos	1		0.00		0.00						0.00	0.00	0.00
20	**AIRCONDITIONING**														
'20.1	2 TR CAPACITY 5-STAR rated SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY:(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.	SET	20		0.00		0.00						0.00	0.00	0.00
'20.2	A.C VOLTAGE STABILISER 5KVA,Voltage range 130-270 V for above air conditioner.	SET	20		0.00		0.00						0.00	0.00	0.00
21	**FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)**														
'21.1	FOAM TYPE-9 LTRS	NOS	4		0.00		0.00						0.00	0.00	0.00
'21.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4		0.00		0.00						0.00	0.00	0.00
'21.3	DRY POWDER TYPE - 5 KGS	NOS	4		0.00		0.00						0.00	0.00	0.00
'21.4	CO_2 - 4.5 KGS	NOS	10		0.00		0.00						0.00	0.00	0.00
'21.5	CO_2 -9 KGS	NOS	10		0.00		0.00						0.00	0.00	0.00
'21.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4		0.00		0.00						0.00	0.00	0.00
'21.7	Water type- 9 LTRS	NOS	4		0.00		0.00						0.00	0.00	0.00
'21.8	Foam type - 50 LTR	NOS	2		0.00		0.00						0.00	0.00	0.00
'21.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	4		0.00		0.00						0.00	0.00	0.00
22	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**														
'22.1	TIME SYNCH EQUIPMENT	NOS	1		0.00		0.00						0.00	0.00	0.00
'22.2	EVENT LOGGER PANEL	NOS	0		0.00		0.00						0.00	0.00	0.00
'22.3	**132 KV SIDE (SIMPLEX TYPE PANEL)**														
'22.3.1	FEEDER CONTROL PANEL	NOS	2		0.00		0.00						0.00	0.00	0.00
'22.3.2	TRANSFORMER CONTROL PANEL(FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		0.00		0.00						0.00	0.00	0.00
'22.3.3	BUSCOUPLER CONTROL PANEL	NOS	1		0.00		0.00						0.00	0.00	0.00
'22.3.4	FEEDER RELAY PANEL	NOS	2		0.00		0.00						0.00	0.00	0.00
'22.3.5	TRANSFORMER RELAY PANEL(FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		0.00		0.00						0.00	0.00	0.00
'22.3.6	BUSCOUPLER RELAY PANEL	NOS	1		0.00		0.00						0.00	0.00	0.00
'22.3.4	COMMON PANEL (KP-1)	NOS	1		0.00		0.00						0.00	0.00	0.00
22.4	**33 KV SIDE**														
'22.4.1	FEEDER CONTROL & RELAY PANEL	NOS	4		0.00		0.00						0.00	0.00	0.00
'22.4.2	TRANSFORMER CONTROL & RELAY PANEL	NOS	2		0.00		0.00						0.00	0.00	0.00
'22.4.3	BUSCOUPLER CONTROL & RELAY PANEL	NOS	1		0.00		0.00						0.00	0.00	0.00
23	**AC & DC SYSTEM**														
23.1	**AC SYSTEM**														
'23.1.1	MAIN AC DB, (HAVING 800 A, 50KA, DRAWOUT TYPE ACB WITH 3 O/C, E/F, U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION. (MAIN DB-1, MAIN DB-2 WITH B/C)	SET	1		0.00		0.00						0.00	0.00	0.00
'23.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C)	SET	1		0.00		0.00						0.00	0.00	0.00
'23.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1, DB-2 & B/C)	SET	1		0.00		0.00						0.00	0.00	0.00
'23.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1		0.00		0.00						0.00	0.00	0.00
'23.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1		0.00		0.00						0.00	0.00	0.00
'23.1.6	INDOOR RECEPTACLE BOARD	SET	1		0.00		0.00						0.00	0.00	0.00
23.2	**DC SYSTEM**														
'23.2.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1)	SET	1		0.00		0.00						0.00	0.00	0.00
'23.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		0.00		0.00						0.00	0.00	0.00
'23.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		0.00		0.00						0.00	0.00	0.00
'23.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		0.00		0.00						0.00	0.00	0.00
24	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	2		0.00		0.00						0.00	0.00	0.00
25	WALKIE TALKIE SET	SET/ PAIR	2		0.00		0.00						0.00	0.00	0.00
26	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2		0.00		0.00						0.00	0.00	0.00
27	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1		0.00		0.00						0.00	0.00	0.00
28	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		0.00		0.00						0.00	0.00	0.00
29	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1		0.00		0.00						0.00	0.00	0.00
30	MAINTENANCE TESTING EQUIPMENT (AS PER **ANNEXURE - I** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	SET	1		0.00		0.00						0.00	0.00	0.00
31	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER **ANNEXURE - II** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	SET	1		0.00		0.00						0.00	0.00	0.00
32	OFFICE FURNITURE (AS PER **ANNEXURE - III** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM, OFFICE ROOMS, LIBRARY, TESTING LAB, etc.	SET	1		0.00		0.00						0.00	0.00	0.00
33	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS.BOARDS ETC.(2000X1000X10)mm Size	NOS	35		0.00		0.00						0.00	0.00	0.00
	TOTAL OF SUPPLY FOR SUBSTATION														**0.00**
	SUPPLY_TRANSMISSION LINE EQUIPMENTS AND MATERIALS														

Sl. No.	DESCRIPTION OF ITEMS(SCHEDULE-2A-SS) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNITS	QUANTITY for Construction of 132 KV D.C. Transmission Line from proposed 220/132/33KV Bargarh Grid S/S to 132/33KV Ghens S/S (APPROX.LENGTH	Unit Ex-Works Price IN INR	Total Ex-Works Price IN INR	Unit F&I Charges IN INR	Total F&I Charges IN INR	Mode of Transaction (Direct or Bought-out item)	Unit Excise duty IN INR	Unit VAT IN INR	Unit CST in INR	Any other tax IN INR	Total Taxes and duties IN INR	Unit FORD Price IN INR	TOTAL FORD Price IN INR
1	**2**	**3**	**4**	**5**	6=4X5	7	8= 4X7	9	10	11	12	13	14 = 10+11+12+13	15=5+7+10+11+12+13	16=15x4
1	**SUPPLY of Following type tested Lattice type Galvanized steel tangent / Angle tower with stubs and cleats , different type of G.I HT Nuts & Bolts, washer, spring washer for the towers ,hanger and all accessories, tower super structure complete including step bolts. Supply of black bituminous paint for three coats up to a height of 500mm above the cooping(legs & bracing members). All Supply should confirm to the Technical Specification.**														
1.1	PA TYPE (SUSPENSION) TOWERS (Nominal unit weight 3.430 MT) (84 nos)	Nos	84												
1.1.1	+3 EXTENSION (Nominal unit weight 0.537 MT) (16 nos)	Nos	16												
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT) (2 nos)	Nos	2												
1.2	PB TYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT) (16 nos)	Nos	16												
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)(4 nos.)	Nos	4												
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT) (0 nos)	Nos	0												
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT) (3 nos)	Nos	3												
1.3.1	+3 EXTENSION (Nominal unit weight 1.068 MT) (0 nos)	Nos	0												
1.3.2	+6 EXTENSION (Nominal unit weight 2.243 MT) (0 nos)	Nos	0												
1.4	TEMPLATES														
1.4.1	PA (Nominal unit weight 0.665 MT)(5 Nos.)	Nos	5												
1.4.2	PB (Nominal unit weight 0.602 MT)(2 Nos.)	Nos	2												
1.4.3	PC (Nominal unit weight 0.904MT)(1 Nos.)	Nos	1												
1.5	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)	MT	407.130		0.00		0.00						0.00	0.00	0.00
1.7	Weight of different type G.I Nuts and Bolts	MT	19		0.00		0.00						0.00	0.00	0.00
2.0	**Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.**														
2.1	EARTHING DEVICE	Nos.	103		0.00		0.00						0.00	0.00	0.00
2.2	DANGER BOARD	Nos.	103		0.00		0.00						0.00	0.00	0.00
2.3	NUMBER PLATE	Nos.	103		0.00		0.00						0.00	0.00	0.00
2.4	PHASE PLATE	Nos.	618		0.00		0.00						0.00	0.00	0.00
2.5	BIRD GUARD	Nos.	618		0.00		0.00						0.00	0.00	0.00
2.6	ANTICLIMBING DEVICE	Nos.	103		0.00		0.00						0.00	0.00	0.00

2.7	CIRCUIT PLATE	Nos.	206		0.00		0.00						0.00	0.00	0.00
2.8	COUNTERPOISE EARTHING	Nos.	0		0.00		0.00						0.00	0.00	0.00
3.0	**Supply of following POWER CONDUCTORS in the proposed 132 kV lines with provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.**														
3.1	ACSR PANTHER	Kms.	175.83		0.00		0.00						0.00	0.00	0.00
4.0	**POWER CONDUCTOR ACESSORIES**														
4.1	For ACSR PANTHER														
4.1.1	VIBRATION DAMPER	Nos.	1236		0.00		0.00						0.00	0.00	0.00
4.1.2	MID SPAN JOINT	Nos.	176		0.00		0.00						0.00	0.00	0.00
4.1.3	REPAIR SLEEVE	Nos.	176		0.00		0.00						0.00	0.00	0.00
4.1.4	P A ROD FOR ACSR PANTHER	Nos.	504		0.00		0.00						0.00	0.00	0.00
4.1.5	PG CLAMP FOR ACSR PANTHER	Nos.	0		0.00		0.00						0.00	0.00	0.00
5.0	**Supply of the GI earth wire of size 7/3.15 mm as per the technical specification, with provision for Sag & Wastage and as per the direction of Engineer in charge.**	Kms.	29.3		0.00		0.00						0.00	0.00	0.00
6.0	**EARTH CONDUCTOR ACESSORIES**														
6.1	VIBRATION DAMPER	Nos.	206		0.00		0.00						0.00	0.00	0.00
6.2	FLEXIBLE COPPER EARTH BOND	Nos.	38		0.00		0.00						0.00	0.00	0.00
6.3	SUSPENSION CLAMP	Nos.	84		0.00		0.00						0.00	0.00	0.00
6.4	TENSION CLAMP	Nos.	38		0.00		0.00						0.00	0.00	0.00
6.5	MID SPAN COMPRESSION JOINT	Nos.	30		0.00		0.00						0.00	0.00	0.00
6.6	REPAIR SLEEVE	Nos.	30		0.00		0.00						0.00	0.00	0.00
7.0	**Supply of the following Anti fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**														
7.1	90 KN Insulator	Nos.	7258		0.00		0.00						0.00	0.00	0.00
7.2	120 KN Insulator	Nos.	2457		0.00		0.00						0.00	0.00	0.00
8.0	**Supply of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.**														
8.1	For ACSR PANTHER														
8.1.1	Single suspension Hard wares fittings (AGS type) suitable for 90 KN insulator.	Nos.	240		0.00		0.00						0.00	0.00	0.00
8.1.2	Double suspension Hard wares fittings (AGS type) suitable for 90 KN insulator.	Nos.	264		0.00		0.00						0.00	0.00	0.00
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	54		0.00		0.00						0.00	0.00	0.00
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	90		0.00		0.00						0.00	0.00	0.00
8.1.5	"D" Shackle	Nos.	0		0.00		0.00						0.00	0.00	0.00
8.1.6	Hanger	Nos.	0		0.00		0.00						0.00	0.00	0.00
8.1.7	U' Bolt	Nos	0		0.00		0.00						0.00	0.00	0.00
	TOTAL OF SUPPLY FOR TRANSMISSION LINE														**0.00**
	SUPPLY_MANDATORY SPARES														

