NAME OF TILE WORKS-Design, Supply and Installation of Sub-Stations & Transmission Lines for Construction of 2X20 MVA-13233 KV Sub-station at Braigrapagara and associated 132 KV D/C line from 132/33 KV Grid Sub-Station at Braigrapagara to Lakhang length-19218Km approximately) in Odisha State of India under PACKAGE-8 Under Japan International Cooperation Agency (JICA)'s ODA Loc         Loan Agreement No: JID-P245] -       FEN: JCPC//JICA/CB/08/15-16/       Reference Identification No: JOPTCL/JICA/PKG-8]         Sume of the associated 132 KV D/C line for the associ		ODISHA POWER TRANSMISSION CORPORATION LIMITED								
Interaction grant and Macazing Space Parts		ME OF THE WORK:- Design, Supply and Installation of Sub-Stations & 7 vith 2Nos 132KV Feeder Bay Extension at Brajarajnagar and associated 1.	Transmi 32 KV 🛛	ission Li D/C line	nes for Cons from 132/33	truction of 23 KV Grid Sub	-Station at	Brajrajnag	ar to Lakh	anpur (Line
NAME OF THE BIDDES.         Total Control         Total Contresing Control         Total Control										
Image: Problem 1         Image: Problem 2         Image: Problem 2 <thimage: 2<="" problem="" th=""> <thimage: 2<="" problem="" t<="" th=""><th></th><th></th><th></th><th>opulo i ulu</th><th>, oupplied item ;</th><th>biouu</th><th></th><th></th><th></th><th></th></thimage:></thimage:>				opulo i ulu	, oupplied item ;	biouu				
Image: Proceeding of the state of					A, 132/33 2 FDR, 02 & (33 KV C )			Unit l	Price <sup>2</sup>	
1       14 KV,800-400-200 A 315 KA ACORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. U.25 CLA	Item	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS	Code <sup>1</sup>	UNITS	QUANTITY: for Construction of 2X20 MV. KV S/S, Laklanpur (132 KV Bay-65 Nos.: 0 TRF, 01 B/C, 2nos unequipped spare bay) Bay-08 Nos.: 65FDR, 02 TRF & 01 B/	132KV Feeder Bay Extension at 132/33KV Grid Sub- Station,	Total Quantity		СІР	Total Price <sup>2</sup>
0.2s CLASS)         NOS         15         6         21         9           1         14 SK VL350A.31 SKA ISOLATORS         0 <td>1</td> <td>145 KV 800-400-200 A 31 5 KA 4CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS &amp; 1 NO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>(2)</td> <td>(3)</td> <td>(1) x (3)</td>	1	145 KV 800-400-200 A 31 5 KA 4CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO						(2)	(3)	(1) x (3)
1:1       S1 WITH OUT EARTH SWITCH       NOS       9       2       11       Image: Constraint Switch         2:1       DN WITH OUT EARTH SWITCH       NOS       2       2       4       1         2:3       DN WITH SINGLE EARTH SWITCH       NOS       6       6       12       1         3:1       45 KV, 6000-5; 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER       NOS       6       6       12       1         4:1       120 KV METAL CXDE SURGE ARRESTOR, 10 KA, Class III       NOS       16       100 KV, 3150A, 40KA, SFR, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       NOS       18       4       22       1         7:1       36 KV, 800-400-200, 25KA, 3 CORE SINGLE PHASE CURRENT TRANSFORMER (2 NOS PS CLASS & 1 NO. 0.2s       NOS       18       0       18       1         7:1       36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s       NOS       6       0       6       1       1         7:2       36 KV, 1250A, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s       NOS       6       0       6       1       1         7:3       36 KV (1250A, 25KA, 3 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s       NOS       6       0       6       1       1       1		0.2s CLASS)		NOS	15	6	21			
22       D/WITH SINGLE EARTH SWITCH       NOS       2       2       4       ()         33       D/WITH SINGLE EARTH SWITCH       NOS       6       6       12       ()         31       D/WITH SINGLE EARTH SWITCH       NOS       6       6       12       ()       ()         4       120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III       NOS       12       6       18       ()       ()         5       145 KV, 2 CORE, SINGLE PHASE, IVT       NOS       18       4       22       ()       ()         6       132 KV Bus Post Insulators       NOS       18       4       22       ()       ()         7       145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       SET       5       2       7       ()       ()         71       36 KV, 800-400-200, 25KA, 3 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)       NOS       18       0       18       ()       ()       ()         72       36 KV, 1250A, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)       NOS       6       0       6       ()       ()       ()       ()       ()       ()       ()       ()       ()       ()       ()       ()<				NOS	0	2	11			
13       D1 WITHOUT EARTH SWITCH       NOS       2       0       1       3       1       1       1       1       1       1       1       1       1       1       1										
4       120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III       NOS       12       6       18       Image: Control of the state of the stat		D/I WITHOUT EARTH SWITCH			2	0				
5       145 KV, 2 CORE, SINGLE PHASE, IVT       NOS       3       0       3       0         6       132 KV Bus Post Insulators       NOS       18       4       22       0       0         7       145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       SET       5       2       7       0       0         7.1       36 KV, 800-400-200, 25KA, 3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)       NOS       18       0       18       0       18         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       0       0       0	-									
NOS         3         0         3         0         3           6         132 KV Bus Post Insulators         NOS         18         4         22             7         145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE         SET         5         2         7   <				NOS	12	6	18			
7       145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       SET       5       2       7          7.1       36 KV, 800-400-200,25KA, 3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)       NOS       18       0       18           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       6           7.2       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       6       0       6           8       36 KV, 1250A,25KA,ISOLATORS        NOS       9       0       9	-					-	÷			
Image: Note of the second second (Not secon	5									
CLASS)       NOS       18       0       18       18       0       18       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       0       18       18       18       10       18       10       18       10       16       11       18	,			SET	5	2	7			
CLASS)NOS0000836 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)NOS40411		CLASS)		NOS	18	0	18			
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	7.2			NOS	6	0	6			
9.1       S/I WITH OUT EARTH SWITCH       NOS       9       0       9       0         9.2       D/I WITH SINGLE EARTH SWITCH       NOS       5       0       5       0         9.3       D/I WITH SINGLE EARTH SWITCH       NOS       5       0       5       0       5         9.3       D/I WITH SINGLE EARTH SWITCH       NOS       2       0       2       0       2       0         9.3       D/I WITH BEAM MOUNTED       NOS       2       0       2       2       0       2       0       2       0       2       2       2	8	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO		NOS	4	0	4			
9.2       D/I WITH SINGLE EARTH SWITCH       NOS       5       0       5       0       5         9.3       D/I WITHOUT EARTH SWITCH       NOS       2       0       2       0       2       0         9.3       D/I WITH BEAM MOUNTED       NOS       2       0					_					
9.3       D/I WITHOUT EARTH SWITCH       NOS       2       0       2       0       2         9.4       S/I WITH BEAM MOUNTED       NOS       2       0						-	÷			
9.4       S/I WITH BEAM MOUNTED       NOS       2       0       2       0       2       0       1         10       30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II       NOS       27       0       27       0       2       1       1         11       36 KV, 2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)       NOS       3       0       3       0       3       1       1         12       36 KV, 1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       NOS       8       0       8       0       1										
10       30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II       NOS       27       0       27       0         11       36 KV, 2 CORE, SINGLE PHASE, I/T(1 core 3P & other core 0.2s)       NOS       3       0       3       0         12       36 KV, 1250A, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       NOS       8       0       8       0         13       35 KV Bus Post Insulators       NOS       27       0       27       0         14       BUS BAR & CIRCUIT MATERIALS       NOS       27       0       27       0         14.1       TENSION & SUSPENSION ANTI FOG TYPE INSULATOR       NOS       1.240       60       1300       0										
11       36 KV ,2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)       NOS       3       0       3       0         12       36 KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE       NOS       8       0       8       0       1         13       33 KV Bus Post Insulators       NOS       27       0       27       0       27       0       27         14       BUS BAR & CIRCUIT MATERIALS       Image: Circuit Materials									1	1
13       33 KV Bus Post Insulators       NOS       27       0       27       0       27         14       BUS BAR & CIRCUIT MATERIALS       Image: Ci	11	36 KV ,2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)		NOS	3		3			
14         BUS BAR & CIRCUIT MATERIALS         Image: Constraint of the system         Image: Constan = 1          Image: Con										
14.1         TENSION & SUSPENSION ANTI FOG TYPE INSULATOR         Image: Control of the state				NOS	27	0	27			
14.1.1 120 kN ANTIFOG INSULATOR for Double Moose cond (TENSION) for 132kV & 33kV side NOS 1,240 60 1300										
				NOS	1,240	60	1300			
		90 kN ANTIFOG INSULATOR for Double/ Single Moose cond (SUSPENSION) for 132kV & 33kV side		NOS	350	54	404			
14.2         ACSR MOOSE CONDUCTOR         KMS         4         0.35         4.35            14.3         HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	14.2	ACSR MOOSE CONDUCTOR		KMS	4	0.35	4.35			

			1 .			-	
14.3.1 132 KV Single Tension H/W fitting suitable for twin ACSR Moose	NOS	42	0	42			
14.3.2 132 KV Single suspension H/W fitting suitable for single ACSR Moose	NOS	24	6	30	-		
14.3.3 132 KV Single suspension H/W fitting suitable for twin ACSR Moose	NOS	9	0	9	-		
14.3.4 132 KV Single Tension H/W fitting suitable for single ACSR Moose	NOS	36	6	42			
14.3.5 33 KV Single Tension H/W fitting suitable for single ACSR Moose	NOS	30	0	30			
14.3.6 33 KV Single Suspension H/W fitting suitable for single ACSR Moose	NOS	27	0	27			
14.3.7 33 KV Single Tension H/W fitting suitable for twin ACSR Moose	NOS	24	0	24			
14.3.8 132 KV 'T' Clamp for single Moose run with single Moose ACSR drop	NOS	24	6	30			
14.3.9 132 KV 'T' Clamp for twin Moose run with single Moose ACSR drop	NOS	33	12	45	1		
14.3.10 33 KV 'T' Clamp for single Moose run with single Moose ACSR drop	NOS	30	0	30	1		
14.3.11 33 KV T: Clamp for Unit Moder run with single Moder ACSR drop	NOS	27	0	27			
14.3.12 J 32 KV PI Clamp	NOS	18	4	22			
14.3.13 Spacer for Twin Bus ACSR 132 KV Bus	NOS		0	54	1		
		54	-		-		
14.3.14 Spacer for Twin Bus ACSR 33 KV Bus 14.3.15 132 KV LA Clamp	NOS NOS	22	0	22			
		12	6	18	-		
14.3.16 132 KV CVT Clamp	NOS	6	6	12	-		
14.3.17 132 KV CT Clamp(BIMETALLIC)	NOS	30	12	42			
14.3.18 132 KV IVT Clamp	NOS	3	0	3			
14.3.19 132kKV Isolater Pad Clamp	NOS	90	30	120			
14.3.20 132 KV CB Clamp	NOS	30	12	42			
14.3.21 33 KV PI Clamp	NOS	27	0	27			
14.3.22 33 KV Isolator pad clamp	NOS	129	0	129			
14.3.23 33 KV LA Clamp	NOS	27	0	27			
14.3.24 33 KV CT Clamp	NOS	48	0	48			
14.3.25 33 KV IVT Clamp	NOS	3	0	3	1		
14.3.26 33 KV CB Clamp	NOS	48	0	48	1		
14.3.27 PG Clamp for ACSR Moose	NOS	48	0	48			
14.4 EARTH SPIKES & IT'S HARDWARES & FITTING		10	<u> </u>	10			
14.4.1 FOR 132KV SIDE :30 NOS @ 7 MTRS LENGTH EACH	SET	26	4	30			
14.4.2 FOR 33 KV SIDE:25 NOS @ 5 MTRS EACH	SET	25	0	25			
14.5 SUBSTATION EARTHING SYSTEMS	51	25	0	25			
14.5.1 EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (spacing maximum 5m both way)	MT	18.00	0.80	18.8			
14.5.2 EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment, structure etc)	MT	9.00	0.70	9.7			
	IVII	9.00	0.70	5.7			
14.5.3 EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for	NOS	120	20	140			
treated earth pit)	1103	120	20	140			
	NOS	165	20	185			
EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)		100	20	100			
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.	1.000.0						
14.6.1 G.I Cable Trays(size: 450x75x2500mm)	MTRS	1850	200	2050	-		
14.6.2 G.I Cable Trays(size: 300x75x2500mm)	MTRS	2200	180	2380			
14.6.3 G.I Cable Trays(size: 150x75x2500mm)	MTRS	1350	150	1500			
14.6.4 Support G. I angle 50x50x6 mm for cable tray	MT	3	0.4	3.4			
14.7 SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES							
14.7.1 BAY MARSHALLING KIOSK	NOS	7	1	8			
14.7.2 SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2	0	2			
14.7.3 SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	NOS	1	0	1			
14.7.4 SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2	0	2			
14.7.5 CT, PT & CVT Out Door Console Boxes	NOS	17	4	21			
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) = 24 Sets.	MT	24.00	4.80	28.8			
15.1.2 T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets	MT	5.70	1.90	7.6			
15.1.2 T43 + 132KV (NOMINAL UNIT WT+ 0.83 MT) = 00 sets 15.1.3 T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) =11Sets.	MT	9.13	0.00	9.13			
15.1.3 T6S - 35KV(NOMINAL UNIT WT- 0.6 MT) = 115815.	MT	9.13	0.00	9.13			
15.1.4 T9S - 33KV(NOMINAL ONT WT- 0.6 MT) = 14 Sets. 15.2 DIFFERENT TYPE OF BEAMS WITH DETAILS	IVI I	0.40	0.00	0.4			
	AAT	0.00	4.04	0.0			
15.2.1 G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) =13 Sets.	MT	8.06	1.24	9.3			
15.22 G1X - 132 KV (NOMINAL UNIT WT-0.62 MT) = 2 Sets.	MT	1.24	0.00	1.24			
15.2.3 G2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 06 Sets	MT	5.40	0.00	5.4			
15.2.4 G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) =2	MT	2.50	0.00	2.5			
15.2.5 G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets.	MT	2.12	0.00	2.12			
15.2.6 G4 - 33KV(NOMINAL UNIT WT- 0.4MT) = 12 Sets.	MT	3.60	0.00	3.6			
15.2.7 G4X - 33KV (NOMINAL UNIT WT- 0.52 MT) =5Sets.	MT	2.60	0.00	2.6			
15.3 TOTAL WEIGHT OF COLUMN & BEAM	MT	72.75	7.94	80.69	1		
15.4 SWITCH YARD EQUIPMENT STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION							
BOLTS & NUTS.							
15.4.1 ISOLATORS-132KV							

			_						
	S.I.WITH & WITHOUT E/S (Unit weight - 658.767 Kg) =11 Nos	MT		5.93	1.32	7.246			
	D.I. WITHOUT E/S (Unit Weight - 979.10 Kg) = 2 Nos.	MT		1.96	0.00	1.958			
	D.I. WITH E/S (Unit Weight - 1120.559 Kg) = 4 Nos.	MT	-	2.24	2.24	4.482			
	ISOLATORS-33 KV S.I. WITHOUT E/S (Unit weight - 294.893 Kg) =9 Nos.	MT	-	2.653	0.000	2.653			
	D.I. WITHOUT E/S (Unit weight - 294.893 Kg) = 9 Nos. D.I. WITHOUT E/S (Unit weight - 655.764 Kg) = 2 Nos.	MT		1.311	0.000	1.311	-	1	
	D.I. WITHOUT E/S (Unit weight - 650.764 kg) = 2 Nos. D.I. WITH E/S (Unit weight - 670.555 Kg) =5 Nos.	MT		3.353	0.000	3.353			
	CTS-132 KV (Unit Weight - 214.546 Kg) = 15 Nos.	MT		3.218	1.287	4.505			
	CTS-33 KV (Unit Weight - 148.80 Kg) = 18 Nos	MT		2.678	0.000	2.678			
	CVTS-132  KV (Unit Weight - 236.628 Kg) = 6Nos.	MT		1.420	1,420	2.839			
	IVTS-132 KV (Unit Weight - 231.195 Kg) = 3 Nos	MT		0.693	0.000	0.693			
	IVTS-33 KV (Unit Weight - 124.336 Kg) = 3 Nos	MT	-	0.373	0.000	0.373			
	Surge Arrester-132 kV (Unit Weight - 179.893 Kg) = 12+6 Nos	MT	-	2.158	1.079	3.236			
15.4.15	BPI-132 KV (Unit Weight - 309.883 Kg) = 18+4Nos	MT		5.576	1.239	6.816			
15.4.16	BPI-33 KV (Unit Weight - 148.80 Kg) = 15 Nos	MT	-	2.232	0.000	2.232			
15.4.17	NCTS (Unit Weight - 138.24 Kg) = 4 Nos	MT	ī	0.553	0.000	0.553			
15.4.18	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	МТ	r	36.35	8.58	44.928			
15.5	Total weight of GI Nuts and bolts for the above Column, Beam & equipment structures	МТ	r	7.25	1.40	8.65			
16	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES							1	
16.1	POWER CABLES, 1.1KV, XLPE/PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)								
16.1.1		MTR		500		500			
	XLPE 3.5 CX300 mm <sup>2</sup>		-	500	0				
	XLPE 3.5 CX185 mm <sup>2</sup>	MTR	-	300	0	300	<u> </u>	l	
16.1.3	XLPE 3.5 CX120 mm <sup>2</sup>	MTR		200	0	200		1	
	PVC 3.5 CX70 mm <sup>2</sup>	MTR		600	400	1000			
16.1.5	PVC 3.5 CX35 mm <sup>2</sup>	MTR	RS	1750	200	1950			
16.1.6	PVC 4 CX 16 mm <sup>2</sup>	MTR	RS	1000	500	1500			
	PVC 4 CX 6 mm <sup>2</sup>	MTR	RS	3750	300	4050			
	PVC 2CX 6 mm <sup>2</sup>	MTR		2200	0	2200			
	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)			2200	ÿ				
	2 CX 2.5 mm2	MTR	s	5500	500	6000			
16.2.2	4 CX 2.5 mm <sup>2</sup>	MTR		10500	1500	12000			
16.2.3	5 CX 2.5 mm <sup>2</sup>	MTR	-	4500	300	4800			
1624	7CX 2.5 mm <sup>2</sup>	MTR		5500	600	6100			
			-						
	10 CX 2.5 mm <sup>2</sup>	MTR		10000	500	10500			
	12 GA 2.3 IIIII	MTR	-	9000	500	9500			
16.2.7	16 CX 2.5 mm <sup>2</sup>	MTR		5000	400	5400			
16.2.8	19 CX 2.5 mm <sup>2</sup>	MTR	RS	2000	500	2500			
16.2.9	1CX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB	MTR	RS	600	0	600			
17	ACCESSORIES FOR PLCC SYSTEM With OPGW cable								
	24 Fibre Optic Approach cable along with HDPE Pipes	Km	s	0.5	0.5	1			
17.2	Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for	No		1	1	2			
17.2	speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted with FCPC coupling and pig	-							ļ
	tails(DWSm Fibre)	No		1	1	2			ļ
17.4	Remote Terminal Unit (RTU) with MFT/MFM module designed for Power Utility SCADA operation. RTU should report in IEC 870-5-104 protocols to both main & backup control centre. RTU should have ports for interfacing with relay control panels,MFT/MFMs and port for LDMS facility. Laptop should be part of the supply contract of RTU for monitoring, local data aquisition & configuration of RTU.	No		1	0	1			
17.5	48 V, 300 AH, maintenance free VRLA Battery set.	Set	t	1	0	1		İ	
	SMPS based battery charger of 75A suitable for 48V VRLA battery.	No		1	0	1		1	
	2.5 sq. mm 2 core control cable(power supply,Transducer/MFT PT supply)	MTR		500	0	500			1
	2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT, supply)	MTR	-	500	0	500			
	1.5 sq. mm 10 core control cable(Digital Input)	MTR		200	0	200			
	10 sq. mm 2 core multi strand control cable(Battery)	MTR	RS	100	0	100			
17.11 18	Earth Flat, Cable Tray, Telephone cable, ACDB, DCDB, Foundation rail, Junction Box,. SUPPLY OF POWER TRANSFORMER, STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE	LS		1	1	2			
18.1	AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION POWER TRANSFORMER 132/33KV.20MVA (AS PER SPECIFICATION)	NO	\$	2	0	2			
18.2	STATION TRANSFORMER 132/33NV,2001VA (AS PER SPECIFICATION)	NO		2	0	2			┼───┤
18.3	STATION TRANSPORMER 33KV/433V,230 KVA (AS PER SPECIFICATION) Supply of materials for erection of station transformers	NU	5	-		2			
L									

18.3.1	HDG DP STRUCTURE: each set shall comprise of [2X 90. 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).	SETS	2	0	2			
	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down) & handle for operation of AB switch	SETS	2	0	2			
18.3.3	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single HG fuse)	SETS	2	0	2			
18.3.4	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.	SETS	2	0	2			
	Switch yard lighting: Design, engineering, procurement of labour, material including all associated works for construction of switch yard lightings as per technical specification and approved drawings. The fixture shall be of reputed make (Philips/CGL/Bajaj) and fixtures shall be LED and proper cabling from the lighting outdoor distribution boards to the junction boxes and from junction boxes to the fixtures. The lighting fixtures are to be installed on the switch yard structures. The quantity of such fixtures are to be designed and to be ascertained.							
19.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear,GI Conduit 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	46	8	54			
	STREET LIGHTING; IT INCLUDES SUPPLY OF GI TUBULAR POLE AS PER TECHNICAL SPECIFICATION, LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light. (TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS), COLONY QUARTERS AND OTHER ROADS. ALL MATERIALS AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE							
19.2.1	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light.	SET	25	0	25			
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	25	0	25			
	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. 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.	NO	1	0	1			
19.2.4	OUTDOOR KIOSK of 3 mm thick CRCA sheet duly hot dip galvanised FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES. 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.	NO	1	0	1			
20	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	20			
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)							
	FOAM TYPE-9 LTRS	NOS	4	0	4			
	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 25 KGS	NOS	4	0	4			
21.3 21.4	DRY POWDER TYPE -6 KGS	NOS	4	0	4			
21.4	CO <sub>2</sub> - 4.5 KGS	NOS	10	0	10	l		
	CO <sub>2</sub> - 9.0 KGS	NOS	10	0	10			
21.5	CO <sub>2</sub> (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4			
	Water type- 9 LTRS Foam type - 50 LTR	NOS NOS	4	0	4			
	Foam type - 50 LTR FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND With Canopy arrangement	SET	4	0	6	1	1	
22	PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN, COMM PAN, RELAY TOOL KITS AS PER TECH SPEC	JEI	0		0			
22.1	TIME SYNCH EQUIPMENT	NOS	1	0	1			
	132 KV SIDE (SIMPLEX TYPE PANEL)							
	FEEDER CONTROL PANEL	NOS	2	2	4	l		
22.3.2	FEEDER RELAY PANEL TRANSFORMER CONTROL PANEL( FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2	2	4			
22.3.4	TRANSFORMER RELAY PANEL( FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2	0	2	1		
	BUSCOUPLER CONTROL	NOS	1	0	1	1	1	1
22.3.6	BUSCOUPLER RELAY PANEL	NOS	1	0	1			
	COMMON PANEL (KP-1)	NOS	1	0	1			
22.4	33 KV SIDE							

224.1         FEEDER CONTROL & RELAY PANEL         NOS         5         0           224.2         TRANSFORMER CONTROL & RELAY PANEL         NOS         2         0           224.3         BUSCOUPLER CONTROL & RELAY PANEL         NOS         1         0           23         A C & DC SYSTEM         0         0         0           23.1         MIN AC DB, (HAVING 800 A, 50KA, DRAWOUT TYPE ACB WITH 3 O/C, E/F, U/V RELAYING FACILITY INDOOR         SET         1         0	5 2 1		
224.3         BUSCOUPLER CONTROL & RELAY PANEL         NOS         1         0           23         AC & DC SYSTEM           2           23.1         AC NOR 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         SET         1         0	1		
23       AC & DC 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 SET 1			
23.1.1 MAIN AC DB, (HAVING 800 A, 50KA, DRAWOUT TYPE ACB WITH 3 O/C, E/F, U/V RELAYING FACILITY INDOOR SET 1			
TYPE AS PER SPECIFICATION. (MAIN DB-1, MAIN DB-2 WITH B/C)	1		
23.1.2 ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C) SET 1 0	1		
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	1		
23.1.4 INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1, DB-2 & B/C) SET 1 0	1		
23.1.5 EMERGENCY LIGHTING DISTRIBUTION BOARD SET 1 0	1		
23.1.6 INDOOR RECEPTACLE BOARD SET 1 0	1		
23.2 DC SYSTEM			
23.2.1 220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE SET 1 0	1		
23.2.2 220 V DC EMERGENCY DISTRIBUTION BOARD SET 1 0	1		
23.2.3 BATTERY (350 AH PLANTE TYPE) FOR 220 V DC SET 1 0	1		
23.2.4 BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST) SET 1 0	1		
24         DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS         SET         1         0	1		
25     WALKIE TALKIE SET     SET/ PAIR     2     0	2		
26         PORTABLE         ALUMINIUM         LADDER         EXTENDABLE         TYPE         OF         ADEQUATE         HEIGHT         TO         BE         USED         FOR         NOS         2         0           MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.         NOS         2         0 <td>2</td> <td></td> <td></td>	2		
27         PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.         SET         1         0	1		
28 POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY. SET 1 0	1		
29         WATER COOLER WITH WATER PURIFIER SYSTEM         NOS         1         0	1		
30         MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)         SET         1         0	1		
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	1		
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	1		
33 BEST QUALITY &APPROVED MAKE INSULATING MAT (Confirming to IS:15652:2006) TO BE KEPT INFRONT OF NOS 37 4	41		
TOTAL OF SUBSTATION (PLANT) SUPPLY			

Mand	atory Spare Parts								
Item	DESCRIPTION OF ITEMS			ed .	I		Unit	Price <sup>2</sup>	
	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS.	Code <sup>1</sup>		VA -05 L, 02			In Foreign	CIP	
	(As per Technical Specification)		-	0 M Bay requ			Currency	Cli	
			UNITS	QUANTITY: for Construction of 2X20 MVA, 132A3 KV SIS, Lakhampur (132 KV Bay-0S Nos.: 02 FDR, 02 TRF, 01 B/C, 2nos unequippe spare bay) & (33 KV Bay-08 Nos.: 05FDR, 02 TRF & 01 B/C)	Quantity for 2Nos 132KV Feeder Bay Extension at 132/33KV Grid Sub- Station, Brajarajnagar	Total Quantity			Total Price <sup>2</sup>
1	145 KV, (800-400-200 A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL		NOS	2	0	(1)	(2)	(3)	(1) x (3)
2	CONNECTOR 145 KV,1250A,31.5KA,ISOLATORS								
	MALE & FEMALE CONTACTS		SET	1	0	1			
2.2	POWER CONTACTOR, RELAYS, MCBs,		SET	1	0	1			
2.3	SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.		SET	2	0	2			
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL		SET	1	0	1			
	GEAR ASSEMBLY COMPLETE. AUXILIARY SWITCH CONTACTS ASSEMBLY		SET	1	0	1			
2.6	EARTHING ROD & BLADE CONTACT SIDE		SET	1	0	1			
2.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD		SET	1	0	1			
2.8	POST INSULATOR SUPPORT		SET ( 3NOS. PER SET)	1	0	1			
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR		NOS	1	0	1			
4	120 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR.		NOS	2	0	2			
	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR 132 KV Bus Post Insulators		NOS NOS	1 2	0	1 2			
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER				0	0			
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER		NOS	1	0	1			
7.2	SPRING CHARGING MOTOR BREKER AUXILIARY CONTACTS		NOS SET	1	0	1			
7.4	POWER CONTACTORS, RELAYS, MCBs, SWITCHES, FUSES, PUSH BUTTONS, RESISTORS, PRESSURE SWITCHES, LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.		SET	1	0	1			
7.5	DENSITY MONITORING SYSTEM (IF REQUIRED)		SET	1	0	1			
	CLOSING COIL TRIPPING COIL		NOS NOS	4	0	4			
7.8	SF6 GAS FILLING DEVICE		NOS	1	0	4	İ		
7.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER		SET	1	0	1			
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER		NOS	2	0	2			
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER		NOS	1	0	1			
9 9.1	36 KV,1250A,25KA,ISOLATORS MALE & FEMALE CONTACTS		SET	1	0	1			
9.2	POWER CONTACTOR, RELAYS, MCBs,		SET	1	0	1		l	
9.3	SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC. LIMIT SWITCH		SET	2	0	2			
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL		SET	1	0	1			
9.4	GEAR ASSEMBLY COMPLETE.		SET		0	1			
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY EARTHING ROD & BLADE CONTACT SIDE		SET	1	0	1			
	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD		SET	1	0	1			
9.8	POST INSULATOR SUPPORT		SET ( 3NOS. PER SET)	1	0	1			
10	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR		NOS	3	0	3			
11	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR		NOS	1	0	1			
12	36KV, 1250A,25KA,VACUUM CIRCUIT BREAKER								

12.1	ONE COMPLETE POLE ASSEMBLY OF		SET	1	0	1			
	CIRCUIT BREAKER				-	-			
12.2	TRIPPING CIOLS		NOS	4	0	4			
	CLOSING COIL		NOS	4	0	4			
	SPRING CHARGING MOTOR		NOS	1	0	1			
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY		SET	1	0	1			
12.6	SET OF GASKET, "O" RINGS, SEALING PER		SET	1	0	1			
	CIRCUIT BREAKER								
12.7	POWER CONTACTORS, RELAYS, MCBs,		SET	1	0	1			
12.7	SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.		361	1	0	1			
13	33 KV Bus Post Insulators		NOS	3	0	3			
	BUS BAR & CIRCUIT MATERIALS			-		5			
	120 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-132 KV		SET	2	0	2			
	120 kN_ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-132 KV		SET	2	0	2			
14.3	120 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-33 KV		SET	2	0	2			
14.4	120 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-33 KV		SET	2	0	2			
14.5	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-132 KV		SET	2	0	2			
	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-33 KV		SET	2	0	2			
15	ACSR MOOSE CONDUCTOR		MTRS	250	0	250			
			SET (EACH						
1			TYPE THREE						
16	HARDWARES & FITTINGS/SPACERS/CLAMP		NOS.)	1	0	1			
	& CONNECTORS ETC. FOR 132 KV & 33 KV								
1									
	GENERAL EQUIPMENT & SUBSTATION	1							
17	ACCESSORIES								
47.4	POWER CABLES,1.1KV,XLPE & PVC,ARMOURED,	1							
17.1	ALUMINIUM CONDUCTOR(As per Specification)								
17.1.1	3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE		PCS.	1	0	1			
	3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE		PCS.	1	0	1			
17.1.2			PCS.	1	0	1			
	3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE			•	0				
	3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC		PCS.	1	0	1			
17.1.5	3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC		PCS.	1	0	1			
17.1.6	4 CX 16 mm <sup>2</sup> - PVC		MTRS	250	0	250			
17.1.7	4 CX 6 mm <sup>2</sup> -PVC		MTRS	250	0	250			
17.1.8	2CX 6 mm <sup>2</sup> -PVC		MTRS	250	0	250			
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)								
17.2.1	4 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)		Mtrs	500	0	500			
17.2.2			Mtrs	500	0	500			
	5 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)					200			
	7 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)		Mtrs	500	0	500			
17.2.4	10 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)		Mtrs	500	0	500			
17.2.5	12 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 250 MTRS)		Mtrs	250	0	250			
17.2.6	16 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 250 MTRS)		Mtrs	250	0	250			
17.2.7	19 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 250 MTRS)		Mtrs	250	0	250			1
	1CX 120 mm <sup>2</sup>								
17.2.8	BAT TO BAT CHARGER & CHARGER TO DCDB		MTRS	50	0	50			
17.3	CARRIER COMMUNICATION & OTHER MATERIALS	1 1							
	ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 48 V VRLA TYPE BATTERY 300 AH.)		NO	2	0	2			
	ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 220 V PLANTE TYPE BATTERY 350 AH,)	1 1	NO	2	0	2	1		
	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 300 AH (48V)	1	SET	1	0	1	İ		İ
	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 350 AH (220V)		SET	1	0	1			
18	PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN, COMM PAN, RELAY TOOL								
18	KITS AS PER TECH SPEC AND BOQ FOR PCM								
18.1	132 KV SIDE								
18.1.1	DISTANCE PROTECTION RELAY		NOS	1	0	1			
18.1.2	OVER CURRENT & EARTH FAULT RELAY		NOS	1	0	1			
18.1.3	MASTER TRIP RELAY		NOS	2	0	2			
	DIFFERENTIAL PROTECTION RELAY		NOS	1	0	1			
	TRIP SUPERVISION RELAY		NOS	3	0	3			
	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)		SET	1	0	1			
	ANNUNCIATOR		NOS	1	0	1			
18.1.8	DISCREPANCY CONTROL SWITCH	ļļ	116 -						
ļ	a) FOR CIRCUIT BREAKER	↓ ↓	NOS	2	0	2		ł	
40.1.5	b) FOR ISOLATOR		NOS	2	0	2		-	
	PROTECTION TRANSFER SWITCH		NOS	1	0	1		+	
	AMMETER SELECTOR SWITCH		NOS NOS	1	0	1			
	VOLTMETER SELECTOR SWITCH AMMETER ALONG WITH TRANSDUCER	┨────┤	SET	1	0	1		1	
10.1.12			DE I	1	U	1	1	1	

18.1.1	VOLTMETER ALONG WITH TRANSDUCER		SET	1	0	1		1		
	MW METER ALONG WITH TRANSDUCER		SET	1	0	1				
18.1.1	MVAR METER ALONG WITH TRANSDUCER		SET	1	0	1				
18.2	33 KV SIDE									
18.2.1	OVER CURRENT & EARTH FAULT RELAY		NOS	1	0	1				
18.2.2	MASTER TRIP RELAY		NOS	2	0	2				
18.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)		SET	1	0	1				
18.2.4	ANNUNCIATOR		NOS	1	0	1				
18.2.5	CONTROL SWITCHES FOR									
	a) CIRCUIT BREAKER		NOS	2	0	2				
	b) ISOLATOR		NOS	2	0	2				
	PROTECTION TRANSFER SWITCH		NOS	1	0	1				
	AMMETER SELECTOR SWITCH		NOS	1	0	1				
	VOLTMETER SELECTOR SWITCH		NOS	1	0	1				
	AMMETER ALONG WITH TRANSDUCER		SET	1	0	1				
	VOLTMETER ALONG WITH TRANSDUCER		SET	1	0	1				
	MW METER ALONG WITH TRANSDUCER		SET	1	0	1				
18.2.1	MVAR METER ALONG WITH TRANSDUCER		SET	1	0	1				
	TOTAL OF MANDATORY SPARE PARTS SUPPLY									
	TOTAL OF SUBSTATION-SCHEDULE-1 -Plant and Mandatory Spare Parts (to	Schedule No. 6 G	rand Summary	1)						
	Nome of Didder									

Name of Bidder:

Signature of Bidder:\_\_\_\_\_

<sup>1</sup> Bidders shall enter a code representing the country of origin of all imported plant and equipment.

<sup>2</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 19.1 in Single-Stage Bid, or ITB 34.1 in Two-Stage Bid, Create and use as many columns for Unit Price and Total Price as there are currencies.

Country of Origin Declaration Form

Item	Description	Code	Country

	ODISHA POWER TRANSMISSIO	N CORP	ORATI	ON LIM	ITED			
NA	NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Construction of 2X20 MVA-132/33 KV Sub-station at							
	Lakhanpur with 2Nos 132KV Feeder Bay Extension at Brajarajnagar and associated 132 KV D/C line from 132/33 KV Grid Sub-Station at Brajrajnagar to							
Lal	khanpur (Line length- 19.218Km approximately) in Odisha State of India und		GE-8 Und	er Japan In	ternational C	ooperation A	Agency (JICA)'s	
	ODA Loan.							
	Loan Agreement No: [ID-P245] -       FB No: [CPC/JICA/ICB/08/15-16/]-       Reference Identification No: [OPTCL/JICA/PKG-8]							
	Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad							
	NAME OF THE BIDDER							
				6 KV	Unit	Price <sup>2</sup>		
Item	DESCRIPTION OF ITEMS(SCHEDULE-2-Line) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	Code <sup>1</sup>	UNITS	Quantity for132 KV D/C line from Brajrajnagar to Lakhanpur	In Foreign Currency	CIP	Total Price <sup>2</sup>	
				(1)	(2)	(3)	(1) x (3)	
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) (43 nos)		МТ	147.490				
1.1.1	+3 EXTENSION (Nominal unit weight 0.611 MT) (14 nos)		MT	8.554				
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT) (2 nos)		МТ	2.698				
	PB TYPE (30 deg ANGLE ) TOWERS (Nominal unit weight 4.973 MT) (12nos)		МТ	59.676				
	+3 EXTENSION (Nominal unit weight 1.018 MT) (2 Nos)		МТ	2.036				
	+6 EXTENSION (Nominal unit weight 2.104 MT) (1 nos)		МТ	2.104				
				55.926				
	PC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight6.214 MT) ( 9nos)		MT	0.000				
	+3 EXTENSION (Nominal unit weight 1.119 MT) (0 nos) +6 EXTENSION (Nominal unit weight 2.342 MT) (4 nos)		MT MT	9.368				
1.3.2	UR TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 13.125 MT) (2 nos)		MT	26.250				
	+6 EXTENSION (Nominal unit weight 4.161 MT) (2 nos)		MT	8.322				
	OC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 9.014 MT) (2 nos)		MT	18.028				
	+15 EXTENSION (Nominal unit weight 18.622 MT) (2 nos)		MT	37.244				
	T1S COLUMN- 132 KV(NOMINAL UNIT WT- 1.2 MT) = 6 Sets.		MT	7.200				

G1 BEAM - 132 KV (NOMINAL UNIT WT- 0.62 MT) =4 Sets.       MT       2.480         1.4       TEMPLATES       MT       2.660         1.4.1       PA (Nominal unit weight 0.665 MT)(4 Nos.)       MT       2.660         1.4.2       PB (Nominal unit weight 0.602 MT)(1 Nos.)       MT       0.602         1.4.3       PC (Nominal unit weight 0.904 MT)(1 Nos.)       MT       0.904         1.4.4       UR (Nominal unit weight 1.475 MT)(1 Nos.)       MT       1.475         1.4.5       OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)       MT       2.074         1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.J Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.       MT       19.071	
1.4.1       PA (Nominal unit weight 0.665 MT)(4 Nos.)       MT       2.660         1.4.2       PB (Nominal unit weight 0.602 MT)(1 Nos.)       MT       0.602         1.4.3       PC (Nominal unit weight 0.904 MT)(1 Nos.)       MT       0.904         1.4.4       UR (Nominal unit weight 1.475 MT)(1 Nos.)       MT       1.475         1.4.5       OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)       MT       2.074         1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.I Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed       MT       19.071	
1.4.2         PB (Nominal unit weight 0.602 MT)(1 Nos.)         MT         0.602           1.4.3         PC (Nominal unit weight 0.904 MT)(1 Nos.)         MT         0.904           1.4.4         UR (Nominal unit weight 1.475 MT)(1 Nos.)         MT         1.475           1.4.5         OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)         MT         2.074           1.5         WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)         MT         395.091           1.7         Weight of different type G.I Nuts and Bolts         MT         19.071           2.0         Supply of the following tower accessories as per technical specification and as directed         MT         19.071	
1.4.3       PC (Nominal unit weight 0.904 MT)(1 Nos.)       MT       0.904         1.4.4       UR (Nominal unit weight 1.475 MT)(1 Nos.)       MT       1.475         1.4.5       OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)       MT       2.074         1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.I Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed       MT       19.071	
1.4.4       UR (Nominal unit weight 1.475 MT)(1 Nos.)       MT       1.475         1.4.5       OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)       MT       2.074         1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.I Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed       Image: Comparison of the following tower accessories as per technical specification and as directed	
1.4.5       OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)       MT       2.074         1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.I Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed       Image: Content of the following tower accessories as per technical specification and as directed	
1.5       WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)       MT       395.091         1.7       Weight of different type G.I Nuts and Bolts       MT       19.071         2.0       Supply of the following tower accessories as per technical specification and as directed       Image: Content of the following tower accessories as per technical specification and as directed	
1.7     Weight of different type G.I Nuts and Bolts     MT     19.071       2.0     Supply of the following tower accessories as per technical specification and as directed     Image: Control of the following tower accessories as per technical specification and as directed	
1.7     Weight of different type G.I Nuts and Bolts     MT     19.071       2.0     Supply of the following tower accessories as per technical specification and as directed     Image: Comparison of the following tower accessories as per technical specification and as directed	
2.1 EARTHING DEVICE Nos. 68	
2.2         DANGER BOARD         Nos.         68	
2.3         NUMBER PLATE         Nos.         68	
2.4         PHASE PLATE         Nos.         450	
2.5         BIRD GUARD         Nos.         258	
2.6         ANTICLIMBING DEVICE         Nos.         68	
2.7         CIRCUIT PLATE         Nos.         136	
Supply of following POWER CONDUCTORS in the proposed 132 kV lines with provision for 1.5 % sag and wastage as per the technical specification and as per the instruction of the engineer in charge.	
3.1 ACSR PANTHER Kms. 117.04	
4.0 POWER CONDUCTOR ACESSORIES	
4.1 For ACSR PANTHER	
4.1.1 VIBRATION DAMPER Nos. 906	
4.1.2 MID SPAN JOINT Set 70	
4.1.3 REPAIR SLEEVE Set 25	
4.1.4 PG CLAMP FOR ACSR PANTHER Set 24	
5.0     Supply of OPGW fibre Optic Cable for speech, data & protection	
5.1     24Fibre(DWSM)OPGW fibre Optic Cable     Kms.     24	
OPGW hardware set like suspension Asembly,Tensin Assembly(Dead end assembly, Pass through assembly),Vibration Damper,Down Lead Clamp 5.2 Assemblies for 24 Fibre(DWSM) OPGW,Joint Box	
6.0 Supply of the following Anti fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.	
6.1 90 KN Disc Insulator Nos. 2609	
6.2 120 KN Disc Insulator Nos. 4379	
7.0         Supply of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.         Image: Constraint of the second sec	
7.1 For ACSR PANTHER	
7.1.1 Single suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.     Nos.     276	
7.1.2 Double suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator. Nos. 0	
7.1.3 Single tension Hard wares fittings suitable for 120 KN insulator.     Nos.     297	
7.1.4 Double tension Hard wares fittings suitable for 120 KN insulator.     Nos.     60	
7.1.5 "D" Shackle Nos. 100	
7.1.6 Hanger Nos. 258	
7.1.7 U'-Bolt. Nos 43	

TOTAL OF Schedule-1 Line To Schedule-6 Grand Summary	
	Name of Bidder:
	Signature of Bidder:

<sup>1</sup> Bidders shall enter a code representing the country of origin of all imported plant and equipment.
 <sup>2</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 19.1 in Single-Stage Bid, or ITB 34.1 in Two-Stage Bid. Create and use as many columns for Unit Price and Total Price as there are currencies.