Sl. No.	DESCRIPTION OF ITEMS(SCHEDULE-2A-SS) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNITS	TOTAL QUANTITY	Unit Ex-Works Price IN INR	Total Ex-Works Price IN INR	Unit F&I Charges IN INR	Total F&I Charges IN INR	Mode of Transaction (Direct or Bought-out item)	Unit Excise duty IN INR	Unit VAT IN INR	Unit CST in INR	Any other tax IN INR	Total Taxes and duties IN INR	Unit FORD Price IN INR	TOTAL FORD Price IN INR
1	**2**	**3**	**4**	5	6=5x4	7	8=7x4	9	10	11	12	13	14=10+11+12+13	15=5+7+10+11+12+1	16=15x4
1	145 KV,(800-400-200 A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	2		0.00		0.00						0.00	0.00	0.00
2	**145 KV,1250A 31.5KA,ISOLATORS**														
2.1	MALE & FEMALE CONTACTS	SET	1		0.00		0.00						0.00	0.00	0.00
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,ETC AS PER APPROVED SCHEMATIC.	SET	1		0.00		0.00						0.00	0.00	0.00
2.3	LIMIT SWITCH	SET	2		0.00		0.00						0.00	0.00	0.00
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1		0.00		0.00						0.00	0.00	0.00
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1		0.00		0.00						0.00	0.00	0.00
2.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1		0.00		0.00						0.00	0.00	0.00
2.7	HINGE PINS,TERMINAL CONNECTOR TERMINAL PAD	SET	1		0.00		0.00						0.00	0.00	0.00
2.8	POST INSULATOR SUPPORT	SET (3NOS. PER SET)	1		0.00		0.00						0.00	0.00	0.00
3	145 KV,660/pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1		0.00		0.00						0.00	0.00	0.00
4	120 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR	NOS	2		0.00		0.00						0.00	0.00	0.00
5	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1		0.00		0.00						0.00	0.00	0.00
6	132 KV Bus Post Insulators	NOS	2		0.00		0.00						0.00	0.00	0.00
7	**145KV,3150A,40KA,SF6,CIRCUIT BREAKER**														
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1		0.00		0.00						0.00	0.00	0.00
7.2	SPRING CHARGING MOTOR	NOS	1		0.00		0.00						0.00	0.00	0.00
7.3	BREKER AUXILIARY CONTACTS	SET	1		0.00		0.00						0.00	0.00	0.00
7.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1		0.00		0.00						0.00	0.00	0.00
7.5	DENSITY MONITORING SYSTEM (IF REQUIRED)	SET	1		0.00		0.00						0.00	0.00	0.00
7.6	CLOSING COIL	NOS	4		0.00		0.00						0.00	0.00	0.00
7.7	TRIPPING COIL	NOS	4		0.00		0.00						0.00	0.00	0.00
7.8	SF6 GAS FILLING DEVICE	NOS	1		0.00		0.00						0.00	0.00	0.00
7.9	SET OF GASKETS, "O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1		0.00		0.00						0.00	0.00	0.00
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	2		0.00		0.00						0.00	0.00	0.00
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	1		0.00		0.00						0.00	0.00	0.00
9	**36 KV,1250A 25KA,ISOLATORS**														
9.1	MALE & FEMALE CONTACTS	SET	1		0.00		0.00						0.00	0.00	0.00
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,ETC AS PER APPROVED SCHEMATIC.	SET	1		0.00		0.00						0.00	0.00	0.00
9.3	LIMIT SWITCH	SET	2		0.00		0.00						0.00	0.00	0.00
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1		0.00		0.00						0.00	0.00	0.00
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1		0.00		0.00						0.00	0.00	0.00
9.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1		0.00		0.00						0.00	0.00	0.00
9.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1		0.00		0.00						0.00	0.00	0.00
9.8	POST INSULATOR SUPPORT	SET (3NOS. PER SET)	1		0.00		0.00						0.00	0.00	0.00
10	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR	NOS	3		0.00		0.00						0.00	0.00	0.00
11	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1		0.00		0.00						0.00	0.00	0.00
12	**36KV, 1250A ,25KA,VACUUM CIRCUIT BREAKER**														
12.1	ONE COMPLETE POLE ASSEMBLY OF CIRCUIT BREAKER	SET	1		0.00		0.00						0.00	0.00	0.00
12.2	TRIPPING COILS	NOS	4		0.00		0.00						0.00	0.00	0.00
12.3	CLOSING COIL	NOS	4		0.00		0.00						0.00	0.00	0.00
12.4	SPRING CHARGING MOTOR	NOS	1		0.00		0.00						0.00	0.00	0.00
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1		0.00		0.00						0.00	0.00	0.00
12.6	SET OF GASKET,"O" RINGS,SEALING PER CIRCUIT BREAKER	SET	1		0.00		0.00						0.00	0.00	0.00
12.7	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1		0.00		0.00						0.00	0.00	0.00
13	33 KV Bus Post Insulators	NOS	3		0.00		0.00						0.00	0.00	0.00
14	**BUS BAR & CIRCUIT MATERIALS**														
14.1	120 kN ANTIFOG INSULATOR STRINGS ***for Double Moose cond*** /TENSION)-132 KV	SET	2		0.00		0.00						0.00	0.00	0.00
14.2	120 kN ANTIFOG INSULATOR STRINGS ***for Single Moose cond*** / TENSION)-132 KV	SET	2		0.00		0.00						0.00	0.00	0.00
14.3	120 kN ANTIFOG INSULATOR STRINGS ***for Double Moose cond*** / TENSION)-33 KV	SET	2		0.00		0.00						0.00	0.00	0.00
14.4	120 kN ANTIFOG INSULATOR STRINGS ***for Single Moose cond*** /TENSION)-33 KV	SET	2		0.00		0.00						0.00	0.00	0.00
14.5	90 kN ANTIFOG INSULATOR STRINGS ***for Double Single Moose cond*** / SUSPENSION)-132 KV	SET	2		0.00		0.00						0.00	0.00	0.00
14.6	90 kN ANTIFOG INSULATOR STRINGS ***for Double/ Single Moose cond*** /SUSPENSION)-33 KV	SET	2		0.00		0.00						0.00	0.00	0.00
15	ACSR MOOSE CONDUCTOR	MTRS	250		0.00		0.00						0.00	0.00	0.00
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS ETC. FOR 132 KV & 33 KV	SET (EACH TYPE THREE NOS.)	1		0.00		0.00						0.00	0.00	0.00
17	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**														
17.1	**POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINUM CONDUCTOR(As per Specification)**														
17.1.1	3.5 CX300 mm² /ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		0.00		0.00						0.00	0.00	0.00
17.1.2	3.5 CX185 mm² /ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		0.00		0.00						0.00	0.00	0.00
17.1.3	3.5 CX120 mm² /ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		0.00		0.00						0.00	0.00	0.00
17.1.4	3.5 CX70 mm² /ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1		0.00		0.00						0.00	0.00	0.00
17.1.5	3.5 CX35 mm² /ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1		0.00		0.00						0.00	0.00	0.00
17.1.6	4 CX 16 mm² -PVC	MTRS	250		0.00		0.00						0.00	0.00	0.00
17.1.7	4 CX 6 mm² -PVC	MTRS	250		0.00		0.00						0.00	0.00	0.00
17.1.8	2CX 6 mm² -PVC	MTRS	250		0.00		0.00						0.00	0.00	0.00
17.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per sescification)**														
17.2.1	4 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500		0.00		0.00						0.00	0.00	0.00
17.2.2	5 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500		0.00		0.00						0.00	0.00	0.00
17.2.3	7 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500		0.00		0.00						0.00	0.00	0.00
17.2.4	10 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500		0.00		0.00						0.00	0.00	0.00
17.2.5	12 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250		0.00		0.00						0.00	0.00	0.00
17.2.6	16 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250		0.00		0.00						0.00	0.00	0.00
17.2.7	19 CX 2.5 mm² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250		0.00		0.00						0.00	0.00	0.00
17.2.8	1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	50		0.00		0.00						0.00	0.00	0.00
17.3	**CARRIER COMMUNICATION & OTHER MATERIALS**														
17.3.1	132 KV,1200 A,0.5mH,Pedestal Mounting WAVE TRAP	NOS	1		0.00		0.00						0.00	0.00	0.00
17.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1		0.00		0.00						0.00	0.00	0.00
17.3.3	VRLA TYPE BATTERY 300 AH, ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 48 V)	NO	1		0.00		0.00						0.00	0.00	0.00
17.3.4	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 220 V)	NO	1		0.00		0.00						0.00	0.00	0.00
17.3.5	BATTERY CHARGER FOR 300 AH (48V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1		0.00		0.00						0.00	0.00	0.00
17.3.6	BATTERY CHARGER FOR 350 AH (220V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1		0.00		0.00						0.00	0.00	0.00
18	**PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN, COMM PAN, RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR BCU**														
18.1	**132 KV SIDE**														
18.1.1	DISTANCE PROTECTION RELAY	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.3	MASTER TRIP RELAY	NOS	2		0.00		0.00						0.00	0.00	0.00
18.1.4	DIFFERENTIAL PROTECTION RELAY	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.5	TRIP SUPERVISION RELAY	NOS	3		0.00		0.00						0.00	0.00	0.00
18.1.6	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1		0.00		0.00						0.00	0.00	0.00
18.1.7	ANNUNCIATOR	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.8	DISCREPANCY CONTROL SWITCH														
	a) FOR CIRCUIT BREAKER	NOS	2		0.00		0.00						0.00	0.00	0.00
	b) FOR ISOLATOR	NOS	2		0.00		0.00						0.00	0.00	0.00
18.1.9	PROTECTION TRANSFER SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.10	AMMETER SELECTOR SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.11	VOLTMETER SELECTOR SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.1.12	AMMETER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.1.13	VOLTMETER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.1.14	MW METER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.1.15	MVAR METER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.2	**33 KV SIDE**														
18.2.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1		0.00		0.00						0.00	0.00	0.00
18.2.2	MASTER TRIP RELAY	NOS	2		0.00		0.00						0.00	0.00	0.00
18.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)	SET	1		0.00		0.00						0.00	0.00	0.00
18.2.4	ANNUNCIATOR	NOS	1		0.00		0.00						0.00	0.00	0.00
18.2.5	CONTROL SWITCHES FOR														
	a) CIRCUIT BREAKER	NOS	2		0.00		0.00						0.00	0.00	0.00
	b) ISOLATOR	NOS	2		0.00		0.00						0.00	0.00	0.00
18.2.6	PROTECTION TRANSFER SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.2.7	AMMETER SELECTOR SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.2.8	VOLTMETER SELECTOR SWITCH	NOS	1		0.00		0.00						0.00	0.00	0.00
18.2.9	AMMETER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.2.10	VOLTMETER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.2.11	MW METER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
18.2.12	MVAR METER ALONG WITH TRANSDUCER	SET	1		0.00		0.00						0.00	0.00	0.00
	TOTAL FOR SUPPLY OF MANDATORY SPARES														**0.00**
	SUPPLY PRICE_TOTAL OF SCHEDULE 2A														**0.00**

Note:

1 **Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.**
2 **Bidders are required to fill up only blue shaded cells.**
3 **Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero**
4 **In mode of transaction column please indicate Direct/Bought-Out. For Taxes & Duties on Direct/Bought-out items ref clause 6.0 of SCC (Vol-IA)**

PACKAGE 67(I)/2014-15

ODISHA POWER TRANSMISSION CORPORATION LIMITED

NAME OF THE WORK:-Construction of 2X20 MVA,132/33 KV S/s at GHENS in Baragarh district with associated 132 KV DC Transmission Line from proposed 220/132/33 KV Baragarh Grid S/s. (App. Line Length: 28.872Kms.)

NOTICE INVITING TENDER-NIT NO. 67/2014-15 & BID DOCUMENT No.:Sr. G.M-CPC- TENDER- GHENS(BARAGARH)- PACKAGE- 67(I) / 2014-15

SCHEDULE-2C-ERECTION & CIVILWORKS(Equipment/Materials Price Break-up of Ex-works Prices against Package-67(I)-GHENS)

			NAME OF THE BIDDER		
	ERECTION_SUBSTATION EQUIPMENT & MATERIALS				
Sl. No.	**DESCRIPTION OF ITEMS(SCHEDULE-2C) ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)**	UNIT	QUANTITY: for Construction of 2X20 MVA, 132/33 KV S/S, GHENS (132 KV Bay-05 Nos.: 02 FDR, 02 TRF & 01 B/C) & (33 KV Bay-07 Nos.: 04 FDR, 02 TRF & 01 B/C)	Unit Erection Rate IN INR	Total Erection Price IN INR
1	2	3	4	5	6=4x5
PART-A	**ELECTRICAL WORKS**				
1	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	15		0.00
2	145 KV,1250A,31.5KA,ISOLATORS				
'2.1	S/I WITH OUT EARTH SWITCH	NOS	9		0.00
'2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		0.00
'2.3	D/I WITHOUT EARTH SWITCH	NOS	2		0.00
3	145 KV, 6600pF, 3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		0.00
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		0.00
5	145 KV, 2 CORE, SINGLE PHASE, IVT	NOS	3		0.00
6	132 KV Bus Post Insulators	NOS	16		0.00
7	145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		0.00
7.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	15		0.00
7.2	36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	6		0.00
8	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	4		0.00
9	**36 KV,1250A,25KA,ISOLATORS**				
'9.1	S/I WITH OUT EARTH SWITCH	NOS	8		0.00
'9.2	D/I WITH SINGLE EARTH SWITCH	NOS	4		0.00
'9.3	D/I WITHOUT EARTH SWITCH	NOS	2		0.00
'9.4	S/I WITH BEAM MOUNTED	NOS	2		0.00
10	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	24		0.00
11	36 KV ,2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)	NOS	3		0.00
12	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	7		0.00
13	33 KV Bus Post Insulators	NOS	7		0.00
14	**BUS BAR & CIRCUIT MATERIALS**				
14.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING				
'14.1.1	120 kN ANTIFOG INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	18		0.00
'14.1.2	120 kN ANTIFOG INSULATOR STRINGS ***for Single Moose cond*** (TENSION)-132 KV	SET	6		0.00
'14.1.3	120 kN ANTIFOG INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-33 KV	SET	18		0.00
'14.1.4	120 kN ANTIFOG INSULATOR STRINGS ***for Single Moose cond*** (TENSION)-33 KV	SET	12		0.00
'14.1.5	90 kN ANTIFOG INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	6		0.00
'14.1.6	90 kN ANTIFOG INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-33 KV	SET	18		0.00
14.2	Supply of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or double insulator strings,Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments,testing,commissioning etc. as per the instruction of Engineer-in charge.				
'14.2.1	Single conductor	KM	3		0.00
'14.2.2	Twin Conductor	KM	1		0.00
14.3	Supply of labour,T&P & other necessary arrangement for erection of all type of HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS as per the instruction of Engineer-in charge.	LOT	1		0.00
14.4	**EARTH SPIKES & IT'S HARDWARES & FITTING**				
14.4.1	FOR 132KV SIDE : 22 NOS @ 7 MTRS LENGTH EACH	SET	22		0.00
14.4.2	FOR 33 KV SIDE: 19 NOS @ 5 MTRS EACH	SET	19		0.00
14.4.3	FOR 132KV SIDE : 22 NOS @ 7 MTRS LENGTH EACH	SET	16		0.00
'14.5.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Earth Flat for laying (*spacing maximum 5m*) (Substation earth mat): Design, engineering, supply (except the MS Rods, only erection) inclusive of corrosion protection measures if any,laying of earth mat conductors of size 75X10 mm GI Flat as per the approval of Engineer in charge, excavation, welding/jointing of ground conductors along with risers (a) up to Finished level from the mat size 75X10 mm GI Flat with back filling and good compaction,The spacing between the earth conductor not more than 5 mtrs (both way) and to be buried at depth of 700 mm from the finished ground level as per the practice and as per specification.	MTRS	5016		0.00
'14.5.2	EARTHING CONDUCTOR: 50x6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure including proper welding, bending and anti corrosive painting etc from the finished ground level to the top of the structure and equipment shall be with 50X6 mm GI Flats, as per approved drawing and specification.	MTRS	3542		0.00
'14.5.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit); perforated 50 mm Heavy duty GI pipes for treated earth pits (with details of treatment as per IS) including, excavation,supply of Bentonate powder and other materials for the treated earth pit as per standard practice and as per specification.	NOS	145		0.00
'14.5.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit\	NOS	110		0.00
14.6	**G.I Cable Trays including G.I. support Angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.**				
'14.6.1	G.I Cable Trays(size: 450x75x2500mm)	MTRS	1400		0.00
'14.6.2	G.I Cable Trays(size: 300x75x2500mm)	MTRS	1000		0.00
'14.6.3	G.I Cable Trays(size: 150x75x2500mm)	MTRS	750		0.00
'14.6.4	Support G. I angle 50x50x6 mm for cable tray	MT	2.5		0.00
14.7	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES				
'14.7.1	BAY MARSHALLING KIOSK	NOS	7		0.00
'14.7.2	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2		0.00
'14.7.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	NOS	1		0.00
'14.7.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2		0.00
'14.7.5	CT, PT & CVT Out Door Console Boxes (132 KV CT-4 Nos.+ 1 No., 33 KV CT-8 Nos., 132 KV CVT-1 No. + 1 No., 132 KV IVT-1 No., 33 KV IVT-1 No.	NOS	15		0.00
15	**SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.**				
15.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
'15.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) = 16 Sets.	NOS	16		
'15.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.92 MT) = 05 Sets	NOS	5		
'15.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) = 09 Sets.	NOS	9		
'15.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) = 11 Sets.	NOS	11		
15.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
'15.2.1	G1 - 132 KV(NOMINAL UNIT WT- 0.58 MT) = 11 Sets.	NOS	11		
'15.2.2	G1X - 132 KV (NOMINAL UNIT WT- 0.582 MT) = 05 Sets.	NOS	5		
'15.2.3	G2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 04 Sets	NOS	4		
'15.2.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) = Nil	NOS	0		
'15.2.5	G6 - 33KV (NOMINAL UNIT WT- 0.36 MT) = 03 Sets.	NOS	3		
'15.2.6	G4 - 33KV(NOMINAL UNIT WT- 0.3 MT) = 9 Sets.	NOS	9		
'15.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.52 MT) = 02 Sets.	NOS	2		
15.3	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	61.2		0.00
15.4	**SWITCH YARD EQUIPMENT STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.**				
'15.4.1	ISOLATORS-132KV				
'15.4.2	S.I. WITHOUT E/S (Unit weight - 658.767 Kg)	NOS	9		
'15.4.3	D.I. WITHOUT E/S (Unit Weight - 979.10 Kg)	NOS	2		
'15.4.4	D.I. WITH E/S (Unit Weight - 1120.559 Kg)	NOS	2		
'15.4.5	ISOLATORS-33 KV				
'15.4.6	S.I. WITHOUT E/S (Unit weight - 294.893 Kg)	NOS	8		
'15.4.7	D.I. WITHOUT E/S (Unit weight - 655.764 Kg)	NOS	2		
'15.4.8	D.I. WITH E/S (Unit weight - 670.555 Kg)	NOS	4		
'15.4.9	CTS-132 KV (Unit Weight - 214.546 Kg)	NOS	15		
'15.4.10	CTS-33 KV (Unit Weight - 148.80 Kg)	NOS	21		
'15.4.11	CVTS-132 KV (Unit Weight - 236.628 Kg)	NOS	6		
'15.4.12	IVTS-132 KV (Unit Weight - 231.195 Kg)	NOS	3		
'15.4.13	IVTS-33 KV (Unit Weight - 124.336 Kg)	NOS	3		
'15.4.14	Surge Arrester-132 kV (Unit Weight - 179.893 Kg)	NOS	12		
'15.4.15	Wave Trap-132 KV (Unit Weight - 247.254 Kg)	NOS	4		
'15.4.16	BPI-132 KV (Unit Weight - 309.883 Kg)	NOS	16		
'15.4.17	BPI-33 KV (Unit Weight - 148.80 Kg)	NOS	7		
'15.4.18	NCTS (Unit Weight - 138.24 Kg)	NOS	4		
'15.4.19	**TOTAL WEIGHT OF EQUIPMENT STRUCTURE**	MT	39.943		0.00
15.5	**Total weight of GI Nuts and bolts for the above Column, Beam & structures**	MT	8		0.00
16	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
16.1	**POWER CABLES,1.1KV,XLPE/PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
'16.1.1	XLPE 3.5 CX300 mm^2	MTRS	500		0.00
'16.1.2	XLPE 3.5 CX185 mm^2	MTRS	300		0.00
'16.1.3	XLPE 3.5 CX120 mm^2	MTRS	200		0.00
'16.1.4	PVC 3.5 CX70 mm^2	MTRS	600		0.00
'16.1.5	PVC 3.5 CX35 mm^2	MTRS	1500		0.00