Country of Origin Declaration Form

Item	Description	Code	Country

	Loan Agreement No: [ID-P245] - FB No: [CPC/JICA/ICB/08/15-16	i/]-	<b>Reference Iden</b>	tification No: [OPT	CL/JICA/PKG-8		
	Schedule No. 2. Plant and Mandatory Spare Parts S		rom Within the Emp	loyer's Country			
	NAME OF THE BIDDER						
Item	DESCRIPTION OF ITEMS(SCHEDULE-2-SS) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNIT	QUANTITY: for Construction of 2X20 MVA, 132/33 KV SS, Lakhanpur (132 KV Bay-05 Nos: 02 FDR, 02 TRF 4: 01 B/C, 2nos unequipped spare bay) & (33 KV Bay-08 Nos: 05FDR, 02 TRF & 01 B/C)	Quantity for 2Nos 132KV Feeder Bay Extension at 132/33KV Grid Sub- Station, Brajarajnagar	Total Quantity	Unit Price <sup>2</sup>	Total Price <sup>2</sup>
					(1)	(2)	(1) x (2)
	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	6	21		
	145 KV,1250A,31.5KA,ISOLATORS	110.0					
	S/I WITH OUT EARTH SWITCH	NOS	9	2	11		
	D/I WITH SINGLE EARTH SWITCH D/I WITHOUT EARTH SWITCH	NOS NOS	2	0	4		
	145 KV, 6600pF, 3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	12		
	145 KV, 6000PF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER 120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12	6	12		
	145 KV, 2 CORE, SINGLE PHASE, IVT	NOS	3	0	3		
	132 KV Bus Post Insulators	NOS	18	4	22		
	145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	SET	5	2	7		
	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	18	0	18		
	36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.2s CLASS)	NOS	6	0	6		
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	4		
	36 KV,1250A,25KA,ISOLATORS						
	S/I WITH OUT EARTH SWITCH	NOS	9	0	9		
	D/I WITH SINGLE EARTH SWITCH	NOS	5	0	5		
	D/I WITHOUT EARTH SWITCH S/I WITH BEAM MOUNTED	NOS NOS	2	0	2		
	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	27	0	2		
	36 KV, 2 CORE, SINGLE PHASE, IVT(1 core 3P & other core 0.2s)	NOS	3	0	3		
	36 KV, 2 CORE, SINGLE PHASE, IVI (1 COLE SF & DITEL COLE 0.25) 36 KV, 1250A, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8	0	8		
	33 KV Bus Post Insulators	NOS	27	0	27		
	BUS BAR & CIRCUIT MATERIALS						
	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR						
	120 kN ANTIFOG INSULATOR for Double Moose cond (TENSION) for 132kV & 33kV side	NOS	1,240	60	1300		
	90 kN ANTIFOG INSULATOR for Double/ Single Moose cond (SUSPENSION) for 132kV & 33kV side	NOS	350	54	404		
	ACSR MOOSE CONDUCTOR	KMS	4	0.35	4.35		
	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	NGC			/		
	132 KV Single Tension H/W fitting suitable for twin ACSR Moose	NOS	42	0	42		
	132 KV Single suspension H/W fitting suitable for single ACSR Moose 132 KV Single suspension H/W fitting suitable for twin ACSR Moose	NOS NOS	<u>24</u> 9	6 0	30 9		
	132 KV Single Tension H/W fitting suitable for single ACSR Moose	NOS	36	6	9 42		

## ODISHA POWER TRANSMISSION CORPORATION LIMITED NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Construction of 2X20 MVA-132/33 KV Sub-station at Lakhanpur with 2Nos 132KV Feeder Bay

14.3.5	33 KV Single Tension H/W fitting suitable for single ACSR Moose	NOS	30	0	30		
14.3.6	33 KV Single Suspension H/W fitting suitable for single ACSR Moose	NOS	27	0	27		
14.3.7	33 KV Single Tension H/W fitting suitable for twin ACSR Moose	NOS	24	0	24		
	132 KV 'T' Clamp for single Moose run with single Moose ACSR drop	NOS	24	6	30		
	132 KV 'T' Clamp for twin Moose run with single Moose ACSR drop	NOS	33	12	45		
	33 KV 'T' Clamp for single Moose run with single Moose ACSR drop	NOS	30	0	30		
	33 KV 'T' Clamp for twin Moose run with single Moose ACSR drop	NOS	27	0	27		
	132 KV PI Clamp	NOS	18	4	22		
	Spacer for Twin Bus ACSR 132 KV Bus	NOS	54	0	54		
	Spacer for Twin Bus ACSR 33 KV Bus	NOS	22	0	22		
	132 KV LA Clamp	NOS	12	6	18		
	132 KV CVT Clamp	NOS	6	6	12		
	132 KV CT Clamp(BIMETALLIC)	NOS	30	12	42		
	132 KV IVT Clamp	NOS	3	0	3		
	132kKV Isolater Pad Clamp	NOS	90	30	120		
	132 KV CB Clamp	NOS	30	12	42		
14.3.21	33 KV PI Clamp	NOS	27	0	27		
14.3.22	33 KV Isolator pad clamp	NOS	129	0	129		
14.3.23	33 KV LA Clamp	NOS	27	0	27		
14.3.24	33 KV CT Clamp	NOS	48	0	48		
14.3.25	33 KV IVT Clamp	NOS	3	0	3		
	33 KV CB Clamp	NOS	48	0	48		
	PG Clamp for ACSR Moose	NOS	48	0	48		
	EARTH SPIKES & IT'S HARDWARES & FITTING	1100	-10	Ŭ	40		
	FOR 132KV SIDE :26 NOS @ 7 MTRS LENGTH EACH	SET	26	4	30		
	FOR 33 KV SIDE 25 NOS @ 5 MTRS EACH	SET	20	0	25		
		3E1	23	0	23		
	SUBSTATION EARTHING SYSTEMS	MT	40.00	0.00	40.0		
	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (spacing maximum 5m both way)	MT	18.00	0.80	18.8		
	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment, structure etc)	MT	9.00	0.70	9.7		
14.5.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for	NOS	120	20	140		
	treated earth pit)		-	-	-		
	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	NOS	165	20	185		
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	with its accessories as per TS. G.I Cable Trays(size: 450x75x2500mm)	MTRS	1850	200	2050		
		MTRS MTRS	1850 2200	200 180	2050 2380		
14.6.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm)		2200				
14.6.2 14.6.3	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) G.I Cable Trays(size: 150x75x2500mm)	MTRS	2200 1350	180	2380		
14.6.2 14.6.3 14.6.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray	MTRS MTRS	2200	180 150	2380 1500		
14.6.2 14.6.3 14.6.4 14.7	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES	MTRS MTRS MT	2200 1350 3	180 150 0.4	2380 1500 3.4		
14.6.2 14.6.3 14.6.4 14.7 14.7.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK	MTRS MTRS MT NOS	2200 1350 3 7	180 150 0.4 1	2380 1500 3.4 8		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING	MTRS MTRS MT NOS NOS	2200 1350 3 7 2	180 150 0.4 1 0	2380 1500 3.4 8 2		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	MTRS MTRS MT NOS NOS NOS	2200 1350 3 7 2 1	180 150 0.4 1 0 0	2380 1500 3.4 8 2 1		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	MTRS MTRS MT NOS NOS	2200 1350 3 7 2	180 150 0.4 1 0	2380 1500 3.4 8 2		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1	MTRS MTRS MT NOS NOS NOS	2200 1350 3 7 2 1	180 150 0.4 1 0 0	2380 1500 3.4 8 2 1		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.)	MTRS MTRS MT NOS NOS NOS NOS	2200 1350 3 7 2 1 2	180 150 0.4 1 0 0 0	2380 1500 3.4 8 2 1 2		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING	MTRS MTRS MT NOS NOS NOS NOS	2200 1350 3 7 2 1 2	180 150 0.4 1 0 0 0	2380 1500 3.4 8 2 1 2		
14.6.2           14.6.3           14.6.4           14.7           14.7.1           14.7.2           14.7.3           14.7.4           14.7.5	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.	MTRS MTRS MT NOS NOS NOS NOS	2200 1350 3 7 2 1 2	180 150 0.4 1 0 0 0	2380 1500 3.4 8 2 1 2		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out DOOr Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS	MTRS MTRS MT NOS NOS NOS NOS	2200 1350 3 7 2 1 2 1 2 17	180 150 0.4 1 0 0 0 4	2380 1500 3.4 8 2 1 2 21 21		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15 15 15.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS TTS - 132 KV(NOMINAL UNIT WT-1.2 MT) = 20 Sets.	MTRS MTRS MT NOS NOS NOS NOS NOS MOS	2200 1350 3 7 2 1 2 17 2 17 24.00	180 150 0.4 1 0 0 0 4 4	2380 1500 3.4 2 1 2 21 21 28.8		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15 15 15.1 15.1.1 15.1.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 1.2 MT) = 20 Sets. T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT	2200 1350 3 7 2 1 2 17 24.00 5.70	180 150 0.4 1 0 0 0 4 4 4.80 1.90	2380 1500 3.4 8 2 1 2 21 21 28.8 7.6		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.7 15.1 15.1.1 15.1.2 15.1.3	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 1.2 MT) = 20 Sets. T4S - 132KV (NOMINAL UNIT WT- 0.83 MT) = 96 ests T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) = 96 ests T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) = 95ets.	MTRS MTRS MT NOS NOS NOS NOS NOS MOS MT MT	2200 1350 3 7 2 1 2 17 2 17 24.00 5.70 9.13	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00	2380 1500 3.4 8 2 1 2 21 21 21 28.8 7.6 9.13		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.7 15.1.1 15.1.1 15.1.2 15.1.3 15.1.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV (NOMINAL UNIT WT- 0.6 MT) = 14 Sets.	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT	2200 1350 3 7 2 1 2 17 24.00 5.70	180 150 0.4 1 0 0 0 4 4 4.80 1.90	2380 1500 3.4 8 2 1 2 21 21 28.8 7.6		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1 15.1 15.1.1 15.1.2 15.1.3 15.1.3 15.1.4 15.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUPport G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.63 MT) = 95 ets. T8S - 33KV(NOMINAL UNIT WT- 0.63 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 24.00 5.70 9.13 8.40	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1 15.1.1 15.1.2 15.1.3 15.1.4 15.2 15.1.4 15.2.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUpport G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV(NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.63 MT) = 95ets. T8S - 33KV(NOMINAL UNIT WT- 0.66 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS DIFFERENT TYPE OF BEAMS WITH DETAILS DIFFERENT TYPE OF BEAMS WITH DETAILS T3S - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets.	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT	2200 1350 3 7 2 1 2 17 24.00 5.70 9.13 8.40 8.06	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3		
14.6.2 14.6.3 14.6.4 14.7.1 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1 15.1.1 15.1.2 15.1.3 15.1.4 15.2 15.2.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.67 MT) = 95 ets. T9S - 33KV(NOMINAL UNIT WT- 0.62 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 12 Sets.	MTRS MTRS MT NOS NOS NOS NOS NOS MOS MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 17 24.00 5.70 9.13 8.40 8.06 1.24	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00	2380 1500 3.4 8 2 1 2 21 21 28.8 7.6 9.13 8.4 9.3 1.24		
14.6.2           14.6.3           14.6.4           14.7           14.7.1           14.7.2           14.7.3           14.7.4           14.7.5           15.1           15.1.1           15.1.2           15.1.3           15.2.1           15.2.2.1           15.2.2.1           15.2.2.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUPport G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV(NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.66 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 0 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 0 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets.	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 2 17 2 17 2 17 8.40 8.06 1.24 5.40	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.00	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1 15.1 15.1.2 15.1.3 15.1.4 15.2 15.2.1 15.2.2 15.2.3 15.2.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUPport G.I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes ( 132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T15 - 132 KV (NOMINAL UNIT WT- 1.2 MT) = 20 Sets. T4S - 132KV (NOMINAL UNIT WT- 0.63 MT) = 95 ets. T8S - 33KV(NOMINAL UNIT WT- 0.63 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1X - 132 KV (NOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV (NOMINAL UNIT WT- 0.92 MT) = 2 Sets. G12 - 132 KV(NOMINAL UNIT WT- 0.92 MT) = 2 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G12 - 132 KV (NOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV (KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV (KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV (KOMINAL UNIT WT- 0.92 MT) = 2 Sets. G12 - 132 KV (KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV (KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV(KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV(KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV(KOMINAL UNIT WT- 0.92 MT) = 0 Sets. G12 - 132 KV(KEACH two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) = 2	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 24.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.00 0.00	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5		
14.6.2 14.6.3 14.6.4 14.7 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15.1 15.1.1 15.1.2 15.1.3 15.1.4 15.2 15.2.3 15.2.3 15.2.2	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) Support G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.68 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.96 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.96 MT) = 06 Sets G2 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(N	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 24.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.00 0.00 0.00 0.00 0.00	2380 1500 3.4 8 2 1 2 21 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12		
14.6.2 14.6.4 14.6.4 14.7 14.7.1 14.7.1 14.7.2 14.7.3 14.7.4 14.7.5 15 15.1 15.1.1 15.1.2 15.1.3 15.1.4 15.2 15.2.1 15.2.3 15.2.4 15.2.5 15.2.6	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUBport 6. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS TTS - 132 KV(NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.66 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 32 Sets. G2 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 32 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G2 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 06 Sets G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 13 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 12 Sets. G2 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 12 Sets. G1 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 12 Sets. G2 - 132 KV(NOMINAL UNIT WT- 0.96 MT) = 04 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNIT WT- 0.40 MT) = 12 Sets. G5 - 33KV(NOMINAL UNI	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 2 17 2 4.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12 3.60	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.00 0.00 0.00 0.00 0.00 0.00	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12 3.6		
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14.6.2           14.6.3           14.6.4           14.7           14.7.1           14.7.2           14.7           14.7.4           14.7.5           15           15.1           15.1.1           15.1.2           15.1.3           15.2.1           15.2.2           15.2.3           15.2.4           15.2.5           15.2.6           15.2.7           15.3           15.4	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUBport G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.68 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 2 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 06 sets G2 - 132 KV (NOMINAL UNIT WT- 0.92 MT) = 06 Sets G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.52 MT) = 04 Sets G1.2 - 132 KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets. G1.2 - 132 KV (NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV(NOMINA	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 24.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12 3.60 2.60	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.0	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12 3.6 2.6		
14.6.2           14.6.4           14.7           14.7.1           14.7.2           14.7.4           14.7.5           15           15.1           15.1.1           15.1.2           15.1.3           15.1.4           15.2           15.2.1           15.2.2           15.2.3           15.2.4           15.2.5           15.2.6           15.2.7           15.3           15.2.6           15.2.7           15.3	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T1S - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets T8S - 33KV (NOMINAL UNIT WT- 0.62 MT) = 14 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G2 - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 Sets G1 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 Sets G2 - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 06 Sets G3 - 33KV (NOMINAL UNIT WT- 0.95 MT) = 06 Sets G4 - 33KV (NOMINAL UNIT WT- 0.95 MT) = 06 Sets G2 - 132 KV (NOMINAL UNIT WT- 0.95 MT) = 12 Sets. G3 - 33KV (NOMINAL UNIT WT- 0.95 MT) = 20 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. G4 - 33KV (NOMINAL UNIT WT	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 24.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12 3.60 2.60	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.0	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12 3.6 2.6		
14.6.2           14.6.4           14.7           15.1           15.1           15.1           15.1           15.1.1           15.1.2           15.1.3           15.1.4           15.2           15.2.1           15.2.2           15.2.3           15.2.4           15.2           15.3           15.4           15.4.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) G.I Cable Trays(size: 150x75x2500mm) SUPport G. I angle 50x50x6 mm for cable tray SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out Door Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS. DIFFERENT TYPES OF COLUMNS WITH DETAILS T15 - 132 KV(NOMINAL UNIT WT- 0.58 MT) = 06 sets T45 - 132KV (NOMINAL UNIT WT- 0.68 MT) = 96 ets. T45 - 33KV(NOMINAL UNIT WT- 0.68 MT) = 96 ets. T45 - 33KV(NOMINAL UNIT WT- 0.68 MT) = 96 ets. T45 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. DIFFERENT TYPE OF BEAMS WITH DETAILS G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G12 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G2 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G12 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 12 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 04 Sets. G4 - 33KV(NOMINAL UNIT WT- 0.52 MT) = 04 Sets. G12 - 132 KV(NOMINAL UNIT WT- 0.52 MT) = 04 Sets. G13 - 132 KV(NOMINAL UNIT WT- 0.52 MT) = 12 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 04 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 22 Sets. G4 -	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 24.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12 3.60 2.60	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.0	2380 1500 3.4 8 2 1 2 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12 3.6 2.6		
14.6.2           14.6.3           14.6.4           14.7           14.7.1           14.7.2           14.7           14.7.1           14.7.2           15.1           15.1           15.1.1           15.1.2           15.1.3           15.2.1           15.2.2           15.2.3           15.2.4           15.2.5           15.2.6           15.2.7           15.3           15.4           15.4.1	G.I Cable Trays(size: 450x75x2500mm) G.I Cable Trays(size: 300x75x2500mm) Support G. I angle 50x50x6 mm for cable tray <b>SUB STATION SWITCYARD BMK, AC CONSOLE &amp; OTHER MARSHALLING BOXES</b> BAY MARSHALLING KIOSK SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD AC CONSOLE FOR LIGHTING SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY CT, PT & CVT Out DOOr Console Boxes (132 KV CT-5 Nos., 33 KV CT-8 Nos., 132 KV CVT-2 No., 132 KV IVT-1 No., 33 KV IVT-1 No.) <b>SWITCH YARD STRUCTURES COLUMN &amp; BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS &amp; NUTS.</b> <b>DIFFERENT TYPES OF COLUMNS WITH DETAILS</b> T1S - 132 KV (NOMINAL UNIT WT- 1.2 MT) = 20 Sets. T4S - 132KV (NOMINAL UNIT WT- 0.63 MT) = 06 sets T8S - 33KV(NOMINAL UNIT WT- 0.64 MT) = 14 Sets. <b>DIFFERENT TYPE OF BEAMS WITH DETAILS</b> <b>DIFFERENT TYPE OF BEAMS WITH DETAILS</b> G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 13 Sets. G1 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 10 Sets G2 - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 10 Sets G4 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 12 Sets. G4 - 33KV (NOMINAL UNIT WT- 0.52 MT) = 2 Sets. TOTAL WEIGHT OF COLUMN & BEAM SWITCH YARD EQUIPMENT STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION <b>BOLTS &amp; NUTS.</b>	MTRS MTRS MT NOS NOS NOS NOS NOS MT MT MT MT MT MT MT MT MT MT MT MT MT	2200 1350 3 7 2 1 2 17 2 17 2 17 2 2 4.00 5.70 9.13 8.40 8.06 1.24 5.40 2.50 2.12 3.60 2.60 <b>72.75</b>	180 150 0.4 1 0 0 0 4 4 4.80 1.90 0.00 0.00 1.24 0.00 0.00 0.00 0.00 0.00 0.00 <b>7.94</b>	2380 1500 3.4 8 2 1 21 21 28.8 7.6 9.13 8.4 9.3 1.24 5.4 2.5 2.12 3.6 2.6 80.69		