'16.1.6	PVC 4 CX 16 mm^2	MTRS	1000		0.00
'16.1.7	PVC 4 CX 6 mm^2	MTRS	3500		0.00
'16.1.8	PVC 2CX 6 mm^2	MTRS	2000		0.00
16.2	**CONTROL CABLES.1.1 KV. PVC.STRANDED COPPER(As per specification)**				
'16.2.1	2 CX 2.5 mm2	MTRS	5000		0.00
'16.2.2	4 CX 2.5 mm^2	MTRS	16000		0.00
'16.2.3	5 CX 2.5 mm^2	MTRS	4000		0.00
'16.2.4	7CX 2.5 mm^2	MTRS	9000		0.00
'16.2.5	10 CX 2.5 mm^2	MTRS	10000		0.00
'16.2.6	12 CX 2.5 mm^2	MTRS	9000		0.00
'16.2.7	16 CX 2.5 mm^2	MTRS	5000		0.00
'16.2.8	19 CX 2.5 mm^2	MTRS	2000		0.00
'16.2.9	1CX 120 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	600		0.00
17	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**				
'17.1	132 kV Line Trap for Pedestal mounting with complete accessories :1200A, 0.5 mH, (90-500kHZ),Isc=31.5kA compatible to IEC 353 specifications	NOS	4		0.00
'17.2	LINE MATCHING UNIT HAVING BUILT-IN PROTECTIVE DEVICES LIKE DRAINAGE COIL, SURGE ARRESTOR AND EARTH SWITCH. TUNABLE BAND PASS COUPLING FILTER: 90-500KHZ. HF POWER RATING: 650 W & LINE MATCHING DISTRIBUTION UNIT	SET	2		0.00
'17.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV. Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000		0.00
'17.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1		0.00
'17.5	25PAIR ARMOURED TELEPHONE CABLES	MTRS	1000		0.00
'17.5	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	500		0.00
'17.6	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300		0.00
'17.7	2 WIRE TELEPHONE SET	NO	20		0.00
'17.8	FAX MACHINE	NO	1		0.00
'17.9	48 V, 350 AH, maintenance free VRLA Battery set.	SET	1		0.00
'17.10	75A, 48V Float cum Boost Charger: (Float/Boost current as recommended by VRLA Battery vendor)	SET	1		0.00
'17.11	48 V DCDB	SET	1		0.00
18	**ERECTION OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION**				
18.1	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	2		0.00
18.2	Erection of D.P structures with 33 KV AB switch in 33 KV side (600AMP),HG fuse,Power Cables and supply & erection of insulators,conductor ,clamps & connectors,jumpering and other accessories required for the erection ,testing & commissioning of the station transformer. Erection of LT out-door Kiosk and required cable termination . The DP structure shall be painted with two coats of Zinc rich primer & two coats of epoxy based Aluminium paint.	SETS	2		0.00
19	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)**				
'19.1	**Erection of LED LAMPs with fixtures & switch gear alongwith supply & fixing of GI Conduit etc.(Lighting fixtures are to be fixed rigidly on the Column in the SWITCH YARD at a suitable height so that the required lux can be maintained),Required cable connections to be made from nearest A.C source,(* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS for SUPPLY CONTRACT) & as per instruction of Engineer in charge**	SET	45		0.00
'19.2	Erection of GI tubular Pole and fixing of LED lamp with fixtures at a suitable height , cable connection from distribution board complete in all respect . (TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS). (* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS for SUPPLY CONTRACT) & as per instruction of Engineer in Charge.	SET	35		0.00
'19.3	**Erection of 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE** HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND 6 NOS. OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. (Erection of Out door Kiosk for street lighting purpose along with laying of (XLPE CABLES(3.5 CORE 120 SQMM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4C X 16 SQMM FROM OUTDOOR KIOSK TO THE STREET LIGHT POLES AND 4CX6 SQMM FROM POLE TO POLE AND 2CX6 SQMM FROM POLE TO LIGHTING FIXTURES.) and connections in all respect according to technical specification and direction of engineer in charge. (Remarks: For supply of all the cable are covered in supply contract & erection of cable covered in the supply contract)	NO.	1		0.00
'19.4	**Erection of 1 NO. OUTDOOR KIOSK FOR COLONY SUPPLY PURPOSE** HAVING 2 NOS 200Amp SWITCH FUSE UNIT. 6 NOS. OUTLETS OF 32 A MCB FOR COLONY QUARTERS (Erection of Out Door Kiosk for Colony supply purpose along with laying of (XLPE CABLES(3.5 CORE 120 SQM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SQMM FROM KIOSK TO EACH QUARTER. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.) and connections in all respect according to technical specification and direction of engineer in charge. (Remarks: For supply of all the cable are covered in supply contract & erection of cable covered in the supply contract)	NO.	1		0.00
20	Erection of 2 TR CAPACITY 5-STAR rated SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF AIR CONDITIONERS,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.	SET	20		0.00
21	**Erection of FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)**				
'21.1	FOAM TYPE-9 LTRS	NOS	4		0.00
'21.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4		0.00
'21.3	DRY POWDER TYPE - 5 KGS	NOS	4		0.00
'21.4	CO_2 - 4.5 KGS	NOS	10		0.00
'21.5	CO_2 -9 KGS	NOS	10		0.00
'21.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4		0.00
'21.7	Water type- 9 LTRS	NOS	4		0.00
'21.8	Foam type - 50 LTR	NOS	2		0.00
'21.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	4		0.00
22	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**				
'22.1	TIME SYNCH EQUIPMENT	NOS	1		0.00
'22.2	EVENT LOGGER PANEL	NOS	0		0.00
'22.3	**132 KV SIDE (SIMPLEX TYPE PANEL)**				
'22.3.1	FEEDER CONTROL PANEL	NOS	2		0.00
'22.3.2	TRANSFORMER CONTROL PANEL(FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		0.00
'22.3.3	BUSCOUPLER CONTROL PANEL	NOS	1		0.00
'22.3.4	FEEDER RELAY PANEL	NOS	2		0.00
'22.3.5	TRANSFORMER RELAY PANEL(FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		0.00
'22.3.6	BUSCOUPLER RELAY PANEL	NOS	1		0.00
'22.3.7	COMMON PANEL (KP-1)	NOS	1		0.00
'22.4	**33 KV SIDE**				
'22.4.1	FEEDER CONTROL & RELAY PANEL	NOS	4		0.00
'22.4.2	TRANSFORMER CONTROL & RELAY PANEL	NOS	2		0.00
'22.4.3	BUSCOUPLER CONTROL & RELAY PANEL	NOS	1		0.00
23	**AC & DC SYSTEM**				
23.1	**AC SYSTEM**				
'23.1.1	MAIN AC DB, (HAVING 800 A, 50KA, DRAWOUT TYPE ACB WITH 3 O/C, E/F, U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION, (MAIN DB-1, MAIN DB-2 WITH B/C)	SET	1		0.00
'23.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C)	SET	1		0.00
'23.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1, DB-2 & B/C)	SET	1		0.00
'23.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1		0.00
'23.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1		0.00
'23.1.6	INDOOR RECEPTACLE BOARD	SET	1		0.00
23.2	**DC SYSTEM**				
'23.2.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1)	SET	1		0.00
'23.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		0.00
'23.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		0.00
'23.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		0.00
24	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	2		0.00
25	WALKIE TALKIE SET	SET/ PAIR	2		0.00
26	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2		0.00
27	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1		0.00
28	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		0.00
29	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1		0.00
30	MAINTENANCE TESTING EQUIPMENT (AS PER **ANNEXURE - I** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	SET	1		0.00
31	OFFICE FURNITURE (AS PER **ANNEXURE - III** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM, OFFICE ROOMS, LIBRARY, TESTING LAB, etc.	SET	1		0.00
32	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.(2000X1000X10)mm Size	NOS	35		0.00
33	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER **ANNEXURE - II** ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	SET	1		0.00
34	RECEIVING THE TRANSFORMERS AND ITS ACCESSORIES FROM NEAREST OPTCL STORES,DRAGGING AND INSTALLING ON THE PLINTH AND PLACING IN POSITION, ERECTION OF ACCESSORIES OF THE TRANSFORMERS, EART-HING AS PER STANDARD(INCLUDING SUPPLY OF MATERIALS),VACUUM TREATMENT OF THE TANK AND WINDING,OIL FILTRATION(INCLUDING SUPPLY OF VACUUM CUM OIL FILTER MACHINE),SUPPLY & LAYING OF ALL TYPES OF CONTROL & POWER CABLES PERTAINING TO TRANSFORMERS ,TESTING AND COMMISSIONING INCLUDING ALL TESTS OF THE OILS AS PER STIPULATION IN THE STANDARD APPROVED TESTING LABORATORY AND AS PER THE INSTRUCTION OF THE ENGINEER IN CHARGE.THIS INCLUDE ALL RELATED WORKS FOR ERECTION(Transformer and its accessories,RTCC Panel etc),TESTING AND COMMISSIONING OF THE POWER TRANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTTION INCLUDING T&P's. **1. 132/33 KV 20/40 MVA: 02 Nos**	Nos	2		0.00
35	ERECTION OF PLCC EQUIPMENT SUPPLIED BY OWNER INCLUDING DISMANTLING FROM EXISTING SUBSTATION (AS PER THE DETAILS SLD GIVEN IN TS) AND TRANSPORTATION AS REQUIRED	LOT	1		0.00

36	SIGNBOARD AND SINGLE LINE DIAGRAM : .Design, engineering, procurement of labour, material including all associated works for construction and fixing of (a) glow signboard with dimension 1.1mx1.6m with illumination and fixing with MS frames having RCC (1:1.5:3) foundations infront of substation. (b) The single line diagram size 1.0mx1.5m with illumination arrangement and to be wall hanged type to be fixed inside the control room building.	LOT	1		0.00
	TOTAL of ELECTRICAL WORKS Part-I (A) _SUBSTATION				**0.00**
1	***Foundations : Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod, coarse and fine aggregates(Sand and Metal Chips) etc) for construction of RCC (1:1.5:3) & PCC (1:3:6), RCC footings of any depth, pedestal and piling as per requirement including soil investigation, excavation, concreting, shuttering, grouting, underpinning and back filling of foundations etc complete for the following switch yard gantry/ portal structures and equipment support & others as per the technical specification and approved drawings.(RCC RATIO 1:1.5:3). This also includes excavation in all types of soil or rocks,back filling and disposal of excess earth as per the direction of Engineer In charge.***				
1.1	**Switch yard gantry/portal structure foundations**				
1.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	16		
1.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5		
1.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9		
1.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11		
1.2	**Equipment foundations :**				
1.2.1	145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
1.3	145 KV,1200A, 31.5KA, ISOLATORS				
1.3.1	S/I WITH OUT EARTH SWITCH	NOS	9		
1.3.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
1.3.3	D/I WITHOUT EARTH SWITCH	NOS	2		
1.4	145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		
1.5	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		
1.6	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
1.7	132 KV Bus Post Insulators	NOS	16		
1.8	145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		
1.9	36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
1.9	36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	6		
1.10	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO. & 33 KV SIDE:1 NO)	NOS	4		
1.11	**36 KV,800A,25KA,ISOLATORS**				
1.11.1	S/I WITH OUT EARTH SWITCH	NOS	8		
1.11.2	D/I WITH SINGLE EARTH SWITCH	NOS	4		
1.11.3	D/I WITHOUT EARTH SWITCH	NOS	2		
1.12	S/I WITH BEAM MOUNTED	NOS	2		
1.13	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	24		
1.14	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
1.15	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	7		
1.16	33 KV Bus Post Insulators	NOS	7		
1.17	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES				
1.16.1	BAY MARSHALLING KIOSK ***(03 Nos 132 kv bay & 03 Nos 33 KV bay)***	NOS	7		
1.16.2	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2		
1.16.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	NOS	1		
1.16.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2		
1.16.5	CT, PT & CVT Out Door Console Boxes (132 KV CT-4 Nos.+ 1 No., 33 KV CT-8 Nos., 132 KV CVT-1 No. + 1 No., 132 KV IVT-1 No., 33 KV IVT-1 No.	NOS	15		
1.17	**EXCAVATION.:This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge.**				
1.17.1	Normal Soil(SOFT/LOOSE)	Cum	3100		0.00
1.17.2	Hard Soil	Cum	2800		0.00
1.17.3	Soft Rock	Cum	250		0.00
1.17.4	Hard Rock(Requiring Blasting/Using breaker machinery)	Cum	550		0.00
1.17.5	Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in for the above column/equipment/marshalling box foundations (Sl No. 1.1 & 1.2) column and equipment foundation as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	Cum	255		0.00
1.17.6	Open cast foundation for the above column/equipment/marshalling box foundations (Sl No. 1.1 & 1.2) with RCC 1:1.5:3 (Grade M-20),including supply of Labour all materials as per design in the foundation pit as required for the above foundations),MS Rod(FE-500)(Supply, cutting,bending, binding (including supply of binding wire) placing in position of steel rods for foundation conceteing including cost of binding wire),Cement, coarse and fine aggregates,shuttering,proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.	Cum	1450		0.00
2	Cable Trenches: Design, engineering, and consruction of RCC cable trenches and all associated works for cable trench and cable trench crossings as per technical specifications and approved drawings and as per direction of the Engineer in Charge. (1) This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. (2) Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in cable trench as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge. (3) Open cast foundation for the cable trench with RCC 1:1.5:3 (Grade M-20 Nominal mixing),including supply of Labour all materials like MS Rod,Cement, coarse and fine aggregates,shuttering,cutting,bending,binding of M.S.Rod including supply of binding wire proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge. (4) Fly ash Brickwork with fly ash Fly ash Brick ,plastering (1:6 Ratio) & curing, wherever required including the supply of labour,material, cement, etc. (5)Supply,fabrication & Fixing of MS Angle(GI) for cable tray support (as per specification). The cable tray support frame shall be pre fabricated GI angle as per requirement and to be welded with the plate fixed on the trench wall for better rigidity. The plate (6mm) fixed on the wall are also to be welded with the MS rods provided for the trench wall before concreting. (6) Precast of RCC covers (1:1.5:3) and its fixing on the cable trench as per spec and instruction of Engg. In Charge. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Engg in charge) INCLUDING STANDARD SUPPORT STAND (HD Galvanised (M.S JOIST ,CHANNEL,ANGLE)).				
2.1	Section 1-1	Mtrs	300		0.00
2.2	Section 2- 2	Mtrs	200		0.00
2.3	Section 3-3	Mtrs	300		0.00
2.4	Section 4-4	Mtrs	500		0.00
3	**Rain water harvesting** system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	Nos	1		0.00
4	**Cable trench crossing**:Design,engineering,construction including supply of labour,materials,cement,reinforcement steel,formwork etc,and all associated works for construction of trench crossing as per technical specification and approved drawing.(Road crossing)				
4.1	Section 1-1	Nos	1		0.00
4.2	Section 2- 2	Nos	1		0.00
4.3	Section 3-3	Nos	2		0.00
5	**Boundary wall :** Soil investigation.Design, engineering,procurement of material,labour including all associated works for construction of boundary-wall along the property line of the sub-station as per technical specification and instruction of the Engineer in Charge.(the size of the bricks shall be 250mm having 1st class kiln burn having compressive strength with 75kg/cm2). This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth,Piling etc as per the direction of Engineer In charge.(**APPROXIMATE LENGHTH OF THE BOUNDARY WALL IN MTRS) and as per approved drawing.	RM	1057		0.00
6	Contour Survey & Leveling of sub-station and other area and stone pitching works to protect from soil erosion. LEVELLING OF S/S AREA-Providing, neatly dressing up and leveling of switch yard area to a required level as decided by the Engineer in Charge, the work includes removal, clearing of the entire area from vegetation, trees, bushes, uprooting of plants and disposal of surplus earth and unusable material from the site by means of any mechanical transport, with all labours, tools, tackles and plants complete as per approved drawing and specification. This also includes excavation in all type of soils or rocks, and disposal of excess earth or rocks and filling of areas of switch yard by borrowed earth/sand to make the area to a level for construction as per scope.				
6.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	49134.28		0.00
6.2	**Cutting of sub-station area of the as per the direction of Engineer in Charge including supply of all labour, T&P (Hard & Compact Soil) .**	***Cum***	195.853		0.00
6.3	**Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.**	***Cum***	25504.88		0.00
7	**Switch yard buildings: Design, engineering and construction of switch yard buildings including the piling where required, the cost of material, supply of labour, cement, reinforcement- steel, form work and excavation as per the approved drawing and technical specification (The RCC structure frame should be in the ratio 1:1.5:3).This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawings and specifiion.CONTROL ROOM BUILDING.(one building): A) Area of the Ground floor with portico at front side, stair case to first floor and top of the building. The details of rooms to be provided are as per the Tech spec. B) Area of the first floor. The details of rooms to be provided are as per the Tech spec. Size of Ground floor. Nos./ area of ground floor/area of first floor . 01 No/ Area of Ground Floor :38 mtrsX11mtrs(418 sq mtrs) / Area of first floor 19mtrsX11mtrs(209 sq mtrs) & Portico & Ramp**				
7.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	Lot	1		0.00
7.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	Lot	1		0.00
7.3	Flooring with vitrified tiles with dado in all the rooms,Bath and toilets shall be provided with anti skid ceramic tiles(wall of the same also to be provded with ceramic tiles),Acid proof industrial tiles to be provided on the floor and wall of the battery room as per technical spec & approved drawings.	Lot	1		0.00
7.4	External and internal wall and ceiling paintings as per technical spec mentioned in the civil section. The left over portion of walls and ceiling of Battery room shall be acid proof paints as per specification & approved drawings.	Lot	1		0.00
7.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	Lot	1		0.00
7.6	Doors and windows shall be of sliding type with locking facility and shall be of aluminium with glaze of 6mm & windows shall have aluminium grills. As per technical spec & approved drawing.	Lot	1		0.00
7.7	Provision of PHD and other fittings of reputed make,provision of rain water discharge pipes at different locations and etc as per requirement and approved drawing. There shall be septic tank and soak pit of required capacity including complete sewage system as per approved drawing & technical specification & as per instruction of Engg- in-Charge. It includes supply of all types of materials of reputed make, labour etc to complete the work.	Lot	1		0.00
7.8	Internal concealed wiring,fixing of lighting fixtures ,fans and regulators ,exhaust fan,D.C emergency lighting as per spec & approved drawing.	Lot	1		0.00
7.9	Provision of smoke and fire detection system of the building.	Lot	1		0.00
8	**Roads:** Design, construction of roads and walkways/ shoulders within sub-station***(Switch yard area,approach road, control room area, main gate to the switch yard (gate etc)*** as per specification, layout and approved drawings complete. This also includes excavation in all types of soil or rocks, back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.(Refer the indicative drawing of s/s layout)				
8.1	3.75 mtrs Concrete road with shoulder at both the side as per technical specification indicated in the civil section & shall have drain on both side of the road.	MTRS	515		0.00
8.2	7 mtrs wide Concrete roads with shoulder as per specification indicated in the civil section. & shall have drain on both side of the road. 7 Mtrs wide road inside the switchyard to be connected to switch yard main gate.	MTRS	73		0.00
8.3	7 mtrs wide Bituminus roads with shoulder as per specifcation indicated in the civil section.(for main and approach roads).Shall have drain on both side of the road.	MTRS	268		0.00
9	**Drainage system:Collection of rainfall data,** Design, construction of storm water drainage scheme, road-culverts, and drains crossing cable trenches etc. as per specification and approved drawing.This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge.All the switcyard bays , roads water drainage shall be connected to the mainsurface drain.As per approved drawing and specification.				
9.1	Storm water drain	LOT	1		0.00
9.2	Road-culverts, drain crossings	LOT	1		0.00
9.3	Cable trench crossing	LOT	1		0.00
10	Foundations for transformers :Design, engineering, supply of labour, material, equipments and construction of Auto-transformer/Transformer foundation including piling if any, all associated works, rail tracks, jacking pads,anchor block RCC and PCC, miscellaneous structural steel including oil collection pits, MS grating(if required), gravel filling, and other items etc. not mentioned herein, but specifically required for the completion of the work as per technical specification and approved drawing. (Rate shall be inclusive of cement, reinforcement steel, angles,flats and form work etc.)(all cement concrete shall have RCC ratio 1:1.5:3). Transformer RCC foundation and Rail Track should be extended upto the approaching road (However,the height of RCC foundation beyond transformer main plinth area should be same as height of concrete road as per item under 7 mtrs concrete road). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. **1. 132/33 KV 20/40 MVA Transformer (2 Nos)**				