		МТ	0.04	0.04	4 400		
	D.I. WITH E/S (Unit Weight - 1120.559 Kg) = 2 Nos. ISOLATORS-33 KV	MT	2.24	2.24	4.482		
	S.I. WITHOUT E/S (Unit weight - 294.893 Kg) =9 Nos.	MT	2.65	0.00	2.6532		
	D.I. WITHOUT E/S (Unit weight - 294.895 Kg) = $9$ Nos.	MT	1.31	0.00	1.3114		
	D.I. WITH E/S (Unit weight - 670.555 Kg) =5 Nos.	MT	3.35	0.00	3.3525		
	CTS-132 KV (Unit Weight - 214.546 Kg) = 15 Nos.	MT	3.22	1.29	4.5045		
	CTS-33 KV (Unit Weight - 148.80 Kg) = 24 Nos	MT	2.68	0.00	2.6784		
	CVTS-132 KV (Unit Weight - 236.628 Kg) = 6Nos.	MT	1.42	1.42	2.8392		
	VTS-132 KV (Unit Weight - 231.195 Kg) = 3 Nos	MT	0.69	0.00	0.6933		
	IVTS-33 KV (Unit Weight - 124.336 Kg) = 3 Nos	MT	0.37	0.00	0.3729		
	Surge Arrester-132 kV (Unit Weight - 179.893 Kg) = 12 Nos	MT	2.16	1.08	3.2364		
	BPI-132 KV (Unit Weight - 309.883 Kg) = 18Nos	MT	5.58	1.24	6.8156		
	BPI-33 KV (Unit Weight - 148.80 Kg) = 15 Nos	MT	2.23	0.00	2.232		
15.4.17	NCTS (Unit Weight - 138.24 Kg) = 4 Nos	MT	0.55	0.00	0.5528		
	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	36.35	8.58	44.93		
15.5	Total weight of GI Nuts and bolts for the above Column, Beam & equipment structures	MT	7.25	1.40	8.65		
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 <sup>2</sup>	MTRS	500	0	500		
	XLPE 3.5 CX185 mm <sup>2</sup>	MTRS	300	0	300		
		MTRS	200		200	-	
	XLPE 3.5 CX120 mm <sup>2</sup>			0			
	PVC 3.5 CX70 mm <sup>2</sup>	MTRS	600	400	1000		
16.1.5	PVC 3.5 CX35 mm <sup>2</sup>	MTRS	1750	200	1950		
16.1.6	PVC 4 CX 16 mm <sup>2</sup>	MTRS	1000	500	1500		
	PVC 4 CX 6 mm <sup>2</sup>	MTRS	3750	300	4050		
	PVC 2CX 6 mm <sup>2</sup>	MTRS	2200	0	2200		
	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)	WIIK3	2200	0	2200		
	2 CX 2.5 mm2	MTRS	5500	500	6000		
16.2.2		MTRS					
	4 CX 2.5 mm <sup>2</sup>	-	10500	1500	12000		
16.2.3	5 6X 2.6 mm	MTRS	4500	300	4800		
16.2.4	7CX 2.5 mm <sup>2</sup>	MTRS	5500	600	6100		
16.2.5	10 CX 2.5 mm <sup>2</sup>	MTRS	10000	500	10500		
16.2.6		MTRS	9000	500	9500		
16.2.7	16 CX 2.5 mm <sup>2</sup>	MTRS	5000	400	5400		
16.2.8		MTRS			2500		
	19 CX 2.5 mm <sup>2</sup>	-	2000	500			
16.2.9	1CX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	600	0	600		
	ACCESSORIES FOR PLCC SYSTEM With OPGW cable						
17.1	24 Fibre Optic Approach cable along with HDPE Pipes	Kms	0.5	0.5	1		
17.2	Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system	No.	1	1	2		
	Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted with FCPC coupling and pig tails(DWSm Fibre)	No.	1	1	2		
17.4	Remote Terminal Unit (RTU) with MFT/MFM module designed for Power Utility SCADA operation. RTU should report in IEC 870-5-104 protocols to both main & backup control centre. RTU should have ports for interfacing with relay control panels,MFT/MFMs and port for LDMS facility. Laptop should be part of the supply contract of RTU for monitoring, local data aquisition & configuration of RTU.	No.	1	0	1		
17.5	48 V, 300 AH, maintenance free VRLA Battery set.	Set	1	0	1		
	SMPS based battery charger of 75A suitable for 48V VRLA battery.	No	1	0	1		
	2.5 sq. mm 2 core control cable(power supply,Transducer/MFT PT supply)	MTRS	500	0	500		
17.8	2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT, supply)	MTRS	500	0	500		
17.9	1.5 sq. mm 10 core control cable(Digital Input)	MTRS	200	0	200		
17.10	10 sq. mm 2 core multi strand control cable(Battery)	MTRS	100	0	100		
17.11	Earth Flat, Cable Tray, Telephone cable, ACDB, DCDB, Foundation rail, Junction Box,.	LS	1	1	2		
18	SUPPLY OF POWER TRANSFORMER, STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION						
18.1	POWER TRANSFORMER 132/33KV,20MVA (AS PER SPECIFICATION)	NOS	2	0	2		
18.2	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	2	0	2		
18.3	Supply of materials for erection of station transformers						

18.3.1	HDG 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) &	SETS	2	0	2	
40.0.0	different size Steel plate of 10 mm thick etc].					
	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down) & handle for operation of AB switch	SETS	2	0	2	
18.3.3	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single HG fuse)	SETS	2	0	2	
	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.	SETS	2	0	2	
19	Switch yard lighting: Design, engineering, procurement of labour, material including all associated works for construction of switch yard lightings as per technical specification and approved drawings. The fixture shall be of reputed make (Philips/CGL/Bajaj) and fixtures shall be LED and proper cabling from the lighting outdoor distribution boards to the junction boxes and from junction boxes to the fixtures. The lighting fixtures are to be installed on the switch yard structures. The quantity of such fixtures are to be designed and to be ascertained.					
19.1	SUB-STATION SWITCH YARD LIGHTING, IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear, GI Conduit 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	46	8	54	
19.2	STREET LIGHTING: IT INCLUDES SUPPLY OF GI TUBULAR POLE AS PER TECHNICAL SPECIFICATION, LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light. (TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS), COLONY QUARTERS AND OTHER ROADS. ALL MATERIALS AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE					
19.2.1	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light.	SET	25	0	25	
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	25	0	25	
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. 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.	NO	1	0	1	
	OUTDOOR KIOSK of 3 mm thick CRCA sheet duly hot dip galvanised FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES. 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.	NO	1	0	1	
20	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	20	
	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)					
	FOAM TYPE-9 LTRS	NOS	4	0	4	
	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 25 KGS	NOS	4	0	4	
	DRY POWDER TYPE -6 KGS	NOS	4	0	4	
21.4	CO <sub>2</sub> - 4.5 KGS	NOS	10	0	10	
	CO <sub>2</sub> - 9.0 KGS	NOS	10	0	10	
21.5	CO2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4	
	Water type- 9 LTRS	NOS	4	0	4	
	Foam type - 50 LTR	NOS	4	0	4	
	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND With Canopy arrangement PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS	SET	6	0	6	
22.1	AS PER TECH SPEC TIME SYNCH EQUIPMENT	NOS	1	0	1	
22.1	132 KV SIDE (SIMPLEX TYPE PANEL)	INUS		0		
	FEEDER CONTROL PANEL	NOS	2	2	4	
22.3.1						
	FEEDER RELAY PANEL	NOS	2	2	4	

00.0.4		100	0			TT	
	TRANSFORMER RELAY PANEL( FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2	0	2		
	BUSCOUPLER CONTROL	NOS	1	0	1		
	BUSCOUPLER RELAY PANEL	NOS	1	0	1		
	COMMON PANEL (KP-1)	NOS	1	0	1		
	33 KV SIDE						
	FEEDER CONTROL & RELAY PANEL	NOS	5	0	5		
	TRANSFORMER CONTROL & RELAY PANEL	NOS	2	0	2		
22.4.3	BUSCOUPLER CONTROL & RELAY PANEL	NOS	1	0	1		
23	AC & DC SYSTEM						
23.1	AC SYSTEM						
	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	1		
23.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C)	SET	1	0	1		
	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1, DB-2 & B/C)	SET	1	0	1		
23.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	0	1		
23.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	0	1		
23.1.6	INDOOR RECEPTACLE BOARD	SET	1	0	1		
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	1		
23.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	0	1		
23.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1	0	1		
23.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1	0	1		
	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	0	1		
	WALKIE TALKIE SET	SET/ PAIR	2	0	2		
	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2	0	2		
	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1	0	1		
28	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	0	1		
	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1	0	1		
	MAINTENANCE TESTING EQUIPMENT (AS PER <b>ANNEXURE - I</b> , INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	SET	1	0	1		
	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	1		
	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	1		
33	BEST QUALITY & APPROVED MAKE INSULATING MAT (Confirming to IS:15652:2006) TO BE KEPT INFRONT OF ALL PANELS, BOARDS ETC.	NOS	37	4	37		
	TOTAL OF SUBSTATION (PLANT) SUPPLY						
-							

Mand	atory Spare Parts					]	
ltem	DESCRIPTION OF ITEMS SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	UNIT	QUANTITY: for Construction of 2X20 MVA, 13233 KV S/S, Lakhanpur (132 KV Bay-05 Nos.: 02 FDR, 02 TRF , 01 B/C, 22nos unequipped spare bay) & (33 KV Bay-08 Nos.: 05FDR, 02 TRF & 01 B/C )	Quantity for 2Nos 132KV Feeder Bay Extension at 132/33KV Grid Sub- Station, Brajarajnagar	Total Quantity	Unit Price <sup>2</sup>	Total Price <sup>2</sup>
1	145 KV.(800-400-200 A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	2	0	2		
2	145 KV,1250A,31.5KA,ISOLATORS						
2.1	MALE & FEMALE CONTACTS	SET	1	0	1		
2.2	POWER CONTACTOR, RELAYS, MCBs, SWITCHES, FUSES, PUSH BUTTONS, RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1	0	1		
2.3	LIMIT SWITCH	SET	2	0	2		
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1	0	1		
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	0	1		
	EARTHING ROD & BLADE CONTACT SIDE	SET	1	0	1		
2.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD	SET	1	0	1		
	POST INSULATOR SUPPORT	SET (			1		
2.8		3NOS. PER SET)	1	0			
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1	0	1		
4	120 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	2	0	2		
5	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1	0	1		
6	132 KV Bus Post Insulators	NOS	2	0	2		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER						
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1	0	1		
7.2	SPRING CHARGING MOTOR	NOS	1	0	1		
	BREKER AUXILIARY CONTACTS	SET	1	0	1		
	POWER CONTACTORS, RELAYS, MCBs, SWITCHES, FUSES, PUSH BUTTONS, RESISTORS, PRESSURE SWITCHES, LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1	0	1		
7.5	DENSITY MONITORING SYSTEM (IF REQUIRED)	SET	1	0	1		
	CLOSING COIL	NOS	4	0	4		
7.7	TRIPPING COIL	NOS	4	0	4		
7.8	SF6 GAS FILLING DEVICE	NOS	1	0	1		
7.9	SET OF GASKETS , "O" RINGS, SEALS PER CIRCUIT BREAKER	SET	1	0	1		
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	2	0	2		
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	1	0	1		
9	36 KV,1250A,25KA,ISOLATORS						
	MALE & FEMALE CONTACTS	SET	1	0	1		
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1	0	1		
9.3		SET	2	0	2		
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL	SET	1	0	1		
9.5	GEAR ASSEMBLY COMPLETE. AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	4	0	4		
		SET	1	0	1		
	EARTHING ROD & BLADE CONTACT SIDE		1	0	1		
9.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD	SET	1	U	1		

		SET (			1		
9.8		3NOS.	1	0			
9.0	POST INSULATOR SUPPORT	PER	I	0			
		SET)					
	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE				3		
10	ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR	NOS	3	0	v		
	36 KV ,2 CORE,SINGLE PHASE,IVT				1		
11	INCLUDING TERMINAL CONNECTOR	NOS	1	0			
12							
12							
12.1	ONE COMPLETE POLE ASSEMBLY OF	SET	1	0	1		
	CIRCUIT BREAKER		-				
	TRIPPING CIOLS	NOS	4	0	4		
	CLOSING COIL	NOS	4	0	4		
	SPRING CHARGING MOTOR	NOS	1	0	1		
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	0	1		
40.0	SET OF GASKET,"O" RINGS,SEALING PER	057		0	1		
12.6	CIRCUIT BREAKER	SET	1	0			
	POWER CONTACTORS, RELAYS, MCBs,	1 1			1		
12.7	SWITCHES, FUSES, PUSH BUTTONS, RESISTORS, PRESSURE SWITCHES, LIMIT SWITCHES, ETC AS PER	SET	1	0	-		
	APPROVED SCHEMATIC.			-			
13	33 KV Bus Post Insulators	NOS	3	0	3		
	BUS BAR & CIRCUIT MATERIALS	1100	3	0	5		
		SET	0	0			
	120 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-132 KV		2	0	2	+	
	120 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-132 KV	SET	2	0	2		
	120 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-33 KV	SET	2	0	2		
	120 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-33 KV	SET	2	0	2		
14.5	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-132 KV	SET	2	0	2		
14.6	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-33 KV	SET	2	0	2		
15	ACSR MOOSE CONDUCTOR	MTRS	250	0	250		
		SET			1		
		(EACH			-		
16	HARDWARES & FITTINGS/SPACERS/CLAMP	TYPE	1	0			
10	& CONNECTORS ETC. FOR 132 KV & 33 KV	THREE		Ū			
1		NOS )					
		NOS.)					
17	GENERAL EQUIPMENT & SUBSTATION	NOS.)					
17	ACCESSORIES	NOS.)					
17 17.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED,	NOS.)					
17.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)						
17.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED,	PCS.	1	0	1		
<b>17.1</b> 17.1.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)		<u>1</u> 1	0	1 1 1		
<b>17.1</b> 17.1.1 17.1.2	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS. PCS.	1	0	1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS. PCS. PCS.	1 1	0	1 1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS. PCS. PCS. PCS.	1 1 1	0 0 0	1 1 1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-VLPE 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS. PCS. PCS. PCS. PCS.	1 1 1 1	0 0 0 0	1 1 1 1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS. PCS. PCS. PCS.	1 1 1	0 0 0	1 1 1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> -PVC	PCS. PCS. PCS. PCS. PCS.	1 1 1 1 250	0 0 0 0	1 1 1 1		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-YLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> - PVC 4 CX 6 mm <sup>2</sup> -PVC	PCS. PCS. PCS. PCS. PCS. MTRS MTRS	1 1 1 250 250	0 0 0 0 0	1 1 1 1 250 250		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> - PVC 4 CX 6 mm <sup>2</sup> - PVC 2CX 6 mm <sup>2</sup> - PVC	PCS. PCS. PCS. PCS. PCS. PCS. MTRS	1 1 1 1 250	0 0 0 0	1 1 1 1 250		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8 <b>17.2</b>	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> - PVC 4 CX 6 mm <sup>2</sup> - PVC 2CX 6 mm <sup>2</sup> -PVC CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)	PCS. PCS. PCS. PCS. PCS. MTRS MTRS MTRS	1 1 1 250 250 250 250	0 0 0 0 0 0 0	1 1 1 250 250 250		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8 <b>17.2</b> 17.2.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-VLPE 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> -PVC 4 CX 6 mm <sup>2</sup> -PVC 2CX 6 mm <sup>2</sup> -PVC CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification) 4 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)	PCS. PCS. PCS. PCS. PCS. MTRS MTRS MTRS MTRS	1 1 1 250 250	0 0 0 0 0 0 0	1 1 1 250 250 250 500		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8 <b>17.2</b> 17.2.1	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-VLPE 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> -PVC 4 CX 6 mm <sup>2</sup> -PVC 2CX 6 mm <sup>2</sup> -PVC CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification) 4 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)	PCS. PCS. PCS. PCS. PCS. MTRS MTRS MTRS	1 1 1 250 250 250 250	0 0 0 0 0 0 0	1 1 1 250 250 250		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8 <b>17.2</b> 17.2.1 17.2.2	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-VLPE 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> -PVC 4 CX 16 mm <sup>2</sup> -PVC 2CX 6 mm <sup>2</sup> -PVC CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification) 4 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS) 5 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)	PCS. PCS. PCS. PCS. PCS. MTRS MTRS MTRS MTRS Mtrs	1 1 1 250 250 250 250 500 500	0 0 0 0 0 0 0 0 0	1 1 1 250 250 250 500		
<b>17.1</b> 17.1.1 17.1.2 17.1.3 17.1.4 17.1.5 17.1.6 17.1.7 17.1.8 <b>17.2</b> 17.2.1 17.2.2 17.2.3	ACCESSORIES POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification) 3.5 CX300 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX185 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX120 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE 3.5 CX70 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-VC 3.5 CX35 mm <sup>2</sup> (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC 4 CX 16 mm <sup>2</sup> - PVC 4 CX 16 mm <sup>2</sup> - PVC 2 CX 6 mm <sup>2</sup> -PVC CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification) 4 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS) 5 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS) 7 CX 2.5 mm <sup>2</sup> (ONE DRUM HAVING LENGTH OF 500 MTRS)	PCS. PCS. PCS. PCS. PCS. MTRS MTRS MTRS MTRS Mtrs Mtrs	1 1 1 250 250 250 250 500 500 500	0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 250 250 250 250 500 500 500		
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	NOS NOS NOS NOS SET SET SET SET SET NOS NOS NOS NOS NOS NOS NOS	SET         1           NOS         1           NOS         2           NOS         1           SET         1           SET         1           SET         1           NOS         2           SET         1           NOS         2           SET         1           NOS         2           NOS         1           NOS         2           NOS         1           NOS         1           NOS         1	SET         1         0           NOS         1         0           NOS         2         0           NOS         2         0           NOS         1         0           SET         1         0           SET         1         0           SET         1         0           SET         1         0           NOS         2         0           SET         1         0           NOS         2         0           NOS         2         0           NOS         1         0           NOS         2         0           NOS         2         0           NOS         2         0           NOS         2         0           NOS         1         0           NOS         1         0	SET       1       0       1         NOS       1       0       1         NOS       2       0       2         NOS       2       0       2         NOS       1       0       1         NOS       1       0       1         NOS       1       0       1         NOS       1       0       1         SET       1       0       1         SET       1       0       1         SET       1       0       1         SET       1       0       1         NOS       2       0       2         NOS       2       0       2         NOS       2       0       2         NOS       1       0       1         NOS       1       0       1 <td>SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         NOS       2       0       2       0         NOS       2       0       1       0         NOS       1       0       1       0         NOS       1       0       1       0         NOS       1       0       1       0         SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         NOS       2       0       2       0         N</td>	SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         NOS       2       0       2       0         NOS       2       0       1       0         NOS       1       0       1       0         NOS       1       0       1       0         NOS       1       0       1       0         SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         SET       1       0       1       0         NOS       1       0       1       0         NOS       2       0       2       0         NOS       2       0       2       0         N

Name of Bidder:	
Signature of Bidder:	

<sup>1</sup> Prices of Items quoted in Schedule No.1 shall not be quoted again in Schedule No. 2 and shall have a remark against the said row "Quoted in Schedule No.1".

	ODISHA POWER TRANSMISSION CORPORATION LIMITED								
NAM	E OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmissio	n Lines f	or Construction of 2X2	20 MVA-132/33	KV Sub-station at				
	Lakhanpur with 2Nos 132KV Feeder Bay Extension at Brajarajnagar and assoc								
	Brajrajnagar to Lakhanpur (Line length- 19.218Km approximately) in Odisha State of India under PACKAGE-8 Under Japan International Cooperation Agency (JICA)'s ODA Loan.								
	Loan Agreement No: [ID-P245] - FB No: [CPC/JICA/ICB/08/15-16/]- Reference Identification No: [OPTCL/JICA/PKG-8]								
	Schedule No. 2. Plant and Mandatory Spare Parts Supplied	l from Wi	thin the Employer's Co	ountry					
	NAME OF THE BIDDER								
Item	DESCRIPTION OF ITEMS(SCHEDULE-2-Line) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNITS	Quantity for 132 KV D/C line from Brajrajnagar to Lakhanpur	Unit Price <sup>2</sup>	Total Price <sup>2</sup>				
			(1)	(2)	(1) x (2)				
1.1.1 1.1.2	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. PA TYPE (SUSPENSION ) TOWERS (Nominal unit weight 3.430 MT) (43 nos) +3 EXTENSION (Nominal unit weight 0.611 MT) (14 nos) +6 EXTENSION (Nominal unit weight 1.349 MT) (2 nos)	MT MT MT	147.490 8.554 2.698						
	PB TYPE (30 deg ANGLE ) TOWERS (Nominal unit weight 4.973 MT) (12nos)	MT	59.676						
	+3 EXTENSION (Nominal unit weight 1.018 MT) (2 Nos)	MT	2.036	-					
	+6 EXTENSION (Nominal unit weight 2.104 MT) (1 nos)	MT	2.104	-					
	PC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight6.214 MT) ( 9nos) +3 EXTENSION (Nominal unit weight 1.119 MT) (0 nos)	MT MT	55.926 0.000	-					
	+6 EXTENSION (Nominal unit weight 2.342 MT) (4 nos)	MT	9.368	-					
1.0.2	UR TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 13.125 MT) (2 nos)	MT	26.250						
	+6 EXTENSION (Nominal unit weight 4.161 MT) (2 nos)	MT	8.322						
	OC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 9.014 MT) (2 nos)	MT	18.028						
	+15 EXTENSION (Nominal unit weight 18.622 MT) (2 nos)	MT	37.244						
	T1S COLUMN- 132 KV(NOMINAL UNIT WT- 1.2 MT) = 6 Sets.	MT	7.200						
	G1 BEAM - 132 KV (NOMINAL UNIT WT- 0.62 MT) =4 Sets.	MT	2.480						
1.4	TEMPLATES								
	PA (Nominal unit weight 0.665 MT)(4 Nos.)	MT	2.660						
	PB (Nominal unit weight 0.602 MT)(1 Nos.)	MT	0.602						
1.4.3	PC (Nominal unit weight 0.904 MT)(1 Nos.)	MT	0.904						
	UR (Nominal unit weight 1.475 MT)(1 Nos.)	MT	1.475						
	OC+15 (Nominal unit weight 2.074 MT)(1 Nos.)	MT	2.074						
1.5	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)	МТ	395.091						
1.7	Weight of different type G.I Nuts and Bolts	МТ	19.071						

	Supply of the following tower accessories as per technical specification and as directed by				
	the engineer in charge. EARTHING DEVICE	Nee	<u> </u>		
	DANGER BOARD	Nos.	68		
	NUMBER PLATE	Nos. Nos.	<u>68</u> 68		
	PHASE PLATE				
		Nos.	450		
	BIRD GUARD	Nos.	<u>258</u> 68		
		Nos.			
		Nos.	136	-	
2.8	COUNTERPOISE EARTHING	Nos.	0		
3.0	Supply of following POWER CONDUCTORS in the proposed 132 kV lines with provision for 1.5 % sag and wastage as per the technical specification and as per the instruction of the engineer in charge.				
3.1	ACSR PANTHER	Kms.	117.04		
	POWER CONDUCTOR ACESSORIES				
	For ACSR PANTHER				
	VIBRATION DAMPER	Nos.	906		
4.1.2	MID SPAN JOINT	Set	70		
4.1.3	REPAIR SLEEVE	Set	25		
	P A ROD FOR ACSR PANTHER	Set	0		
4.1.5	PG CLAMP FOR ACSR PANTHER	Set	24		
5.0	Supply of OPGW fibre Optic Cable for speech, data & protection				
5.1	24Fibre(DWSM)OPGW fibre Optic Cable	Kms.	24		
5.2	OPGW hardware set like suspension Asembly,Tensin Assembly(Dead end assembly, Pass through assembly),Vibration Damper,Down Lead Clamp Assemblies for 24	Kms.	24		
6.0	Supply of the following Anti fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.				
6.1	90 KN Disc Insulator	Nos.	2609		
	120 KN Disc Insulator	Nos.	4379		
7.0	Supply of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.				
	For ACSR PANTHER				
	Single suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	276		
7.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	0		
7.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	297		
	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	60		
7.1.5	"D" Shackle	Nos.	100		
	Hanger	Nos.	258		
7.1.7	U'-Bolt.	Nos	43		
	TOTAL OF Schedule-2 Line To Schedule-6 Grand Summary	· · · ·			
		Name of B	idder:		

Name of Bidder:

Signature of Bidder:\_\_\_\_\_

<sup>1</sup> Prices of Items quoted in Schedule No.1 shall not be quoted again in Schedule No. 2 and shall have a remark against the said row "Quoted in Schedule No.-1".

	ODISHA POW	ER TR	ANSMISSIO	N CORPORA	TION LIMIT	ED			
statio	ME OF THE WORK:- Design, Supply and Installat n at Lakhanpur with 2Nos 132KV Feeder Bay Exter rajrajnagar to Lakhanpur (Line length- 19.218Km a Cod	ision at approx	t Brajarajnag imately) in (	ar and associa	ted 132 KV I India under	D/C line fr	om 132/33 H	XV Grid Sul	o-Station at
]	Loan Agreement No: [ID-P245] - FB No: [CP	C/JIC	A/ICB/08/15-3	16/]-	Reference Id	entificatio	on No: [OPT	CCL/JICA/P	KG-8]
	Sched	ule No	. 4. Installatio	on and Other S	ervices				
	NAME OF THE BIDDER								
			VA, Nos.: spare § & 01			Un	it Price <sup>1</sup>	Total	Price <sup>1</sup>
Sl. No.	DESCRIPTION OF ITEMS(SCHEDULE-4-S/s) SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)	UNIT	QUANTITY: for Construction of 2X20 MVA, 13233 KV S/SLaklanpur (132 KV Bay-65 Nos: 02 FDR, 02 TRF, 01 BNC, 2nos unequipted spare bay) & (33 KV Bay-08 Nos.: 05FDR, 02 TRF & 01	Quantity for 2Nos 132KV Feeder Bay Extension at 132/33KV Grid Sub- Station, Brajarajnagar	Total Quantity	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currency Portion
					(1)	(2)	(3)	(1) x (2)	(1) x (3)
	ELECTRICAL WORKS 145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS	NOS	45						
	CLASS & 1 NO. 0.2s CLASS)	NUS	15	6	21				
	145 KV,1250A,31.5KA,ISOLATORS S/I WITH&WITH OUT EARTH SWITCH	NOS	9	2	11				
	D/I WITH SINGLE EARTH SWITCH	NOS	2	2	4	†	1		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2	0	2				
	145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	12				
	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III 145 KV, 2 CORE, SINGLE PHASE, IVT	NOS NOS	12	6 0	18 3				
	145 KV, 2 CORE, SINGLE PHASE, IVI 132 KV Bus Post Insulators	NOS	18	4	22				
7	145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	2	7				
7.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.25 CLASS)	NOS	18	0	18				
	36 KV, 800-400-200, 25KA, 4 CORE SINGLE PHASE CURRENT TRANSFORMER (3 NOS PS CLASS & 1 NO. 0.25 CLASS)	NOS	6	0	6				
	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	4				
	36 KV,1250A,25KA,ISOLATORS	1100							
	S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH	NOS NOS	9	0	9				
	D/I WITH SINGLE EARTH SWITCH	NOS	2	0	2				
	S/I WITH BEAM MOUNTED	NOS	2	0	2				
	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	27	0	27				
11	36 KV ,2 CORE,SINGLE PHASE,IVT(1 core 3P & other core 0.2s)	NOS	3	0	3	1			