10.1	12.5/ 20 /40 MVA, 132/ 33kV transformers a) Overall dimension of transformer(appox) Length:7200 mmX Width 6000 mmX Height 6200 mm b) Total weight with oil and tank: 97.5 MT (appox)	Nos	2		0.00
10.2	**OIL SUMP PIT**:Oil collection (from transformers)sump pit with provision of pump(5 HP, with auto level control , including cabling, fixing of control gear)as per CIGRE. As per spec and approved drawing. >Oil capacity of each Transformer in Itrs appox. a) 20/40 MVA,132/33 KV: 26500 ltrs.	Nos	1		0.00
11	**PCC before site surfacing** :Providing and supplying all labour, material, equipments etc. required for proper leveling of earth after erection of structures and equipments and proper compaction by using roller of adequate capacity(minimum 3 Ton capacity) with water sprinkling of switch yard area. After proper leveling of the switch yard area (after anti-weed treatment), spreading of plain cement concrete with mixing ratio 1:4:8 (M10) and maintaining proper sloping for easy discharge of storm water having concrete thickness of 75 mm. including rolling , dressing, compacting,the area. As per technical specification and approved drawing, and as per the instruction of the Engg-in-Charge. This also includes excavation in all types of soil or rocks,back-filling,and disposal of excess earth as per the direction of Engineer in charge and approved drawing. (Switch yard area)	CUM	500		0.00
12	**Metal Spreading:** Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 50 mm thickness coarser layer of 20 mm nominal size consolidated/ compacted and (by using roller as specified in the specification),A final layer of 50 mm thickness of machine crushed 20 mm nominal size of metals(gravel) above the first layer of 50 mm thickness and as per the technical specification and instruction of Engineer in charge above the PCC(1:4:8). The total compacted thickness of the metals(20 mm Nominal) 100mm above the PCC.	CUM	650		0.00
13	**PROVISION OF PLANTATIONS**:Provision of plantation of 100 nos fruit bearing plants and 100 nos decorative plants at different locations, a garden in front of the control room including supply of plants,soil treatment and its plantation including materials,labour and T&P.As per the instruction of Engineer in Charge and specification.	LOT	1		0.00
14	**STONE PITCHING & TOE WALL**: Stone pitching including making of toe walls both at top and bottom, including surface drain both at top and bottom and partition wall in every 10 mtrs by using boulders and RR masonry walls respectively. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth and supply of materials and labour as per the direction of Engineer In charge and as per approved drawing and specification.				
14.1	**Excavation in soft & Loose Soil**	CUM	800		0.00
14.2	P.C.C.(1:3:6) Lean concrete Grade M-10	CUM	90		0.00
14.3	RR Mosonary (1:5)	CUM	500		0.00
14.4	P.C.C.(1:2:4) Lean concrete Grade M-15	CUM	8		0.00
15	Switch yard fencing: Providing and fixing of G.I Goat mesh (2.5 mm dia) fencing(the posts and links shall be of HD Galvanized) in switch yard and other areas of the substation with a total fence height complete as per specification and approved drawings, and as required under the safety regulation of local, state and central government bodies and as per instruction of the Engineer-in-Charge.(The PCC work for grouting the post shall be 1:2:4 and a continuous Brick masonry work with ratio 1:5 and cement pointing of the joints, for the fencing up to a height from the finished ground level) .This also includes excavation in all types of soil or rocks, back filling,and disposal of excess earth as per the direction of Engineer In charge. The earthing of the fencing as per specification.	MTR-RUN	500		0.00
16	**Fire wall:** Design, engineering, procurement of labour, material including all associated works for construction of fire-walls as per technical specification and approved drawings(column shall be RCC ratio1:1.5:3 and the walls are of fire resistant bricks).This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawing and specification. Painting of the walls as per direction of the Site In charge	NO.	1		0.00
14	**Any other civil work** to be included in the schedule by the Bidder if required essential for successful completion of project, including supply of labour, material, cement reinforcement steel, form work etc. Bidder shall also quote the unit rate for the following items of works.(Rate shall be inclusive of supply of labour, material, cement, reinforcement steel, form work etc.)				
14.1	Excavation This also includes excavation in all types of soil or rocks, back filling,and disposal of excess earth as per the direction of Engineer In charge.	Cu.m.	1		0.00
14.2	PCC: M10(1: 3 : 6)	Cu.m.	1		0.00
14.3	RCC: M 15(1:2:4)	Cu.m.	1		0.00
14.4	RCC: M 20(1:1.5:3)	Cu.m.	1		0.00
14.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1		0.00
14.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		0.00
14.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1		0.00
15	**Construction of township/colony** (residential quarters) for staff and employees of the employer. Layout, design, survey, leveling, site dressing and clearing of the area, soil investigation, excavation, PCC, RCC, brick work, plastering ,flooring(flooring shall be with vitrified tiles of reputed make with a dado of minimum6 inches),fixing of doors windows and window grills, including all labour material like cement ,sand aggregate, bricks, reinforcements etc with all bought items required for completion of the quarters as per approved construction drawings with all facilities for supply of drinking water. The outer paint shall be applied with weather coat synthetic enamel paint as per the standard practice of application and the inner paint shall be applied with distemper of approved quality as per the instruction and approval of the same by OPTCL. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrical wiring with fixing of light fixtures and fans with electronic regulators and exhaust fans as per technical specification and approved drawing. Construction of over head RCC tank(1000 ltrs capacity one for each quarters), sewerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage, culverts, roads, with suitable radius on the curves and its connection with main road the substation, street lighting, internal lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town ship.				
15.1	**D' type quarter as per technical specification (2 Nos. of Quarter, each of size 120 Sq. Mtr (D1 & D2) (one no. two storied flat> Each Flat shall be with one no. quarters on ground floor**				
15.1.1	"D" type Quarter As per technical specification(02 Nos Quarter, each of size 120 SQ Mtrs)(D1 & D2)(one no. two storied flat. Each flat shall be with 1 no. quarter on ground floor & 1 No quarter on 1st floor).				
15.1.2	"D" type Quarter As per technical specification: 1 no quarter on ground floor & the size of quarter plinth area shall be 120 Sq Mtrs(appox)	SQ MTRS	120		0.00
15.1.3	"D" type Quarter As per technical specification: 1 no quarter on first floor & the size of quarter plinth area shall be 120 Sq Mtrs(appox)	SQ MTRS	120		0.00
15.2.1	"E" type Quarter As per technical specification (one no. two storied flat. Each flat shall be with 2 nos quarters on ground floor & 2 Nos quarters on 1st floor).There shall be 4 Nos quarters to be accommodated in one flat as E1 E2 E3 & E4)				
15.2.2	"E" type Quarter As per technical specification: 2 nos quarters on ground floor & the quarters to be accommodated in ground floor E1 & E2 (Each quarter size plinth area shall be 73 Sq Mtrs(appox)	SQ MTRS	146		0.00
15.2.3	"E" type Quarter As per technical specification: 2 nos quarters on first floor & the quarters to be accommodated in ground floor E3 & E4(Each quarter size shall be 73 Sq Mtrs(appox)	SQ MTRS	146		0.00
16	**MAIN & SWITCH YARD GATES**:Design, engineering, procurement of labour, material including all associated works for construction and fixing of of a main gate and one no. switch yard gates with men gates as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of gate lights (Post top lantern type) on each pillar of the gate. It includes supply & fixing of light fixtures including LED Gate lamp, LV XLPE cables, switchgear etc required to complete works as per specification and approved drawings. (Main Gate 1 No. with adjacent wicket gate & Switchyard Gate 2 Nos. with adjacent wicket gate)	Lot	1		0.00
17	COLOUR CODING, BAY MARKING Etc:Design, engineering, procurement of labour, material including all associated works for the followings. This should be as per direction of site In charge. a)Color coding (red,Yellow & Blue) for equipments,Bus gantry &column of entire switch yard. Good quality weather proof sticker may be used for identification. b)Each bay should be identified with the help of bay marker sign board, suitably grouted. MS sign board with stand to be installed. Proper painting and lettering to be done of the entire switch yard area.	Lot	1		0.00
18	**STATION TRANSFORMER FOUNDATION**:Design, engineering, procurement of labour, material including all associated works for construction of foundation and DP structure foundation for station transformers 33/0.415 KV,250 KVA STN TRANSFORMER including excavation & RCC (1:1.5:3) foundation as per approved drawing and specification.	NOS	2		0.00
19	**SECURITY SHED & CUM VISITOR ROOM AND VEHICLE PARKING SHED**: Design, engineering, procurement of labour, material including all associated works for construction of Security shed near main gate,watch tower shed at the corners of switch yard as per the approved drawing and instruction of Engineer in charge. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrification including supply of lighting fixtures,fan with regulators and provision of incoming AC supply from the main ACDB/outdoor kiosks installed for street light or colony quarters. Also includes painting of the building (in side and out side) as per recommended for colony building in the specification.				
19.1	**SECURITY SHED**:The size of the security shed shall be 3.5 mtrsX5mtrs and height of 3.5mtrs RCC roof,brick masonary works,plastering and painting and fixing of MS doors and windows.	Nos	1		0.00
19.2	**VEHICLE PARKING SHED:** The size of the parking area shall be **15mtrs X 15 mtrs**, out of the entire area there shall be provision of shed for **5 mtrs X 15 mtrs** and rest of the area shall be without shed. 100 mm thick PCC(1:2:4) flooring after the preparing the foundation base & Roof of the parking place shall be RCC & Parking shed shall be as per TS-E6-Civil & as per the direction of Engineer in Charge.	Nos	1		0.00
20	**BORE WELL & PUMP HOUSE**:Design, engineering, procurement of labour, material including all associated works for construction of two nos. bore wells for control room building including switch yard and colony quarters as per specification and approved drawing and instruction of Engineer in charge. This includes supply and fixing and commissioning of two nos 5 HP submersible water pump with starter and other protection. Construction of two nos pump house at ideal location for fixing of the electrical starter units. The pump house be of RCC roof and having walls of Brick masonry and plastering and painting with MS door having locking arrangement. The size of the room shall be 2.5mtrsX2.5 mtrs having height of 3 mtrs. as per approved drawing and specification. There shall be approach road to the pump house. This includes supply of materials,labours and T&P & excavation of all type of soils including rock and disposal of excess materials as per instruction of Engineer In charge Supply & laying of LV XLPE 3.5CX.35 sqmm cable from ACDB to pump house, control gear & earthing of the system etc to complete the scheme as per approved drawing & instruction of Engineer-in charge.	NOS	2		0.00
21	STORE SHED:Design, engineering, procurement of labour, material including all associated works for construction of store shed as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no store shed of floor size **15 mtrX7.5 mtr** having brick walls and plastering with RCC roof. The flooring shall be of 75 mm thickness PCC (mix ratio1:2:4) over RR masonry works (as per standard practice of flooring). Provision of adequate nos of MS racks (proper paintings also to be done as per the direction of site in charge) for keeping the spare materials. The height of the shed shall be 4mtrs above the plinth.	Lot	1		0.00
22	PLATFORM FOR STORING EQUIMENTS:Design, engineering, procurement of labour, material including all associated works for construction of a platform for storing of bushings,Instrument transformers etc, as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no platform outside the store shed RR masonry (compacted) with PCC at the top for storing the transformer bushings, Instrument transformers, transformer oil drums etc. The floor size of the platform shall be **15mtrX10 mtr** with Galvanised Corrugated Sheet (Tata Make) top cover and associated MS supporting structure duly painted.	Lot	1		0.00
23	**PROVISION OF RAMP**:Design, engineering, procurement of labour, material including all associated works for construction and fixing of Ramp as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of a ramp of adequate size and capable of for loading and unloading of the materials of 5 Ton capacity from the lorry or to the lorry near the store shed. Adequate size of MS frames and RCC (1:1.5:3) based ramps to be used for the said purpose.	Lot	1		0.00
24	**Anti-Weed Treatment**				
24.1	Supply of labour,T&P,Chemicals and other necessary arrangements for anti-weed treat of the switch-yard areas,controlroom etc. as per the instruction of Engineer-in-Charge.	Sq.Mtrs	**7000**		0.00
	TOTAL OF (Civil Work) (PART-B)_SUBSTATION				**0.00**
	TOTAL OF ERECTION PRICE SUBSTATION				**0.00**
	ERECTION_TRANSMISSION LINE EQUIPMENT AND MATERIALS				
Sl. No.	**DESCRIPTION OF ITEMS(SCHEDULE-2C ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENT/MATERIALS ALONG WITH CIVIL WORKS (As per Technical Specification)**	UNIT	**QUANTITY**: for Construction of 132 KV D.C. Transmission Line from proposed 220/132/33KV Bargarh Grid S/S to 132/33KV Ghens S/S (APPROX.LENGTH 28.872kms.)	Unit Erection Rate IN INR	Total Erection Price IN INR
1	2	3	4	5	6=4x5
PART-A	**ELECTRICAL WORKS**				
1.0	**ERECTION,TESTING & COMMISSIONING** of Following tested Lattice type Galvanized steel tangent / Angle tower without				
1.1	PA TYPE (SUSPENSION) TOWERS (Nominal unit weight 3.430 MT) (84 nos)	Nos	84		
'1.1.1	+3 EXTENSION (Nominal unit weight 0.537 MT) (16 nos)	Nos	16		
'1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT) (2 nos)	Nos	2		
1.2	PB TYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT) (16 nos)	Nos	16		
'1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)(4 nos.)	Nos	4		
'1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT) (0 nos)	Nos	0		
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT) (3 nos)	Nos	3		
'1.3.1	+3 EXTENSION (Nominal unit weight 1.068 MT) (0 nos)	Nos	0		
'1.3.2	+6 EXTENSION (Nominal unit weight 2.243 MT) (0 nos)	Nos	0		
1.4	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)	MT	407.130		0.00
1.4.1	Weight of different type G.I Nuts and Bolts	MT	19		0.00
1.5	**Fixing of of Templates & setting of stubs**				
'1.5.1	PA Type	Sets	84		0.00
'1.5.2	PB Type	Sets	16		0.00
'1.5.3	PC Type	Sets	3		0.00