10         1000,1250,220,420,400,400,400,400,400,400,400,40										
1         1000000000000000000000000000000000000	12		NOS	8	0	8				
11         UNE BAR & GROUT MATERIALS         11 <th1< td=""><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td></th1<>						-				
142       going of Joson JBF and Otto Teasany anguments for a langing of too lar product of the source of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software of Dools Harvan error for the instant strating software			NOS	27	0	27				
construct, hoading of should use instruction for graphing or Sould is tool used.         Performance	14	BUS BAR & CIRCUIT MATERIALS								
Intern. Carry & Contextors of part of the introduced of Ingenes in drops.         Internet Contextor in Contextors of Ingenes in drops.         Internet Contextors of Ingenes in drops.         Inter	14.2	Supply of labour,T&P and other necessary arrangements for stringing of bus bar								
Intrig. consistants etc. as part the intruction of figures in orage.         Partial         Partia         Partial         Partial		conductors, hoisting of single or double insulator strings, Single or Double Hard-wares								
13.0         Engle ordadium         Prof.         1000         000         1000         000         1000           14.12         Tark Conductor         Prof.         1000         000         1000		Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments,								
14.22         PML (bit Mark Same)         PM		testing, commissioning etc. as per the instruction of Engineer-in charge.								
14.22         PML (bit Mark Same)         PM										
14.22         PML (bit Mark Same)         PM										
14.22         PML (bit Mark Same)         PM		0' ale and the	Deckto	1000	500	1500				
1.4.1         BATT SMIKES & IT SMACEY MARKES & FITTING         BIT         20         4         30           14.3.6         (DS 130 V 302 - 130 G \$ 1 MIS 140011         BIT         20         4         30           14.3.6         (DS 130 V 302 - 130 G \$ 1 MIS 140011         BIT         20         4         30           14.3.1         (DS 130 V 302 - 130 G \$ 1 MIS 140011         BIT         20         25         0         25           14.3.1         (DS 130 V 302 - 130 G \$ 1 MIS 140011         Control 140 F (DS 100 V G F (DS 10 MIS 100 P G I L B I B P H H H H H H H H H H H H H H H H H H										
14.1         Constant Super January Supe			Per Mtr.	2500	0	2500				
14.4 Cost 3 av 2000: 3 b MTS EACH         947         20         0         26           14.3 UBSTANDE 4 ATTING SYSTEMS         447         20         0         26           14.3 UBSTANDE 4 ATTING SYSTEMS         447         3000         460         4459           14.3 UBSTANDE 4 ATTING SYSTEMS         4469         4459         4459           14.4 (ATTING COMUCICAR FOR BURKALL, 7500 mm (0 Ext) first for the length on the and a company presention may be and the accounted on the and a size 7X510 mm (0 F1at as the holder on the mater size 7X510 mm (0 F1at as the holder on the length on the l			OFT	00	4	20				
14.1       SUBSTATIONE EATTING SYSTEMS       Image: Comparison of the Substate in Conductors of the Stratch Barger or approach of Engineer in charge, excernation, web/regioner and strate in the substate in										
1431       EARTHNG CONDUCTOR FOR BURRAL: 15X10 mm di Fahr Hist for layon productors and hard Design engenesis, engenesis, supplication de MS Rods, only erection' inclusive et corrison protection measures is analyzery of each mit controls and hard Design engenesis. University of each mit controls and hard Design et al. Mitter is and a set operation. The spacing between the saft control of the twith back filling and good comparison. The spacing between the saft control of the twith back filling and good comparison. The spacing between the saft control of the twith back filling and good comparison. The spacing between the saft control of the twith with 50X6 mm Gi Falts. The space welles, therefore an and specific term for the filling and and conscipation and the space mit and a per type for the the trait and the twith and with 50X6 mm Gi Falts. The program dells, therefore an and specific term experimentation inclusion and per type for the trait and the twith with 50X6 mm Gi Falts. The program dells for the trait and the trait as per standard protein can be are specification.       Mittes       3600       3600         1433       EARTHNG CONDUCTOR. Sold mm GI material and a conscipation and the material for the trait and the program dells of the trait and the trait and the specification.       Mittes       3600       200       3600         1433       EARTHNG CONDUCTOR. Sold mm GI material and the conscionant product and the program dells of the trait and the specification.       Mittes       3600       200       3600         1443       GL Cabb Tray Locating GL as upport Angle suitable for fulfierent sections is a set standard for and can and the product and the specification.       Mittes       3600       2000       200       200 </td <td></td> <td></td> <td>311</td> <td>23</td> <td>0</td> <td>25</td> <td></td> <td></td> <td></td> <td></td>			311	23	0	25				
Increasing maximum and plasmatic multiple begins, engineering, supply (records)       International and the second production maximum is in general maximum in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maximum in general maximum is in general maxim is in general maxim is in general maximum is in general maximum										
In M.S. Rods, only election) inclusion of control in protection. missures if any planning of earth mat conductors of size 7X10 mm GF Has use per the approval of Engineer in charge excertaion, welding/ionting of ground conductors into the final oper top Final test low to the stand as per the physical (a) top D Final test low top the stand as per top final data.         Arror         4459           113-12         EARTING CONDUCTOR: 50e mm GF Has top and and crosses per test and apper specification.         Mitrix         3600         400         4459           114-32         EARTING CONDUCTOR: 50e mm GF Has top and and crosses per test in the burdle at depth of 720 mm form the final data ground level to the top of the structure and apper specification.         Mitrix         3600         200         3880           114-33         EARTING DENCE: A ASSOCIATED ACCESSORIES 500 mm Naavy daty GF per structure including per true data tath protection data per specification.         Mitrix         3600         100         20         140           114-34         EARTING DENCE: A ASSOCIATED ACCESSORIES 500 mm Naavy daty GF per structure data per specification.         Mitrix         3600         100         20         140           114-34         EARTING DENCE: A ASSOCIATED ACCESSORIES 500 mm Naavy daty GF         Mitrix         3600         100         100         20         140           115-3         EARTING DENCE: A ASSOCIATED ACCESSORIES 500 mm Naavy daty GF         Mitrix         3600         100         100	14.5.1									
anyloging of astiminat conductors disker 75X10 mm GI Flat as per the       HTS       400       4490         aborg with states (a) up to Finished level from the mat size 75X10 mm GI Flat as per the       HTS       400       4490         aborg with states (a) up to Finished level from the mat size 75X10 mm GI Flat with the finished ground level as per the practice and as per specification.       MTS       400       4490         14.32       EARTHMO CONDUCTOR: Statem not The total earth mat to my specification.       MTS       3000       200       3800         14.33       EARTHMO CONDUCTOR: Statement shall be minore specification.       MTS       3000       200       3800         14.33       EARTHMO DEVICE A ASSOCIATED ACCESSORES (30 mm heavy duty Gi PERFORATED IPEE 1 mts tong for treated earth p(1): entorated and a per specification.       MTS       300       120       3800         14.34       EARTHMO DEVICE A ASSOCIATED ACCESSORES (40 mm MS rod 3 mtr long for non there at high 10 mto devide and a per specification.       MTS       120       20       140         14.43       GL Cable Trays including 0.14 support Angle suitable for different sections       MTS       120       120       140         14.44       GL Cable Trays including 0.14 support Angle suitable for different sections       MTS       140       140       140       140       140       140       140       140       140 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
approval         of Engineer in charge, excavation, welding/origing of ground conductors back filling and good compaction. The spacing between the earth conductor not more than frees (a) up of Finished Quer form the single AST One of Flaw with back filling and good compactors. The spacing between the earth conductor not more than frees (a) up of Finished Quer form the borid earth nat to find the Finished ground level to be to good and exploration that has well as the finished ground level to be to good and exploration that has then the finished ground level to be to good and exploration that has well as the finished ground level to be to good and exploration that has well as the finished ground level to be to good and exploration that has well as the finished ground level to be to good and exploration that has well as the space of the structure and exploration that has well as the finished ground level to be to good and exploration that well as the space of the structure and exploration that has been approved and other provider and other materials for the treated earth pell, performance of the structure and exploration that we dock and the provider and other materials for the treated earth pell, performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the performance of the structure and the structure and the performance of the structure and the structure and the performance of the structure and the performance of the structure and the structure and the performance of the structure and the structure and the structure and the structure and the structure and the structure and the structure and the structure and the structure and the structure and the structure and the structure										
along with seers (a) up to Fundad level from the mail as 2x10 mm (IF att with more than 5 mts (both way) and to be builed at depth of 700 mm (tron the finished ground level as per the practication and a per specialization.       Image: Control of										
back filling and good compaction. The spacing between the earth conductor not more than 5 mts (body way) and to be builed at the than al earth mat to explained function and a per specification.         Image: Conduction of the conductor of the explained function of the conductor of the conductor of the more thanked ground level is a per specification.         Image: Conduction of the conductor of the explained function of the conductor of the conductor of the more thanked ground level is a per specification.         Image: Conduction of the more thanked ground level is a per specification.           11.3.3         EARTHMO DEVICE & ASSOCIATED ACCESSORIES (50 mm Neary duty GI PERFORATED PIPE 3 into long for travel earth pits (mbd dings of travelent as per specification.         Nos         120         20         140           12.4.3         EARTHMO DEVICE & ASSOCIATED ACCESSORIES (50 mm Neary duty GI PERFORATED PIPE 3 into long for travel earth pits (mbd dings of travelent as per specification.         Nos         1120         20         140         Image: Conduction and the conduction and			MTRS	4000	450	4450				
more han5 mts 0pt way and to be builed at depth of 700 mm from the finished ground level as per the practice and as per specification.       Image: Constraint of the section of the section of the section part of the section part wells, being and and constraint of the section part wells, being and sections part of the section part wells, being and sections of the section part of the section part of the section part of the section part of the section part of the section of the section part of the section part of the section of the section part of the sectin part of the sectin part of the secting part of the section part										
in ground level as per the practice and as per specification.     Image: constraint of the practice and as per specification.       13.52     EARTHING CONDUCTORS for mill Fill are frage from the buriel earth net in exploment.structure including proper vedding, bending and and carcinske pairing etc.     MTS     3860     200     3860       14.53     EARTHING CONDUCTOR (Fill are in a sper specification.     MTS     3860     200     3860       14.53     EARTHING DEVICE & ASSOCIATED ACCESSORIES (30 mm heavy dury GP per consultance appr) of Benchmale power and other materials for the treated earth price and as per specification.     NOS     120     20     140       14.54     EARTHING DEVICE & ASSOCIATED ACCESSORIES 400m MS rod 3 mts long for not reated earth price and as per specification.     NOS     155     20     140       14.54     GL Claber Trage filters. 400/750/250/mm     MTRS     200     180     200     200       14.64     GL Claber Trage filters. 400/750/250/mm     MTRS     120     20     140     200       14.64     GL Claber Trage filters. 400/750/250/mm     MTRS     1800     1800     200     200       14.64     GL Claber Trage filters. 400/750/250/mm     MTRS     1800     1800     1800     200       14.64     GL Claber Trage filters. 400/750/250/mm     MTRS     200     1800     200     200       14.64     GL Claber										
14.52       EARTHNG CONDUCTOR. Sole mr.01 Flat for liker from the burlet extra mat optioned spating at the console paining										
subment,tincture including proper welding, bending and anti corroke painting etc. from the finished ground wells to the top of the structure and exappment shall be with 50X6 mm GT plats, as per approved drawing and specification.         MTRS         3600         200         3800           14.33         EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duly GI PERCORATED PRE 3 mrs long for treated earh pit): performated 50 mm heavy duly GI pipes for treated earh pits (with details of treatment as per IS) including, excavation apply of Benchman beyonder and their materials for the treated earh pits a per standard practice and as per specification.         NOS         120         20         140           14.44         BATTING DEVICE & ASSOCIATED ACCESSORIES (40 mm M5rod 3 mtrs long for non treated earth pit).         NOS         165         20         185           14.45         GT Lable Trays location and as per specification.         NOS         165         20         185           14.44         BATTING DEVICE & ASSOCIATED ACCESSORIES and per Since 100         NOS         165         20         186           14.45         GT Lable Trays locate Advoc 300 Structure 100 St										
Inform the finished ground level to the top of the structure and equipment shall be with 50 XKm mG Filas. See approved drawing and specification.         MTRS         3800         200         3800           14.5.3         EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI performance and performation approximate specification.         No5         120         200         1400           14.5.3         EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI performance and spect specification.         No5         120         20         1400           14.5.4         EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non train and performation.         No5         165         20         185         160         160           14.5.4         EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non trained practice and as per specification.         No5         165         20         185         160         160         161           14.6.1         Garden Traysize: 450x7522500mm)         MTRS         1500         160         2380         160         161           14.6.2         Gl Cable Traysize: 450x7522500mm)         MTRS         1500         160         2380         160         161           14.6.3         Gl Cable Traysize: 450x7522500mm)         MTRS         1500         160         240         240         240         <	14.5.2									
with 50X6 mm Gl Flats, as per approved drawing and specification.       Note         14.33       EARTING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duy Gl PERFORATED IPIEs antisolog for tracel and mit pit: periodical 50 mm heavy duy Gl pipes for treated earth pit: periodical 50 mm heavy excavations.upply distributions powder and other materials is pits including, excavation.upply distributions powder and other materials for the treated earth pit: periodical for treated earth pit: periodical 50 mm MS rol 3 mtrs long for non treated earth pit.       NOS       120       20       160         14.54       MTIM DEVICE & ASSOCIATED ACCESSORIES 40mm MS rol 3 mtrs long for non treated earth pit.       NOS       106       20       185         14.61       GL Cable Trays face. Long for non treated earth pit.       NOS       106       20       186         14.62       GL Cable Trays face. Long with its a consorties as per TS.       MTR       1850       200       200         14.62       GL Cable Trays face. Long with its a consorties as per TS.       MTR       1850       200       200         14.63       GL Cable Trays face. Long with its a consorties as per TS.       MTR       200       180       200         14.64       Support GL angle Box0506 mm for cable tray       MTR       300       180       200       20       20       20         14.71       BarY MARSHALLING KOSK.       NOS       7       1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
Instrument         Instrum			MTRS	3600	200	3800				
PERFORATED PIPE 3 mrs long for treated earth pit/, perforated 50 mm Heavy thy of pipes for treated earth pit/ 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.         120         20         140           14.6.4         LARTINKO EDVICE & ASSOCATED ACCESSORIES 40mm MS red 3 mtrs long for non treated earth pit).         Nos         165         20         185           14.6         LABID Trays including 0.1, support Angle suitable for different sections to Section 11.2 2.3.3 & 4.4 along with its accessories as ner TS.         Nos         165         20         185           14.6.1         G1 Cable Traysitize: 300/75x2500mm)         MTRS         1850         200         2050            14.6.2         G1 Cable Traysitize: 300/75x2500mm)         MTRS         1850         200         180         2380            14.6.3         G1 Cable Traysitize: 300/75x2500mm)         MTRS         200         180         2380             14.7.2         Bary MashALLINK 100 ST         NG         7         1         8              14.7.2         SWITCH VARD R CONSOLE FOR LIGHTING         NOS         2         0         2             14.7.3         SWITCH VARD RECEPTACLE BOARD		with 50X6 mm GI Flats, as per approved drawing and specification.								
PERFORATED PIPE 3 mrs long for treated earth pit/, perforated 50 mm Heavy thy of pipes for treated earth pit/ 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.         120         20         140           14.6.4         LARTINKO EDVICE & ASSOCATED ACCESSORIES 40mm MS red 3 mtrs long for non treated earth pit).         Nos         165         20         185           14.6         LABID Trays including 0.1, support Angle suitable for different sections to Section 11.2 2.3.3 & 4.4 along with its accessories as ner TS.         Nos         165         20         185           14.6.1         G1 Cable Traysitize: 300/75x2500mm)         MTRS         1850         200         2050            14.6.2         G1 Cable Traysitize: 300/75x2500mm)         MTRS         1850         200         180         2380            14.6.3         G1 Cable Traysitize: 300/75x2500mm)         MTRS         200         180         2380             14.7.2         Bary MashALLINK 100 ST         NG         7         1         8              14.7.2         SWITCH VARD R CONSOLE FOR LIGHTING         NOS         2         0         2             14.7.3         SWITCH VARD RECEPTACLE BOARD										
duy Gl pipes for treated earth pits         into detail of treatment as per 15) including excavation.         into a provide monotane powder and other materialed earth pit as per standard practice and as per specification.         into a per standard practice and as per specification.           134.4         KARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS nod 3 mtrs long for non treated earth pit         NOS         165         20         185         into a per specification.           146         G I Cable Tray including G.1. support Angle suitable for different sections in the accessorities as per TS.         NOS         165         20         185         into a per standard provide and standard provide and the material per standard provide and the material per standard	14.5.3									
excavation, supply of Bentonate powder and other materials for the treated earth pit as per standard practice and as per specification.         Incomplete         Incomplete         Incomplete           14.4.4         LATHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit).         Nos         165         20         185           14.6         GL Cable Trays including G.J. support Angle suitable for different sections to Section 1-12-2.3.3 & 4.4 along with its accessories as per TS.         Incomplete         Incomplete           14.6         GL Cable Trays issue 40x57x52500mm)         MTRS         1860         200         2050         Incomplete           14.6.1         GL Cable Trays issue 40x57x52500mm)         MTRS         1800         200         2050         Incomplete           14.6.2         GL Cable Trays issue 40x57x52500mm)         MTRS         1200         180         2380         Incomplete										
as per standard practice and as per specification.         NOS         165         20         185           14.4.4         RATTINING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)         NOS         186         20         185         185           14.6.1         G.I. Cable Trays including G.I. support Angle suitable for different sections i.e. Section:1:1:20:3:83.6:4: along with its accessories as per TS.         1860         200         2050         186           14.6.1.         G.I. Cable Traysisize: 450x75x2500mm         MTRS         1860         200         2880         186           14.6.2.         G.I. Cable Traysisize: 50x75x2500mm         MTRS         200         190         2380         186           14.6.3.         G.I. Cable Traysisize: 150x75x2500mm         MTRS         200         190         3.4         3.4         186           14.6.3.         SUBDENTATION SWITCHAD BMK, AC ONSOLE & OTHER MARSHALLING BOXES         NOS         1         1         147.1         BW MARSHALLING ROSK         NOS         2         0         2         1			NOS	120	20	140				
Image: Construct and the subscript of the subscript										
Irreated earth pit)         NOS         100         20         189         Image: Constraint of the second of the se		as per standard practice and as per specification.								
Irreated earth pit)         NOS         100         20         189         Image: Constraint of the second of the se	14 5 4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 2 mtrs long for non								
14.6         G.I. Cable Trays including G.I. support Angle suitable for different sections.         MTRS         1850         200         2050           14.1.1         G.I. Cable Trays (size: 450x75x2500mm)         MTRS         1850         200         2060             14.4.2         G.I. Cable Trays (size: 450x75x2500mm)         MTRS         1850         1500              14.4.3         G.I. Cable Trays (size: 150x75x2500mm)         MTRS         1350         1500	14.3.4	•	NOS	165	20	185				
is. Section: 1: 1: 2: 3: 3: 4: 4: along with its accessories as per TS.         v	14.6									
14.6. G.I. Cable Trays(size: 450x75x2500nm)       MTRS       1850       200       2650       141         14.6.2. G.I. Cable Trays(size: 150x75x2500nm)       MTRS       2200       180       2380       1         14.6.3. G.I. Cable Trays(size: 150x75x2500nm)       MTRS       1200       150       1500       1500       1         14.6.4.5. Support G. I. angle 50x50x6 mm for cable tray       MT       3       0.4       3.4       1       1         14.7.3. BX TATON SWITCYARD BMK, ALC CONSOLE & OTHER MARSHALLING BOXES       NOS       7       1       8       1       1         14.7.1.3. BAY MARSHALLING KIOSK       NOS       7       1       8       1	1									
146.3       G.I. Cable Trays(size: 150x/5x2500mm)       MTS       1350       150       1500       1600         146.4       Support G. Iangle 50x50x6 mm for cable tray       MT       3       0.4       3.4       1600         147.       SUB Station SWITCVARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES       0       1600       1600         147.1       BAY MARSHALLING KIOSK       NOS       7       1       8       1600         147.2       SWITCH YARD AC CONSOLE FOR LIGHTING       NOS       2       0       2       1600         147.3       SWITCH YARD AC CONSOLE BOARD FOR TER OIL FILTERATION       NOS       1       0       1       1600       1         147.4       SWITCH YARD AC CONSOLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       1       0       1 <t< td=""><td>14.6.1</td><td></td><td>MTRS</td><td>1850</td><td>200</td><td>2050</td><td></td><td></td><td></td><td></td></t<>	14.6.1		MTRS	1850	200	2050				
14.6.4       Support G. 1 angle 50x50x6 mm for cable tray       MT       3       0.4       3.4         14.7       SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES       NOS       7       1       8         14.7.1       BAY MARSHALLING KIOSK       NOS       7       1       8          14.7.2       SWITCH YARD AC CONSOLE FOR LIGHTING       NOS       2       0       2          14.7.2       SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION       NOS       1       0       1          14.7.3       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2           14.7.4       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR       NOS       17       4       21           14.7.5       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR       NOS       17       4       21           15.1       DIFFERENT TYPES OF COLUMINS WITH DETAILS       D	14.6.2	G.I Cable Trays(size: 300x75x2500mm)	MTRS	2200	180	2380				
14.7       SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES       NOS       7       1       8       Image: Console Box Received State	14.6.3	G.I Cable Trays(size: 150x75x2500mm)	MTRS	1350	150	1500				
147.1       BAY MARSHALLING KIOSK       NOS       7       1       8         147.2       SWITCH YARD AC CONSOLE FOR LIGHTING       NOS       2       0       2       0         147.3       SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION       NOS       1       0       1       0         147.3       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2       0         147.4       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 13233 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.       NOS       17       4       21       0       0         15.1       DIFFERENT TYPES OF COLUMNS WITH DETAILS       NOS       17       4       21       0	14.6.4		MT	3	0.4	3.4				
14.7.2       SWITCH YARD AC CONSOLE FOR LIGHTING       NOS       2       0       2         14.7.3       SWITCH YARD RECEPTACLE BOARD FOR TF OIL FILTERATION       NOS       1       0       1         14.7.4       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2         14.7.4       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2         14.7.5       CT, PT & CVT Out Door Console Boxes       NOS       17       4       21         15       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 13203 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.       16       16       17       4       21         15.1.1       DIFFERENT TYPES OF COLUMNS WITH DETAILS       16       18       19       19       7.6         15.1.2       IT4S - 132KV (NOMINAL UNIT WT - 0.83 MT) = 14 Sets.       MT       9.13       0.00       9.13         15.1.2       IT4S - 132KV (NOMINAL UNIT WT - 0.62 MT) = 14 Sets.       MT       8.40       0.00       8.4         15.2       OIFFERENT TYPE OF BEAMS WITH DETAILS       16       124       9.3       15.2.2       14.11 WT - 0.62 MT) = 13 Sets.       MT       8.40       0.00       8.4         15.2.1       G1 - 132 KV (NOMINAL U	14.7	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES								
14.7.3       SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION       NOS       1       0       1         14.7.4       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2         14.7.4       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY       NOS       2       0       2       0       2         14.7.5       CT, PT & CVT Out Door Console Boxes       NOS       17       4       21       0       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       14       0       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0	14.7.1			7	1	8				
14.7.4       SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY NOS       NOS       2       0       2         14.7.5       CT, PT & CYT Out Door Console Boxes       NOS       17       4       21       0         15       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.       16       16       16         15.1.1       DIFFERENT TYPES OF COLUMNS WITH DETAILS       16       17       4.80       28.8         15.1.2       T4S - 132KV (NOMINAL UNIT WT - 1.2 MT) = 24 Sets.       MT       5.70       1.90       7.6         15.1.2       T4S - 132KV (NOMINAL UNIT WT - 0.63 MT) = 106 sets       MT       5.70       1.90       7.6         15.1.4       TSS - 33KV(NOMINAL UNIT WT - 0.62 MT) = 14 Setts.       MT       9.13       0.00       9.13         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS       124       9.3       15.2       15.12 TYPE OF BEAMS WITH DETAILS       124       9.3         15.2.1       G1 - 132 KV(NOMINAL UNIT WT - 0.62 MT) = 13 Sets.       MT       1.24       9.3       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.24       15.25       15.25       15.25										
Index         NOS         2         0         2           14.7.5         CT, PT & CV Dut Door Console Boxes         NOS         17         4         21           15         SWICH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.         7         4         21           15.1         DIFFERENT TYPES OF COLUMNS WITH DETAILS         7         6         28.8           15.1.1         T1S - 132 KV (NOMINAL UNIT WT - 1.2 MT) = 24 Sets.         MT         5.70         1.90         7.6           15.1.2         T4S - 132 KV (NOMINAL UNIT WT - 0.95 MT) = 06 sets         MT         5.70         1.90         7.6           15.1.3         T8S - 33KV(NOMINAL UNIT WT - 0.83 MT) = 115 ets.         MT         9.13         0.00         9.13           15.2         DIFFERENT TYPE OF BEAMS WITH DETAILS         1         1         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.21         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24         1.24			NOS	1	0	1	ļ	ļ	ļ	
147.5       CT, PT & CVT Out Door Console Boxes       NOS       17       4       21         15       SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.       Image: Construct of the construction of the construc	14.7.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2	0	2	1			
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) = 24 Sets.         15.1.2       T4S - 132KV (NOMINAL UNIT WT - 1.2 MT) = 24 Sets.         15.1.2       T4S - 132KV (NOMINAL UNIT WT - 0.95 MT) = 06 sets         15.1.1       T1S - 132 KV (NOMINAL UNIT WT - 0.83 MT) = 11 Sets.         15.1.4       T59 - 33KV(NOMINAL UNIT WT - 0.83 MT) = 14 Sets.         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS         15.2.1       G1 - 132 KV (NOMINAL UNIT WT - 0.62 MT) = 13 Sets.         15.2.2       G1 - 132 KV (NOMINAL UNIT WT - 0.62 MT) = 2 Sets.         15.2.3       G2 - 132 KV (NOMINAL UNIT WT - 0.94 MT) = 0 Sets         15.2.4       G1.2 - 132 KV (ROMINAL UNIT WT - 0.94 MT) = 0 Sets         15.2.5       G6 - 33KV (NOMINAL UNIT WT - 0.94 MT) = 0 Sets         15.2.6       G4 - 33KV (NOMINAL UNIT WT - 0.53 MT) = 0 Sets.         15.2.6       G4 - 33KV (NOMINAL UNIT WT - 0.25 MT) = 12 Sets.							l			
132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.         Image: Constraint of the second secon	_		NOS	17	4	21				
15.1         DIFFERENT TYPES OF COLUMNS WITH DETAILS         MT         24.00         4.80         28.8           15.1.1         T1S - 132 KV(INOMINAL UNIT WT - 0.5 MT) = 06 sets         MT         5.70         1.90         7.6           15.1.2         T4S - 132KV (INOMINAL UNIT WT - 0.65 MT) = 106 sets         MT         9.13         0.00         9.13           15.1.2         T4S - 33KV(INOMINAL UNIT WT - 0.68 MT) = 14 Sets.         MT         9.13         0.00         8.4           15.1.4         T9S - 33KV(INOMINAL UNIT WT - 0.61 MT) = 14 Sets.         MT         8.40         0.00         8.4           15.2         DIFFERENT TYPE OF BEAMS WITH DETAILS         MT         8.40         0.00         8.1           15.2         DIFFERENT TYPE OF BEAMS WITH DETAILS         MT         8.06         1.24         9.3           15.2.1         G1 - 132 KV(INOMINAL UNIT WT - 0.62 MT) = 13 Sets.         MT         1.24         0.00         1.24           15.2.3         G1 - 132 KV(INOMINAL UNIT WT - 0.62 MT) = 2 Sets.         MT         5.40         0.00         5.4           15.2.4         G1.2 + 132 KV(INOMINAL UNIT WT - 0.52 MT) = 2 Sets.         MT         5.40         0.00         5.4           15.2.4         G1.2 + 132 KV(INOMINAL UNIT WT - 0.53 MT) = 0.4 Sets.         MT	15									
15.1.1       T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) = 24 Sets.       MT       24.00       4.80       28.8         15.1.2       T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets       MT       5.70       1.90       7.6         15.1.3       T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) =11 Sets.       MT       9.13       0.00       9.13         15.1.4       T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) = 14 Sets.       MT       8.40       0.00       8.4         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS       MT       8.06       1.24       9.3         15.2.1       G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets.       MT       8.06       1.24       9.3         15.2.2       G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 2 Sets.       MT       1.24       0.00       1.24         15.2.4       G1.2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 06 Sets       MT       5.40       0.00       5.4         15.2.4       G1.2 - 132 KV(ROMINAL UNIT WT- 0.9 MT) = 04 Sets.       MT       2.50       0.00       2.5         15.2.4       G1.2 - 132 KV(ROMINAL UNIT WT- 0.53 MT) = 04 Sets.       MT       2.12       0.00       2.12         15.2.6       G4 - 33KV(NOMINAL UNIT WT- 0.4 MT) = 12 Sets.       MT       3.60       0.00       3.6	15.1		_							
15.1.2       T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) = 06 sets       MT       5.70       1.90       7.6         15.1.3       T8S - 33KV(NOMINAL UNIT WT- 0.83 MT) = 11 Sets.       MT       9.13       0.00       9.13         15.1.4       T9S - 33KV(NOMINAL UNIT WT- 0.62 MT) = 14 Sets.       MT       9.13       0.00       8.4         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS       MT       8.40       0.00       8.4         15.2.1       G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets.       MT       8.06       1.24       9.3         15.2.2       G1X - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 2 Sets.       MT       1.24       0.00       1.24         15.2.3       G2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 0 Sets       MT       5.40       0.00       5.4         15.2.4       G1.2 - 132 KV(ROMINAL UNIT WT- 0.9 MT) = 0 Sets       MT       5.40       0.00       5.4         15.2.4       G1.2 - 132 KV(ROMINAL UNIT WT- 0.9 MT) = 0 Sets       MT       5.40       0.00       5.4         15.2.5       G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets.       MT       2.12       0.00       2.15         15.2.6       G4 - 33KV(INOMINAL UNIT WT- 0.40 KHT) = 12 Sets.       MT       3.60       0.00       3.6			MT	24.00	1 00	20.0				
15.1.3       TBS - 33KV(NOMINAL UNIT WT- 0.83 MT) =11 Sets.       MT       9.13       0.00       9.13         15.1.4       T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) = 14 Sets.       MT       8.40       0.00       8.4         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS       MT       8.06       1.24       9.3         15.2.1       G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) =13 Sets.       MT       8.06       1.24       9.3         15.2.2       G1X - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 2 Sets.       MT       1.24       0.00       1.24         15.2.3       G2 - 132 KV(NOMINAL UNIT WT- 0.97 MT) = 05 Sets       MT       1.24       0.00       5.4         15.2.3       G1 - 132 KV(ROMINAL UNIT WT- 0.97 MT) = 05 Sets       MT       5.40       0.00       5.4         15.2.4       G1.2 - 132 KV(REACh two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) = 2       MT       2.50       0.00       2.5         15.2.5       G6 - 33KV (NOMINAL UNIT WT- 0.43 MT) = 04 Sets.       MT       2.12       0.00       2.12         15.2.6       G4 - 33KV(INOMINAL UNIT WT- 0.44 MT) = 12 Sets.       MT       3.60       0.00       3.6							-			
15.1.4       T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) = 14 Sets.       MT       8.40       0.00       8.4         15.2       DIFFERENT TYPE OF BEAMS WITH DETAILS										
15.2         DIFFERENT TYPE OF BEAMS WITH DETAILS         MT           15.2.1         G1 - 132 KV(NOMINAL UNIT WT - 0.62 MT) = 13 Sets.         MT         8.06         1.24         9.3           15.2.2         G1 - 132 KV(NOMINAL UNIT WT - 0.62 MT) = 2 Sets.         MT         1.24         0.00         1.24           15.2.3         G2 - 132 KV(NOMINAL UNIT WT - 0.62 MT) = 2 Sets.         MT         1.24         0.00         5.4           15.2.4         G1.2 - 132 KV(ROMINAL UNIT WT - 0.9 MT) = 06 Sets         MT         5.40         0.00         5.4           15.2.4         G1.2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT - 1.25 MT) =2         MT         2.50         0.00         2.5           15.2.5         G6 - 33KV (NOMINAL UNIT WT - 0.53 MT) = 04 Sets.         MT         2.12         0.00         2.12           15.2.6         G4 - 33KV(INOMINAL UNIT WT - 0.44 MT) = 12 Sets.         MT         3.60         0.00         3.6										
15.2.1       G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT) = 13 Sets.       MT       8.06       1.24       9.3         15.2.2       G1X - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 2 Sets.       MT       1.24       0.00       1.24         15.2.3       G2 - 132 KV(NOMINAL UNIT WT- 0.9 MT) = 06 Sets       MT       5.40       0.00       5.4         15.2.4       G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT) = 2       MT       2.50       0.00       2.5         15.2.5       G6 - 33KV (NOMINAL UNIT WT- 0.3 MT) = 04 Sets.       MT       2.12       0.00       2.12         15.2.6       G4 - 33KV(NOMINAL UNIT WT- 0.4MT) = 12 Sets.       MT       3.60       0.00       3.6										
15.2.2         G1X - 132 KV (NOMINAL UNIT WT- 0.62 MT) = 2 Sets.         MT         1.24         0.00         1.24           15.2.3         G2 - 132 KV (NOMINAL UNIT WT- 0.9 MT) = 06 Sets         MT         5.40         0.00         5.4           15.2.4         G1,2 - 132 KV (Each two bears of G1 type) (NOMINAL UNIT WT- 1.25 MT) = 2         MT         2.50         0.00         2.5           15.2.5         G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets.         MT         2.12         0.00         2.12           15.2.6         G4 - 33KV (NOMINAL UNIT WT- 0.4MT) = 12 Sets.         MT         3.60         0.00         3.6	-		MT	8.06	1.24	9.3				
15.2.3         G2         - 132 KV(NOMINAL UNIT WT- 0.9 MT)         = 06 Sets         MT         5.40         0.00         5.4           15.2.4         G1,2         - 132 KV(Each two beams of G1 type)         (NOMINAL UNIT WT- 1.25 MT)         = 0         2.50         0.00         2.5           15.2.5         G6         - 33KV (NOMINAL UNIT WT- 0.53 MT)         = 04 Sets.         MT         2.12         0.00         2.12           15.2.6         G4         - 33KV(NOMINAL UNIT WT- 0.4MT)         = 12 Sets.         MT         3.60         0.00         3.6										
15.2.5         G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets.         MT         2.12         0.00         2.12           15.2.6         G4 - 33KV(NOMINAL UNIT WT- 0.4MT) = 12 Sets.         MT         3.60         0.00         3.6	15.2.3		MT	5.40	0.00	5.4				
15.2.5         G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) = 04 Sets.         MT         2.12         0.00         2.12           15.2.6         G4 - 33KV(NOMINAL UNIT WT- 0.4MT) = 12 Sets.         MT         3.60         0.00         3.6										
15.2.7  G4X - 33KV (NOMINAL UNIT WT- 0.52 MT) =5Sets. MT 2.60 0.00 2.6										
	15.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.52 MT) =5Sets.	MT	2.60	0.00	2.6				

13-4         SWTCH VADE GOUPMENT STRUCTURES (LATTLEE TYPE) FOR 13203 IV         Image: Control of Control on Dot 15 & AURING (LS COLUMNES)           13-4         South Resultion of Control on Dot 15 & AURING (LS COLUMNES)         Image: Control of Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITHOUT (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITHOUT (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITHOUT (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITHOUT (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITHOUT (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITH (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4         D. WITH (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)         Image: Control on Dot 15 & AURING (LS COLUMNES)           13-4 <td< th=""><th>15.3 T</th><th>TOTAL WEIGHT OF COLUMN &amp; BEAM</th><th>МТ</th><th>72.75</th><th>7.94</th><th>80.69</th><th></th><th></th><th></th><th></th></td<>	15.3 T	TOTAL WEIGHT OF COLUMN & BEAM	МТ	72.75	7.94	80.69				
15.41       Score (March 12)       Control (March 12)										
15.42       SixVIII & WITHOUT 15 (Junk weght - 320 Log - 2 No.       MT       5.80       7.847         15.45       Julk WITHOUT 55 (Junk weght - 120 559 Rgi - 4 Nos.       MT       1.86       0.00       1.582         15.46       Julk WITHOUT 55 (Junk weght - 320 Log - 2 Nos.       MT       2.86       0.00       2.853         15.46       Julk WithOUT 55 (Junk weght - 324 651 Rgi - 9 Nos.       MT       1.60       0.00       2.653         15.41       Julk WithOUT 55 (Junk weght - 324 651 Rgi - 9 Nos.       MT       1.60       0.00       2.653         15.41       JULK Weght - 124 0.05 (Julk weght - 326 0.00       2.674       4.844       0.00       0.00       2.674         15.41       JULK Weght - 124 0.05 (Julk weght - 326 0.02       2.674       4.844       2.676       0.00       2.678         15.41       JULK Weght - 124 0.05 (Julk weght - 326 0.02       2.674       4.845       1.676 - 0.00       3.254         15.41       JULK Weght - 124 0.05 (Julk weght - 124 0.00       1.72       0.00       0.2778       3.344         15.41       JULK Weght - 124 0.05 (Julk weght - 124 0.00       1.72       0.00       2.208       0.00       2.000       2.000         15.41       JULK Weght - 124 0.05 (Julk - 124 0.05 (Julk weght - 124 0.05 (Julk weght - 124 0.05 (Jul										
15.4.1       0.1. WITEQUE 25, UDIX Weight - 979.10 (25 Seg) 4 - 4 No.       MT       1.46       0.00       1.9862         15.46       0.1. WITEQUE 26, UDIX Weight - 294.805 Ng) - 9 No.       MT       2.24       4.48         15.46       0.1. WITEQUE 26, UDIX Weight - 294.805 Ng) - 9 No.       MT       2.86       0.00       2.4552         15.47       0.1. WITEQUE 76, UDIX Weight - 294.805 Ng) - 9 No.       MT       1.31       0.00       1.114         15.47       0.1. WITEQUE 76, UDIX Weight - 284.805 Ng) - 9 No.       MT       1.32       0.00       2.6784         15.47       0.512 VUTIA Weight - 284.805 Ng) - 9 No.       MT       1.42       1.42       2.8382         15.41       0.512 VUTIA Weight - 284.85 Ng) - 9 No.       MT       1.42       1.42       2.8382         15.41       VT5.312 VUTIA Weight - 283.81 g) - 3 No.       MT       0.69       0.00       0.6973         15.42       VUTS VUTIA Weight - 283.81 g) - 3 No.       MT       0.67       0.00       0.6723         15.43       VT5.312 VUTIA Weight - 283.91 g) - 1 No.       MT       0.66       0.00       0.6580         15.44       VUTS VUTIA Weight - 283.91 g) - 1 No.       MT       7.25       1.40       8.85       4.4331         15.41       VUTIA Weigh			MT	5.03	1 32	7 2457				
13.4 D. WHY (5), Unit Vegint 120.259 (g) = 4 Nos.       MT       2.24       2.24       4.442         15.4 SigoLAROS 34 V					-					
13.43     SCALTORS 231X     100     000     26552       15.45     S.K.WTOUT ES (Unit veght: 228.430 kg) = 20s.     MT     1.31     0.00     1.3114       15.45     S.K.WTOUT ES (Unit veght: 228.430 kg) = 20s.     MT     1.35     0.00     1.3525       15.46     D.K.WTTN (Unit veght: 128.555 kg) = 50 so.     MT     3.22     1.33     4.6045       15.46     D.K.WTTN (Unit veght: 128.555 kg) = 50 so.     MT     3.22     1.33     4.6045       15.41     DTS132 KV (Unit Veght: 128.56 kg) = 18 bos.     MT     1.42     1.42     2.6322       15.41     DTS132 KV (Unit Veght: 128.25 kg) = 18 bos.     MT     1.42     1.42     2.6322       15.41     DTS132 KV (Unit Veght: 128.25 kg) = 18 bos.     MT     1.42     1.42     2.6322       15.41     DTS132 KV (Unit Veght: 128.23 kg) = 126 bos.     MT     5.63     1.34     6.845       15.41     DTS132 KV (Unit Veght: 128.23 kg) = 126 bos.     MT     5.50     0.00     5.232       15.41     DTS14 Veght: 138.23 kg) = 126 bos.     MT     5.50     0.00     5.232       15.41     DTS14 Veght: 138.24 kg) = 14 bos.     MT     5.50     0.00     5.232       15.41     DTS14 Veght: 138.24 kg) = 14 bos.     MT     5.50     0.00     5.232										
15:46       5.4. WTHOUT E5 (Link weight - 204.83 (kg) - Mos.       MT       2.65       0.00       2.6332         15:47       D. WTHOUT E5 (Link weight - 657.96 (kg) - 3 Nos.       MT       3.35       0.00       3.3528         15:40       D. WTH (F5 (Unit weight - 670.555 (kg) - 3 Nos.       MT       3.22       1.20       4.8645         15:40       D. WTH (F5 (Unit weight - 670.555 (kg) - 3 Nos.       MT       2.22       1.20       4.8645         15:41       UTS.312 (VIIIN Weight - 28.18 (kg) - 4 Nos.       MT       2.26       0.00       2.2674         15:421       UTS.312 (VIIIN Weight - 28.18 (kg) - 4 Nos.       MT       0.60       0.6033         15:432       MTS.312 (VIIIN Weight - 28.28 (kg) - 4 Nos.       MT       0.50       0.6033         15:435       MTS.120 (Unit Weight - 28.28 (kg) - 4 Nos.       MT       0.50       0.2322         15:435       MTS.120 (WIIIN Weight - 39.28 (kg) - 4 Nos.       MT       0.55       0.20       0.5232         15:435       MTS.120 (WIII Weight - 39.28 (kg) - 4 Nos.       MT       0.55       0.00       0.5532         15:435       MTS.120 (WIII Weight - 39.28 (kg) - 4 Nos.       MT       7.25       1.40       8.65         15:435       MTS.120 (WIIII Weight - 39.28 (kg) - 4 Nos.       MT <td></td> <td></td> <td>IVIII</td> <td>2.27</td> <td>2.24</td> <td>4.402</td> <td></td> <td></td> <td></td> <td></td>			IVIII	2.27	2.24	4.402				
15.47       D. WTHOUT /S (Lunk weight - 055 / 24 / 84 / 92 / 26 / 85 / 96 / 84 / 96 / 95 / 96 / 95 / 96 / 96 / 95 / 96 / 96			MT	2.65	0.00	2 6532				
13.48         0.1         MT         3.39         0.00         3.3328           15.40         CF3122V (Unit Vegit - 128.56 kg) = 15 Nos.         MT         3.22         1.29         4.4946           15.41         CF3232V (Unit Vegit - 128.56 kg) = 15 Nos.         MT         1.228         0.00         2.0764           15.41         CF3232V (Unit Vegit - 128.56 kg) = 16 Nos.         MT         1.42         1.42         2.2392           15.42         VF5122 XV (Unit Vegit - 128.35 kg) = 3 Nos.         MT         0.69         0.00         6.6333           15.41         VF5123 XV (Unit Vegit - 128.85 kg) = 126 Nos.         MT         0.21         6.516         0.22769           15.41         VF5123 VV (Unit Vegit - 128.85 kg) = 126 Nos.         MT         2.26         0.00         6.5289           15.43         VF5312 VV (Unit Vegit - 128.85 kg) = 13 Nos.         MT         2.26         0.00         6.5289           15.43         VF5312 VV (Unit Vegit - 128.85 kg) = 13 Nos.         MT         2.26         0.00         5.5289           15.43         VF5312 VV (Unit Vegit - 128.85 kg) = 13 Nos.         MT         2.26         0.00         5.529           15.44         VF5312 VV (Unit Vegit - 128.55 kg) = 126 Nos.         MT         2.26         0.00         <										
15:40       CTS-122 XV (Unit Weight - 245 465 kg) = 15 Mos.       MT       3.22       1.29       4.5946         15:40       CTS-322 XV (Unit Weight - 236 628 kg) = 15 Mos.       MT       1.42       2.6784         15:41       CTS-322 XV (Unit Weight - 236 628 kg) = 3 Mos.       MT       1.42       1.42       2.6892         15:42       VTS-312 XV (Unit Weight - 236 628 kg) = 3 Mos.       MT       0.69       0.00       6.68933         15:43       Start XV (Unit Weight - 236 35 kg) = 124 Nos.       MT       0.69       1.24       6.4165         15:44       Start XV (Unit Weight - 238 35 kg) = 124 Nos.       MT       5.59       0.00       2.522         15:43       Brit 32 VV (Unit Weight - 238 37 kg) = 124 Nos.       MT       5.50       0.00       6.5528         15:44       Start MERIOT FO EQUIPMENT STUDYCRE       MT       0.55       0.00       6.5528         15:45       Total Weight of 01 Nuts and boils for the above Column, Beam & structures       MT       7.25       1.40       8.65         16:1       POWER CABLES, 1.1 NV, XLPEPPU CARMOURED, ALUMINIUM CONDUCTOR       MTR5       500       0       500         16:1       KPL 35 CCO30 mm <sup>2</sup> MTR5       500       0       300       11011         16:1       KPL										
15.40       CTS.313 V Unit Weight - 148.00 Kg = 38 Mos.       MT       2.68       0.00       2.6764         15.41       CTS.322 V Unit Weight - 236.28 Kg - 0400x.       MT       1.42       2.4892         15.42       VTS.322 VV Unit Weight - 123.055 Kg = 3 Mos.       MT       0.69       0.00       0.6933         15.42       MTS.322 VV Unit Weight - 123.055 Kg = 3 Mos.       MT       0.67       0.00       0.6729         15.44       Surge Arrester-123 VV Unit Weight - 123.055 Kg = 124 Kos.       MT       2.58       1.54       6.8156         15.45       Bri 33 VV Unit Weight - 138.05 Kg = 14 Nos.       MT       2.58       0.00       0.5298         15.44       Bri 33 VV Unit Weight - 138.40 Kg = 4 Nos.       MT       0.55       0.00       0.5298         15.43       NTSI Unit Weight - 138.40 Kg = 4 Nos.       MT       7.25       1.40       8.65         15.45       Bri 33 VV Unit Weight - 138.40 Kg = 4 Nos.       MT       7.25       1.40       8.65         15.44       RTSU Weight - 138.40 Kg = 4 Nos.       MT       7.25       1.40       8.65         16.14       PUC 24 Coll MeKT 3 SUBSTATION ACCESSORES       MT       0.60       0       0         16.15       PVC 32 Cot30 mm <sup>2</sup> MTRS       500										
15.41       CVT5.122 VV (DM Weight - 226.028 Kg) = 60x.       MT       1.42       1.42       1.42       2.4992         15.42       VT5.32 VV (DM Weight - 226.028 Kg) = 80x.       MT       0.66       0.00       0.6633         15.43       VT5.32 VV (DM Weight - 23.195 Kg) = 3 Nos       MT       0.27       0.00       0.7728         15.44.5       Stard PM Stard VV (DM Weight - 123.85 Kg) = 12.6 Nos       MT       6.56       1.24       6.8166         15.41       WF3.32 VV (DM Weight - 138.24 Kg) = 4 Nos       MT       6.56       0.00       0.5530         15.43       BP-132 XV (DM Weight - 138.24 Kg) = 4 Nos       MT       0.55       0.00       0.5530         15.43       BP-132 XV (DM Weight - 138.24 Kg) = 4 Nos       MT       0.55       0.00       0.5530         15.43       BP-142 KV (DM Weight - 138.24 Kg) = 4 Nos       MT       0.55       0.0       0.5530         15.43       VTA MEIGHT OF EQUIPMENT STRUCTURE       MT       7.25       1.40       8.65       0         16.15       PO-20 KGALSE, 1.14 XX, VEPEPVC ARMOURED, ALUMINUM CONDUCTOR       MTR       3.00       0       300       0         16.14       VE 3.5 CO3 mm <sup>2</sup> MTR       3.00       0       300       0       0       0	-									
15.42       NTS-132 RV (Unit Weight - 231.195 Kg) - 3 Moy       MT       0.69       0.00       0.6933         15.43       NTS-332 RV (Unit Weight - 123.195 Kg) - 3 Moy       MT       0.67       0.00       0.372         15.44       Surge Arrester-132 RV (Unit Weight - 123.195 Kg) - 12-6 Nos       MT       2.58       1.58       0.5324         15.45       Br33XV (Unit Weight - 134.80 Kg) - 12-6 Nos       MT       2.59       0.00       2.323         15.44       Distance Meight - 148.80 Kg) - 13 Nos       MT       2.50       0.00       2.523         15.43       NTS MU Weight - 134.80 Kg) - 14 Nos       MT       0.55       0.00       0.552         15.44       Distance Meight - 16 Structures       MT       0.53       0.58       44.3281         15       Total weight of GI Nuts and bolts for the above Column, Beam & structures       MT       7.25       1.40       8.65         16       GENERAL EQUIPMENT & SUBSTATION ACCESSORIES       Development       Development       Development       No       Development         16.14       NPC 3.5 CN30 mm <sup>2</sup> MTRS       300       0       300       Development         16.15       PVC 3.5 CN35 mm <sup>2</sup> MTRS       1000       1000       Development       Development										
15.4.13       VT_333 VV (Unit Weight 1:24:335 Kg) = 3 Mos       MT       0.37       0.00       0.3228         15.4.43       User Averative 322 VV (Unit Weight 1: 72:835 kg) = 12:64 Nos       MT       2.16       1.08       3.2364         15.4.54       BP:322 AV (Unit Weight 1: 72:835 kg) = 12:64 Nos       MT       2.23       0.00       2.232         15.4.35       BP:322 AV (Unit Weight 1: 38:83 kg) = 13: Nos       MT       2.23       0.00       0.5528         15.4.35       NCTS (Unit Weight 1: 38: 24 Kg) = 4 Nos       MT       0.55       0.00       0.5528         15.4.35       Total weight of GI Nuts and bolts for the above Column, Beam & structures       MT       7.25       1.40       8.65         16.1       GENERAL EQUIPMENT & SUBSTATION ACCESSORIES       MT       7.25       1.40       8.65         16.1       GENERAL EQUIPMENT & SUBSTATION ACCESSORIES       MT       0.50       0       500       0         16.1       XuP 3.5 CK18s mm <sup>2</sup> MTRS       500       0       500       0       100         16.1.4       XuP 3.5 CK18s mm <sup>2</sup> MTRS       500       0       200       100       101         16.1.4       XuP 3.5 CK18s mm <sup>2</sup> MTRS       1000       500       1560       100										
15.4.1       suga Arrester 312 V (Juli Weight : 129.893 kg) = 124 https://dx.edu//dx.e										
15.4.0         BP/32 XY Unit Weight - 309 83 3(a) 134-bits         MT         0.58         1.24         6.4156           15.4.1         JP/32 XY Unit Weight - 3182 b(a) - 154-bits         MT         2.23         0.00         2.232           15.4.1         JP/32 XY Unit Weight - 1382 b(a) - 154-bits         MT         0.55         0.00         0.5528           15.4.2         JP/32 XY Unit Weight - 1382 b(a) - 148-bits         MT         0.55         0.00         0.5528           15.4.3         JOTAL WEIGHT OF EQUIPMENT STRUCTURE         MT         7.25         1.40         8.65             16         GENERAL EQUIPMENT & SUBSTATION ACCESSORIES         MT         7.25         1.40         8.65              16.1         XPE 3.5 CX30 mm <sup>2</sup> MTRS         500         0         500										
Istall         Image: Second Seco										
15.4.13         KTS (Unit Weight - 138.24 Kg) = A tos         MT         0.65         0.00         0.5528           15.4.31         TOTAL WEIGHT OF EQUIPMENT STRUCTURE         MT         36.35         8.68         44.3281             15.4         Total weight of GI kurs and bolts for the above Column, Beam & structures         MT         7.25         1.40         8.65              16         GENERAL EQUIPMENT & SUBSTATION ACCESSORIES   <										
15.4.19         TOTAL WEIGHT OF EQUIPMENT STRUCTURE         MT         36.35         8.38         44.9281           15.5         Total weight of GI Nuts and bolts for the above Column, Beam & structures         MT         7.25         1.40         8.65           16         GENERAL EQUIPMENT & SUBSTATION ACCESSORIES                15.1         PORE CABLES, 11.KVX,LPE/PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)         MTRS         500         0         500            16.1.1         MPE 3.5 CX105 mm <sup>2</sup> MTRS         300         0         300             16.1.4         MYE 3.5 CX105 mm <sup>2</sup> MTRS         200         0         200              16.1.4         MYC 3.5 CX10 mm <sup>2</sup> MTRS         1750         200         1950              16.1.4         VC 3.5 CX10 mm <sup>2</sup> MTRS         3750         300         4600              16.1.4         VC 3.5 CX10 mm <sup>2</sup> MTRS         3750         300         4600              16.1.4         VC 4.2 K mm <sup>2</sup> MTRS         3750         300										
155         Total weight of GI Nuts and bolts for the above Column, Beam & structures MT         T.25         1.40         8.65         1           16         GENERAL EQUIPMENT & SUBSTATION ACCESSORIES         1         1         1.40         8.65         1         1           16.1         RVER CABLES, 1.1KV, XLPEP/VC ARMOURED, ALLIMINIUM CONDUCTOR (As per Specification)         MTRS         500         0         500         1         1           16.1.1         XUE 3.5 CX120 mm <sup>2</sup> MTRS         200         0         200         1								1	1	
International construction of the consthe consthe construction of the construction of the construction			MT	36.35	8.58	44.9281				
16.1         POWER CABLES,1.1KV_XLPE/PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)         MTRS         500         0         500         1           16.1.1         XLPE 3.5 CX30 mm²         MTRS         300         0         300         1         1           16.1.1         XLPE 3.5 CX30 mm²         MTRS         300         0         300         1         1           16.1.2         XLPE 3.5 CX30 mm²         MTRS         200         0         200         1         1           16.1.3         XLPE 3.5 CX30 mm²         MTRS         600         400         1000         1	15.5 T	Fotal weight of GI Nuts and bolts for the above Column, Beam & structures	мт	7.25	1.40	8.65				
(As per Specification)         MTRS         500         0         500           16.1.1         XLPE 3.5 CX350 mm <sup>2</sup> MTRS         300         0         3000             16.1.2         XLPE 3.5 CX350 mm <sup>2</sup> MTRS         300         0         3000             16.1.3         XLPE 3.5 CX150 mm <sup>2</sup> MTRS         200         0         200             16.1.4         XLPE 3.5 CX150 mm <sup>2</sup> MTRS         200         0         200             16.1.4         PVC 3.5 CX70 mm <sup>2</sup> MTRS         600         400         10000             16.1.5         PVC 4.5 Ism <sup>2</sup> MTRS         1750         200         1950             16.1.7         PVC 4.5 Ism <sup>2</sup> MTRS         1000         500         1500	16 <b>C</b>	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES								
(As per Specification)         MTRS         500         0         500           16.1.1         XLPE 3.5 CX300 mm <sup>2</sup> MTRS         300         0         300             16.1.2         XLPE 3.5 CX300 mm <sup>2</sup> MTRS         300         0         300             16.1.3         XLPE 3.5 CX30 mm <sup>2</sup> MTRS         200         0         200             16.1.4         XLPE 3.5 CX30 mm <sup>2</sup> MTRS         200         0         200             16.1.5         PVC 3.5 CX35 mm <sup>2</sup> MTRS         1750         200         1950             16.1.6         PVC 4 CX 16 mm <sup>2</sup> MTRS         1750         300         4050             16.1.7         PVC 4 CX 6 mm <sup>2</sup> MTRS         3750         300         4050              16.1.6         PVC 2/C 6 mm <sup>2</sup> MTRS         10500         1500	16.1 P	POWER CABLES, 1.1KV, XLPE/PVC ARMOURED, ALUMINIUM CONDUCTOR								
Internation         Internation	(/	As per Specification)								
16.12         XLPE 3.5 CX185 mm <sup>2</sup> MTRS         300         0         300         200           16.13         XLPE 3.5 CX120 mm <sup>2</sup> MTRS         200         0         200         1           16.14         PVC 3.5 CX70 mm <sup>2</sup> MTRS         600         400         10000         1         1           16.14         PVC 3.5 CX70 mm <sup>2</sup> MTRS         600         400         10000         1         1           16.15         PVC 4 CX 16 mm <sup>2</sup> MTRS         1750         200         1950         1         1           16.16         PVC 4 CX 6 mm <sup>2</sup> MTRS         1000         500         1500         1	6.1.1 X	(LPE 3.5 CX300 mm <sup>2</sup>	MTRS	500	0	500				
16:13         XLPE 3.5 CX120 mm <sup>2</sup> MTRS         200         0         200           16:1.4         PVC 3.5 CX70 mm <sup>2</sup> MTRS         600         400         1000             16:1.5         PVC 3.5 CX70 mm <sup>2</sup> MTRS         1750         200         1950             16:1.6         PVC 4 CX 16 mm <sup>2</sup> MTRS         1000         500         1500             16:1.7         PVC 4 CX 6 mm <sup>2</sup> MTRS         3750         300         4050             16:1.6         PVC 4 CX 6 mm <sup>2</sup> MTRS         3750         300         4050             16:1.7         PVC 4 CX 6 mm <sup>2</sup> MTRS         3750         300         4050             16:1.8         PVC 2X 6 mm <sup>2</sup> MTRS         3750         300         4050	6.1.2 x	(IPE 3.5 CX185 mm <sup>2</sup>	MTRS			300				
Adversal CAl20 Intil         MMS         200         0         Loc           161.4         PVC 3.5 CX20 mm <sup>2</sup> MTRS         600         400         1000             161.5         PVC 3.5 CX35 mm <sup>2</sup> MTRS         1750         200         1950             161.6         PVC 4 CX 16 mm <sup>2</sup> MTRS         1000         500         1500             161.7         PVC 4 CX 16 mm <sup>2</sup> MTRS         3000         4050              161.7         PVC 4 CX 6 mm <sup>2</sup> MTRS         3200         0         2200              162.1         CONTROL CABLES.1.1 KV. PVC.STRANDED COPPER(As per specification)         MTRS         5500         500         6000              162.1         2 CX 2.5 mm <sup>2</sup> MTRS         10500         1500         12000              162.4         7 CX 2.5 mm <sup>2</sup> MTRS         10500         1500         12000              162.4         7 CX 2.5 mm <sup>2</sup> MTRS         10000         500         1600					-					
16.15       PVC3.5 CX35 mm²       MTRS       1750       200       1950       1150         16.16       PVC4 CX 16 mm²       MTRS       1000       500       1500       1150         16.16       PVC4 CX 6 mm²       MTRS       3750       300       4050       1150         16.17       PVC4 CX 6 mm²       MTRS       3750       300       4050       1150         16.18       PVC4 CX 6 mm²       MTRS       2200       0       2200       1150         16.18       PVC4 CX 6 mm²       MTRS       2200       0       2200       1150         16.2       CONTROL CABLES.1.1 KV, PVC,STRANDED COPPER(As per specification)       1150       12000       1150       12000       1152         16.2       CX 2.5 mm²       MTRS       10500       1500       12000       1152.3       1150       12000       1152.3       1150       12000       1150       12000       1152.3       1152.5 mn²       1152.5 mn²       1150       12000       1150       12000       1152.3       1152.5 mn²       1150       12000       1150       12000       1152.3       1152.5 mn²       1150       12000       1150       1150       1150       1150       1150       1150       <	~									
16.16       PVC 4 CX 16 mm²       MTRS       1000       500       1600         16.17       PVC 4 CX 16 mm²       MTRS       3750       300       4050       1611         16.17       PVC 4 CX 6 mm²       MTRS       3750       300       4050       1611         16.18       PVC 2CX 6 mm²       MTRS       2200       0       2200       1611         16.2       CONTROL CABLES.1.1 KV, PVC.STRANDED COPPER(As per specification)       MTRS       5500       500       6000       1611         16.2.1       2 CX 2.5 mm²       MTRS       10500       1500       12000       1621       12000       1622       12000       1622       12000       1622       1622       1202.5 mm²       MTRS       10500       1500       12000       1622       162.4       1202.5 mm²       MTRS       10500       1600       162.4       1202.5 mm²       162.4       1200.2 5mm²       MTRS       10000       500       10500       162.5       10 CX 2.5 mm²       MTRS       10000       500       10500       1012       162.6       12 CX 2.5 mm²       MTRS       9000       500       9500       10162.7       16 CX 2.5 mm²       162.7       16 CX 2.5 mm²       MTRS       5000       400	F			600						
16.17       PVC 4 CX 6 mm²       MTRS       3750       300       4050		VC 3.5 CX35 mm <sup>2</sup>	MTRS	1750	200	1950				
Instrumt         MTRS         3/30         3/00         MTRS         1/00	6.1.6 P	2VC 4 CX 16 mm <sup>2</sup>	MTRS	1000	500	1500				
16.1.8         PVC 2CX 6 mm²         MTRS         2200         0         2200           16.2.         CONTROL CABLES, 1.1 KV, PVC, STRANDED COPPER(As per specification)         MTRS         5500         500         6000             16.2.1         2 CX 2.5 mm²         MTRS         5500         500         6000              16.2.2         4 CX 2.5 mm²         MTRS         10500         1500         12000              16.2.3         5 CX 2.5 mm²         MTRS         0500         300         4800              16.2.4         7 CX 2.5 mm²         MTRS         5500         600         6100              16.2.4         7 CX 2.5 mm²         MTRS         5500         600         6100              16.2.4         7 CX 2.5 mm²         MTRS         9000         500         19500 <td>6.1.7 p</td> <td>2VC 4 CX 6 mm<sup>2</sup></td> <td>MTRS</td> <td>3750</td> <td>300</td> <td>4050</td> <td></td> <td></td> <td></td> <td></td>	6.1.7 p	2VC 4 CX 6 mm <sup>2</sup>	MTRS	3750	300	4050				
162       CONTROL CABLES.1.1 KV. PVC.STRANDED COPPER(As per specification)       MTRS       5200       0       2000       0       2000       0       2000       0       2000       10       2000       10       2000       10										1
16.2.1       2 CX 2.5 mm2       MTRS       5500       500       6000       1         16.2.4       2 CX 2.5 mm2       MTRS       10500       1500       12000       1         16.2.3       5 CX 2.5 mm2       MTRS       4500       300       4800       1       1         16.2.4       7 CX 2.5 mm2       MTRS       5500       6000       6100       1       1         16.2.4       7 CX 2.5 mm2       MTRS       5500       6000       6100       1       1         16.2.4       7 CX 2.5 mm2       MTRS       9000       500       10500       1				2200	0					
16.2.2       4 CX 2.5 mm <sup>2</sup> MTRS       10500       12000       12000         16.2.3       5 CX 2.5 mm <sup>2</sup> MTRS       4500       300       4800       1624         16.2.4       7CX 2.5 mm <sup>2</sup> MTRS       5500       600       6100       1626         16.2.4       7CX 2.5 mm <sup>2</sup> MTRS       5500       600       6100       1626         16.2.5       10 CX 2.5 mm <sup>2</sup> MTRS       10000       500       10500       1626         16.2.6       12 CX 2.5 mm <sup>2</sup> MTRS       9000       500       9500       1626         16.2.7       16 CX 2.5 mm <sup>2</sup> MTRS       2000       500       2500       1627         16.2.8       19 CX 2.5 mm <sup>2</sup> MTRS       2000       500       2500       1628         16.2.9       1CX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB       MTRS       600       0       6000       1629         16.2.9       1CX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB       MTRS       0.5       0.5       1       1         17.1       24 Fibre Optic Approach cable along with HDPE Pipes       Kms       0.5       0.5       1       1         17.2       Optical line Terminal Equipment(OLTE) - STM4 typ			MTRS	5500	500	6000				
16.2.3       5 CX 2.5 mm²       MTRS       4500       300       4800           16.2.4       7 CX 2.5 mm²       MTRS       5500       600       6100           16.2.4       7 CX 2.5 mm²       MTRS       5500       600       6100            16.2.5       10 CX 2.5 mm²       MTRS       10000       500       10500            16.2.6       12 CX 2.5 mm²       MTRS       9000       500       9500            16.2.7       16 CX 2.5 mm²       MTRS       2000       500       2500             16.2.8       19 CX 2.5 mm²       MTRS       2000       500       2500             16.2.8       19 CX 2.5 mm²       MTRS       600       0       600 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
16.24       7CX 2.5 mm <sup>2</sup> MTRS       5500       600       6100           16.2.5       10 CX 2.5 mm <sup>2</sup> MTRS       10000       500       10500            16.2.6       12 CX 2.5 mm <sup>2</sup> MTRS       9000       500       9500             16.2.6       12 CX 2.5 mm <sup>2</sup> MTRS       9000       500       9500	4									
16.2.5     10 CX 2.5 mm <sup>2</sup> MTRS     10000     500     1050       16.2.6     12 CX 2.5 mm <sup>2</sup> MTRS     9000     500     9500        16.2.7     16 CX 2.5 mm <sup>2</sup> MTRS     9000     500     9500        16.2.7     16 CX 2.5 mm <sup>2</sup> MTRS     5000     400     5400        16.2.8     19 CX 2.5 mm <sup>2</sup> MTRS     5000     500     2500        16.2.8.1     12 CX 2.0 mm <sup>2</sup> AT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600        16.2.8     12 CX 2.0 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600        16.2.9     1CX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600        17     Erection for OPGW System             17.1     24 Fibre Optic Approach cable along with HDPE Pipes     Kms     0.5     0.5     1        17.2     Optical line Terminal Equipment(OLTE) - STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data ports for interfacing of Speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system     No.     1     1     2	J			4500	300					
162.6     12 CX 2.5 mm²     MTRS     10000     5000     10000       162.7     16 CX 2.5 mm²     MTRS     9000     500     9500        16.2.7     16 CX 2.5 mm²     MTRS     5000     400     5400        16.2.8     19 CX 2.5 mm²     MTRS     2000     500     2500        16.2.9     1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600        17     Erection for OPGW System     Image: Comparison of the transform of the transfo		/CX 2.5 mm <sup>2</sup>	MTRS	5500	600	6100				
16.2.7     16 CX 2.5 mm²     MTRS     5000     5000     5400       16.2.7     16 CX 2.5 mm²     MTRS     5000     400     5400        16.2.8     19 CX 2.5 mm²     MTRS     2000     500     2500        16.2.9     1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600        17     Erection for OPGW System	6.2.5 1	10 CX 2.5 mm <sup>2</sup>	MTRS	10000	500	10500				
16.2.7         16 CX 2.5 mm²         MTRS         5000         400         5400            16.2.8         19 CX 2.5 mm²         MTRS         2000         500         2500             16.2.9         1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB         MTRS         600         0         600             17         Erection for OPGW System	6.2.6 1	2 CX 2 5 mm <sup>2</sup>	MTRS	9000	500	9500				
16.2.8         19 CX 2.5 mm²         MTRS         2000         500         2500         100           16.2.9         1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB         MTRS         600         0         600         600         600         600         600 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td>										1
16:2.9     LCX 120 mm <sup>2</sup> BAT TO BAT CHARGER & CHARGER TO DCDB     MTRS     600     0     600       17     Erection for OPGW System           17.1     24 Fibre Optic Approach cable along with HDPE Pipes     Kms     0.5     0.5     1       17.2     Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data ports for interfacing of Speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system     No.     1     1     2	10						-		ł	+
17     Erection for OPGW System     0000     0000     0000       17.1     24 Fibre Optic Approach cable along with HDPE Pipes     Kms     0.5     0.5     1     1       17.2     Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system     No.     1     1     2       17.3     Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted     No.     1     4     2	1.									+
17.1     24 Fibre Optic Approach cable along with HDPE Pipes     Kms     0.5     0.5     1       17.2     Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system     No.     1     1     2       17.3     Supply of FODP[Fibre Optic Distribution Panel]48 F: Indoor type,rack mounted     No.     1     4     2	10	CX 120 mm <sup>-</sup> BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	600	0	600				
17.2     Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system     No.     1     1     2       17.3     Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted     No.     4     4     2	<sup>17</sup> E	Erection for OPGW System								
17.2       Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX & tributary cards for speech & data ports for interfacing of Speech & data which should be compatible with existing OPTCL system       No.       1       1       2         17.3       Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted       No.       1       1       2	17.1 2	24 Fibre Optic Approach cable along with HDPE Pipes	Kms	0.5	0.5	1				
Speech & data which should be compatible with existing OPTCL system           17.3         Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted	17.2 0	Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with								
	S	Speech & data which should be compatible with existing OPTCL system								<b> </b>
17.4	17.4	vith FCPC coupling and pig tails(DWSm Fibre)	No.	1	1	2				
Remote Terminal Unit (RTU) with MF17/MFM module designed for Power Utility SCADA operation. RTU should report in IEC 870-5-104 protocols to both main & backup control centre. RTU should have ports for interfacing with relay control No. 1 0 1 panels,MF17/MFMs and port for LDMS facility. Laptop should be part of the supply contract of RTU for monitoring, local data aquisition & configuration of RTU.	R S bi pi ci	SCADA operation. RTU should report in IEC 870-5-104 protocols to both main & backup control centre. RTU should have ports for interfacing with relay control banels,MFT/MFMs and port for LDMS facility. Laptop should be part of the supply	No.	1	0	1				
17.5 48 V, 300 AH, maintenance free VRLA Battery set. Set 1 0 1	17.5 4	18 V, 300 AH, maintenance free VRLA Batterv set.	Set	1	0	1			1	1
17.6         SMPS based battery charger of 75A suitable for 48V VRLA battery.         No         1         0         1						-			1	+
			-		-					+
17.8 2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT , supply) MTRS 500 0 500	17.8 2	2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT, supply)	MTRS	500	0	500				