1.6	Hoisting and fixing of insulators with required accessories(power conductor accessories,Earth conductor accessories,Anti fog type insulators & hard ware fittings,tower accessories etc), paying out of conductor ,jointing, stringing, sagging & Jumpering etc. of power conductor with G.I. Earth wire in the proposed lines and with earth wire with all required accessories including scaffolding for 33 KV,11 KV, LT , P&T lines, roads and using own required T&P and compression jointing machines etc. with provision for Sag & Wastage and as per the direction of Engineer in charge.				
1.6.10	SINGLE CIRCUIT (ACSR/AAAC,THREE POWER CONDCTOR & 1 EARTH WIRE)	Route(Km)	0.00		0.00
1.6.11	DOUBLE CIRCUIT (ACSR/AAAC,SIX POWER CONDCTOR & 1 EARTH WIRE)	Route(Km)	28.87		0.00
1.7	**COUNTER POISE EARTHING**	Mtr. Length	0		0.00
1.8	Erection of earthing device including supply of materilas as per Technical Spec	Nos.	103		0.00
2.0	PTCC approval, railway crossing has to be obtained by submitting the required documents to the concerned department through OPTCL. Way-Leave blockade charges and any other charges are to be borne by the bidders. The documents for PTCC clearance & Railway clearance including required drawings etc has to be submitted by the contractor within 5 months of award of contract. Beyond the above period L.D as applicable & the amount shall be deducted as specified in the specification.	LS	1		0.00
	TOTAL of ELECTRICAL WORKS Part-I (A) _TRANSMISSION LINE				**0.00**
PART B	**CIVIL WORKS**				
1	**SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting**				
1.1	Preliminary survey, Detail survey and resurvey (required for avoiding ROW problem) including but not limited to taking of levels, profile plotting, tower spotting ,marking of towers locations at site including showing P&T line, power line, Railway line, river crossing, roads and submission of route map and survey report etc. The P&T lines and railway lines for a minimum distance of 8 kms on either side of alignment shall be clearly indicated.	KM.	28.872		0.00
1.2	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	KM.	28.872		0.00
1.3	Preparation of land schedule on revenue (if required)maps indicating alignment therein duly authenticated by Revenue Inspector & Tahasildar, enumeration of trees with the help of Forest officer and other prominent features required for alignment of the proposed 132 KV line. Final route to be plotted on 1:50000 topo sheet for approval.	KM.	28.872		0.00
1.4	Soil Testing in complete shape along with submission of report etc. up to the depth of 15 Mtrs.	Per Loc.	10		0.00
1.5	Soil Testing in complete shape along with submission of report etc. upto the depth of 45 mtrs for River bed pile.	Per Loc.	0		0.00
2	**EXCAVATION WORKS FOR OPEN CAST/SHALLOW TYPE FOUNDATIONS**				
2.1	**Excavation for following type of soil and rocks and back filling (back filling shall be done in layers of 500mm sprinkling of water and compaction thereafter and disposed of excess quantity of excavated soil at suitable place after back filling), & if required for filling the foundation, borrowed earth/morrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.**				
2.1.1	Soft/Loose soil	CUM	1100		0.00
2.1.2	Dense/Compact soil	CUM	500		0.00
2.1.3	Wet Soil	CUM	1500		0.00
2.1.4	Partial Submerged soil	CUM	200		0.00
2.1.5	Fully submerged soil	CUM	100		0.00
2.1.6	Soft/Disintegrated rock(Not requiring Blasting)	CUM	1500		0.00
2.1.7	Hard Rock(Requiring Blasting/Using breaker machinery)	CUM	3000		0.00
3.0	**FOUNDATION MATERIALS: Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making foundations of the required above mentioned type towers as per the direction laid down in the technical specification and the direction of the site- in charge**				
3.1	Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in tower foundation as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	CUM	185		0.00
4	Design, Engineering and laying of reinforced cement concrete (RCC1:1.5:3) of grade M20 for open cast foundation with supply of approved quality coarse aggregates(Nominal size 12mm to 20mm), fine aggregates, cement and steel of different size(as per design) with cutting, bending, binding of M.S.Rod (FE-500) including supply of binding wire in tower foundation and inclusive of labour charges for concrete mixing, supply and fixing of form boxes, curing, shoring, shuttering, testing of sample cement concrete cubes as per IS. The height of the coping shall be 350mm above the finished concrete level. The surrounding area shall be clear from materials. Damage of land if any by the contractor shall be repaired before measurement. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	CUM	600		0.00
5	**PILE FOUNDATION (UNDER-REAMED)**				
5.1	Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making **Under-reamed pile** foundations (after pile boring as per required depth, basing on design by means of manual Auger or motor driven machinery etc.) of the required above mentioned type towers and as per requirement, including supply of all equipments with labours, proper curing of the foundations and T&P as per specification in the concrete ratio **1:1.5:3** (Grade **M-20**.) including supply of Bentonite required for stabilization bore of required diameter bore holes applicable for under ream piles up-to the depth of **20** Mtrs.				
5.1.1	375MM DIA	Mtr.	0		0.00
5.1.2	450MM DIA	Mtr.	0		0.00
5.1.3	500MM DIA	Mtr.	0		0.00
5.1.4	600MM DIA	Mtr.	0		0.00
5.2	**CAPPING,PEDESTAL & TIE-BEAM CONCRETE WORKS OF UNDER-REAMED PILE**				
5.2.1	PCC(Lean Concrete) in the ratio 1:3:6(Grade M-10)	CUM	0		0.00
5.2.2	Pile riser (if required),capping, tie beams etc, required for stub setting including supply of rods, cement, different gradient for concrete ratio 1:1.5:3 (Grade M-20.) including curing minimum for 15 days continuous with excavation in all type of soils and back filling etc.	CUM	0		0.00
5.3	**PILE FOUNDATION (RIVER BED PILE BORING BY DMC METHOD)**				
5.3.1	Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and applying **DMC Method** pile foundations (after pile boring as per required depth, basing on design by means of machinery and high power pumps etc. used for DMC method piling) of the required above mentioned type towers and as per requirement, including supply of all equipments shoring & shuttering materials, dewatering with labours, proper curing of the foundations and T&P as per specification in the concrete ratio 1:1.5:3 (Grade M-20.) including supply of Bentonite required for stabilization bore of required diameter bore holes applicable for piles beyond 20 Mtrs.				
5.3.1.1	500MM DIA	Mtr.	0		0.00
5.3.1.2	1000 MM DIA	Mtr.	0		0.00
5.3.1.3	Fixing charges of MS Liner including the supply of materials like MS Sheetofadequate thickness,fabrication,cutting,bending,binding,putting the liner in appropriate position and other related works	MT	0		0.00
5.4	**PILE RISER,CAPPING,PEDESTAL & TIE-BEAM CONCRETE WORKS OF RIVER-BED PILE.**				
5.4.1	PCC(Lean Concrete) in the ratio 1:3:6(Grade M-10)	CUM	0		0.00
5.4.2	Pile riser (if required),capping, tie beams etc, required for stub setting including supply of rods, cement, different gradient for concrete ratio 1:1.5:3 (Grade M-20.) including curing minimum for 15 days continuous with excavation in all type of soils and back filling etc.	CUM	0		0.00
5.5	**DE-WATERING(FOR OPEN CAST LOCATION)**				
5.5.1	(i) With Supply of all T&P on Man Hour basis.	Man Hour	0		0.00
5.5.2	(ii) With Supply of all T&P, Fuel, Lubricant & electricity on HP Hour basis.	HP Hour	2400		0.00
5.6	**Supply of borrowed earth/morrum for back filling for foundation/revertment works**				
5.6.1	(i) Up to 30 mtr lead	CUM	0		0.00
5.6.2	(ii) Beyond 30 mtr lead	CUM	0		0.00
5.6.3	(iii beyond 100 mtr lead	CUM	1500		0.00
5.7	**SHORING & SHUTTERING-Required in wet/submerged or special locations of open cast/shallow type foundations with supply of all materials,T&P and Labour.**	SQ.MTR.	6000		0.00
5.8	Head-Loading of all types of foundation-materials, towers, structures, conductors, Insulators, Hard-wares for inaccessible Locations beyond 400 mtrs from the nearest approach road as per the recommendation of site Engineer-In- Charge and approval of the General Manager of Concerned circle.	Per MT/ Per Mtr	50000		0.00
5.9	**WELDING OF TOWER MEMBERS**				
5.9.1	Supply of all materials for continuous welding of bolts & nuts (around the bolts) up to top of tower without cross arm, including welding rods, welding generator machine (diesel engine operator.), application of required zinc rich paints around the welding portion after welding (two coats),fuel,lubricants,T&P and labours and other arrangements etc.	Nos.	55800		0.00
6	**REVETMENT: (including Benching) Supply of all materials like cement, Late-rite stone (stone masonry) all type aggregates, labours, & T&P for construction of revetment walls as per requirement to protect the towers, where felt unsafe and as per approved drawing and the direction of Engineer in charge.**				
6.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	CUM	550		0.00
6.2	Lean Concrete in the ratio1:3:6(Grade M-10) including supply of sand chips etc.	CUM	125		0.00
6.3	PCC in the ratio 1:2:4(Grade M-15) as above.	CUM	40		0.00
6.4	RR Massonary work in the ratio 1:5.	CUM	1050		0.00
6.5	Plastering & Punning etc.	SQ.MTR.	550		0.00
6.6	stone Pitching	CUM	0		0.00
	TOTAL OF (Civil Work) (PART-B)_TRANSMISSION LINE				**0.00**
	TOTAL OF ERECTION PRICE_ TRANSMISSION LINE				**0.00**
	ERECTION PRICE_TOTAL OF SCHEDULE 2C				**0.00**

NOTE:

1 Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.

2 Bidders are required to fill up only blue shaded cells.

3 Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). No rate shall be furnished/obtained after bid opening (Ref clause no 33.4.1 of INB vol-

4 Bidder has to quote rates excluding service tax (if any), service tax shall be paid/reimbursed as per conditions of Bid Document.

PACKAGE 67(I)/2014-15		ODISHA POWER TRANSMISSION CORPORATION LIMITED
		NAME OF THE WORK:-Construction of 2X20 MVA,132/33 KV S/s at GHENS in Baragarh district with associated 132 KV DC Transmission Line from proposed 220/132/33 KV Baragarh Grid S/s. (App. Line Length: 28.872Kms.)
		NOTICE INVITING TENDER-NIT NO. 67/2014-15 & BID DOCUMENT No.:Sr. G.M-CPC- TENDER- GHENS(BARAGARH)- PACKAGE- 67(I) / 2014-15
		SCHEDULE-1(ABSTRACT OF PRICE SCHEDULE)
	NAME OF THE BIDDER	
Sl. No.	DESCRIPTION OF SCHEDULES	PRICE IN INR
1	**2**	**3**
1.0	Substation_Supply of Equipments and materials	
1.1	TOTAL of Ex-Works / Basic Price	
1.2	TOTAL Excise Duty	
1.3	TOTAL VAT	
1.4	TOTAL CST	
1.5	TOTAL Any other tax	
1.6	TOTAL F&I CHARGES	
∑ 1.1 :1.6	Total of Substation_Supply	**0.00**
2.0	Transmission Line_Supply of Equipments and materials	
2.1	TOTAL of Ex-Works / Basic Price	
2.2	TOTAL Excise Duty	
2.3	TOTAL VAT	
2.4	TOTAL CST	
2.5	TOTAL Any other tax	
2.6	TOTAL F&I CHARGES	
∑ 2.1 :2.6	Total of Transmission Line_Supply	**0.00**
3.0	Mandatory spares_Supply	
3.1	TOTAL of Ex-Works / Basic Price	
3.2	TOTAL Excise Duty	
3.3	TOTAL VAT	
3.4	TOTAL CST	
3.5	TOTAL Any other tax	
3.6	TOTAL F&I CHARGES	
∑ 3.1 :3.6	Total of Mandatory spares_Supply	**0.00**
4.0	Total of Schedule 2A _ Supply contract price	**0.00**
5.0	Substation_ (Electrical work charges, Civil work charges)	
5.1	Electrical works	
5.2	Civil works	
∑ 5.1 :5.2	Total of Substation_Electrical work charges & Civil works charges	**0.00**
6.0	Transmission Line_(Electrical work charges, Civil work charges)	
6.1	Electrical works	
6.2	Civil works	
∑ 6.1 :6.2	Total of Transmission Line_Electrical work charges & Civil works charges	**0.00**
7.0	Total of Schedule 2C _ Erection contract price	**0.00**
8.0	Total Bid Price (Supply + Erection)	**0.00**

ODISHA POWER TRANSMISSION CORPORATION LIMITED

NAME OF THE WORK:-Construction of 2X20 MVA,132/33 KV S/s at GHENS in Baragarh district with associated 132 KV DC Transmission Line from proposed 220/132/33 KV Baragarh Grid S/s. (App. Line Length: 28.872Kms.)

NOTICE INVITING TENDER-NIT NO. 67/2014-15

Sr. G.M- CPC- TENDER- GHENS(BARAGARH)- PACKAGE- 67(I) / 2014-15

SCHDULE 1 (PART-II) (D1, D2,E,F,G) - DETAILS OF TAXES AND DUTIES

	NAME OF THE BIDDER			
Sl No	Description of Applicable Tax/Levy	Item /Component Sl. No. of Bid price on which Applicable	Tax @ __%	Total Amount of Taxes /Duty/ Levies
D1	Details of Taxes and levies on the direct transactions between Bidder and ODISHA POWER TRANSMISSION CORPORATION LTD. applicable on the date of bid opening, not included in the Bid Price above but as may be payable by ODISHA POWER TRANSMISSION CORPORATION LTD			
(i)	Excise Duty [as per Schedule-2A]			
(ii)	CST [as per Schedule-2A]			
(III)	VAT/Sales Tax [as per Schedule-2A]			
(iv)	Any other Levies: [as per Schedule-2A] except Entry Tax** (please specify): Central :-			
(a)				
(b)				
	TOTAL OF TAXES AND DUTIES [Sum (i) to (iv)			0.00
D2	Service Tax***			
E	E. Applicable Entry tax payable if any additionally in respect of bought-out finished items which shall be dispatched directly from our sub-vendor's works to Employer's site (sale-in-transit).			
F	F. Total Bid Price: (including Taxes & Duties and other levies, but excluding entry tax and service tax, if the contract is awarded to us)			
G	G. The total bid price as summarised herein is derived from Schedule 2A,2B, 2C and 3, However, in the event of a difference in prices between schedule-2A ,2B,2C & 3 and Schedule-1, the total price, derived from the quoted unit price in Schedule 2A ,2B,2C and 3 after arithmetical corrections if any, shall prevail and the quoted total bid price			

* List of the items and their values considered under this component of bid price for taxes and levies to be enclosed by separately as annexure to this Schedule

** Entry Tax for all direct items shall not be included in the bid price, as the same shall be reimbursed at actual on the production of documentary evidence

******* Service Tax on Erection price shall not be included in the bid price, as the same shall be reimbursed at actual on the production of documentary evidence.

NOTE:- Lumpsum prices quoted by the Bidder shall include cost of total scope of work and any other supplies/work(s) not specifically mentioned in the Bidding Document but necessary for the efficient, trouble free

i) Excise Duty/VAT/Sales Tax/Service Tax/ any other taxes (except Octroi & Entry Tax) shall be inclusive in the bid price and shall not be paid/reimbursed separately.

ii) Entry Tax for bought out items shall not be included in the bid price, as the same shall be reimbursed at actual on the production of documentary evidence.