17.9	1.5 sq. mm 10 core control cable(Digital Input)	MTRS	200	0	200		
	10 sq. mm 2 core multi strand control cable(Batterv)	-					
	Earth Flat, Cable Tray, Telephone cable, ACDB, DCDB, Foundation rail, Junction	MTRS	100	0	100		
	Box,	LS	1	1	2		
18	ERECTION, FILTERATION, TESTING & COMMISSIONING OF POWER TRANSFORMER & ITS OTHER RELATED ACCESSORIES						
18.1	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,TESTING AND COMMISSIONING OF THE POWER FLANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTION INCLUDING T&P'S.	Nos	2	0	2		
18.2	ERECTION OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION						
	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	2	0	2		
	Supply of materials for erection of station transformers						
18.3.1	HDG <b>DP STRUCTURE</b> : each set shall comprise of [ 2X <b>9.0 Mtrs</b> (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].	SETS	2	0	2		
	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down) & handle for operation of AB switch	SETS	2	0	2		
	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single HG fuse)	SETS	2	0	2		
	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.	SETS	2	0	2		
	Switch yard lighting: Design, engineering, procurement of labour, material including all associated works for construction of switch yard lightings as per technical specification and approved drawings. The fixture shall be of reputed make (Philips/CGL/Bajaj) and fixtures shall be LED and proper cabling from the lighting outdoor distribution boards to the junction boxes and from junction boxes to the fixtures. The lighting fixtures are to be installed on the switch yard structures. The quantity of such fixtures are to be designed and to be ascertained.						
	SUB-STATION SWITCH YARD LIGHTING, IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear, GI Conduit 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	46	8	54		
	STREET LIGHTING: IT INCLUDES SUPPLY OF GI TUBULAR POLE AS PER TECHNICAL SPECIFICATION, LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light. (TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS), COLONY QUARTERS AND OTHER ROADS. ALL MATERIALS AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE						
	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajai).(100 watt each) for Street Light.	SET	25	0	25		

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	25	0	25				
	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. XLPE CABLES(35 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.	NO	1	0	1				
19.2.4	OUTDOOR KIOSK of 3 mm thick CRCA sheet duly hot dip galvanised FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES. 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.	NO	1	0	1				
	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 ALONG WITH STABILIZER (5KVA, 130-270 V)	SET	20	0	20				
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	4				
21.2	DRY CHEMICAL POWDER (TROLLEY MOUNTED)- 25 KGS	NOS	4	0	4				
21.3	DRY POWDER TYPE -6 KGS	NOS	4	0	4				
21.4	CO <sub>2</sub> - 4.5 KGS	NOS	10	0	10				
21.5	CO <sub>2</sub> - 9.0 KGS	NOS	10	0	10				
21.6	CO <sub>2</sub> (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4				
21.7		NOS	4	-	4				
21.7	Water type- 9 LTRS	NOS	4	0	4				
21.0	Foam type - 50 LTR FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND With Canopy	SET	6	0	6				
22	arrangement 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	1				
22.3	132 KV SIDE (SIMPLEX TYPE PANEL)								
	FEEDER CONTROL PANEL	NOS	2	2	4				
	FEEDER RELAY PANEL	NOS	2	2	4				
22.3.3	TRANSFORMER CONTROL PANEL( FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2	0	2				
22.3.4	TRANSFORMER RELAY PANEL( FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2	0	2				
22.3.5	BUSCOUPLER CONTROL	NOS	1	0	1	1	1	1	
	BUSCOUPLER RELAY PANEL	NOS	1	0	1	1			
	COMMON PANEL (KP-1)	NOS	1	0	1	1		1	
22.4	33 KV SIDE								
	FEEDER CONTROL & RELAY PANEL	NOS	5	0	5				
	TRANSFORMER CONTROL & RELAY PANEL	NOS	2	0	2				
	BUSCOUPLER CONTROL & RELAY PANEL	NOS	1	0	1		L		
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	1				
23.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C)	SET	1	0	1				
23.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER	SET	1	0	1				
	SPECIFICATION (WITH DB-1, DB-2 & B/C) INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 &								

0045				-			r	
	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	0	1			
	INDOOR RECEPTACLE BOARD	SET	1	0	1			
	DC SYSTEM							
23.2.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER &	SET	1	0	1			
23.2.2	OVER VOLTAGE AS PER SPECIFICATION (DC DR-1)	SET	1	0				
	220 V DC EMERGENCY DISTRIBUTION BOARD			-	1			
	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1	0	1			
23.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1	0	1			
	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	0	1			
25	WALKIE TALKIE SET	SET/ PAIR	2	0	2			
26	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED	NOS	2	0	2			
	FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.							
27	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS	SET	1	0	1			
28	LIP TO 1.5 TON CAPACITY						-	
20	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	0	1			
29		NOS	1	0	1			
	WATER COOLER WITH WATER PURIFIER SYSTEM	NUS	1	U	1			
30	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I, INDICATED IN TS-TIMK-	SET	1	0	1			
	SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)							
31	OFFICE FURNITURE (AS PER ANNEXURE - III, INDICATED IN TS-TIMK-SCHEDULE OF	OFT		0				
	REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM, CONFERENCE ROOM,	SET	1	U	1			
	OFFICE ROOMS, LIBRARY, TESTING LAB, etc.							
32	BEST QUALITY & APPROVED MAKE INSULATING MAT (Confirming to	NOS	37	4	41			
	IS:15652:2006) TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.							
33	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER ANNEXURE - II, INDICATED	SET	1	0	1			
	IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	361	I	0	-			
	TOTAL OF ELECTRICAL WORKS (PART-A)							
PART-B	CIVIL WORKS							
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.							
	Switch vard gantry/portal structure foundations							
1.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	20	0				
1.1.1 1.1.2	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	6	0				
1.1.1 1.1.2 1.1.3	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS NOS	6 9	0				
1.1.1 1.1.2 1.1.3 1.1.4	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT) T4S - 132KV (NOMINAL UNIT WT- 0.95 MT) T8S - 33KV(NOMINAL UNIT WT- 0.8 MT) T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	6	0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :	NOS NOS NOS	6 9 14	0 0 0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS NOS	6 9	0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3	T1S - 132 KV(NOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.8 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5KA, ISOLATORS	NOS NOS NOS	6 9 14 15	0 0 0 6				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3 1.3.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 50LATORS         S/I WITH OUT EARTH SWITCH	NOS NOS NOS NOS	6 9 14 15 9	0 0 0 6 2				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3 1.3.1 1.3.2	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, ISOLATORS         5/1 WITH OUT EARTH SWITCH         D/1 WITH SINGLE EARTH SWITCH	NOS NOS NOS NOS NOS	6 9 14 15 9 2	0 0 0 6 2 2 2				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.2.1           1.3           1.3.1           1.3.2           1.3.3	T1S - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(INOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(INOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(INOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 80-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 80-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 80-400-200 A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         D/I WITCH         D/I WITCH	NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2	0 0 6 2 2 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3           1.3.1           1.3.2           1.3.3           1.4	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200A, 31.5 KA, ISOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         JK SKV, 2000, 32 CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6	0 0 6 2 2 0 6				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3 1.3.1 1.3.2 1.3.3 1.4 1.5	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 150LATORS         5/1 WITH OUT EARTH SWITCH         D/1 WITH SINGLE EARTH SWITCH         D/1 WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12	0 0 6 2 2 0 6 6 6				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3           1.3.1           1.3.2           1.3.3           1.4           1.5           1.6	T1S - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-40-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 2100A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE,SINGLE PHASE,IVT	NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 2 6 12 3	0 0 6 2 2 0 6 6 6 0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7	T1S - 132 KV(NOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE,IVT         132 KV Bus Post Insulators	NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12	0 0 6 2 2 0 6 6 6				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3           1.3.1           1.3.2           1.3.3           1.4           1.5           1.6	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 200A, 31.5 KA, 50 ACORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200A, 31.5 KA, 50 LATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE FARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         145 KV, 2600pf, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 3600, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 2 6 12 3 18	0 0 6 2 2 0 6 6 6 0 4				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.2.1           1.3.1           1.3.2           1.3.3           1.3.4           1.5           1.6           1.7           1.8	T15 - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T45 - 132 KV(INOMINAL UNIT WT - 0.95 MT)         T85 - 33KV(INOMINAL UNIT WT - 0.95 MT)         T95 - 33KV(INOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 2000, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE,IVT         132 KV BUS POST Insulators         145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5	0 0 0 6 2 2 2 0 6 6 6 0 4 2				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9	T1S - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(INOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(INOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(INOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 120A, 31.5 KA, ISOLATORS         5/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         145 KV, 200R, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 2 6 12 3 18	0 0 6 2 2 0 6 6 6 0 4				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9	T15 - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T45 - 132 KV(INOMINAL UNIT WT - 0.95 MT)         T85 - 33KV(INOMINAL UNIT WT - 0.95 MT)         T95 - 33KV(INOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 2000, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE,IVT         132 KV BUS POST Insulators         145KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5	0 0 0 6 2 2 2 0 6 6 6 0 4 2				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9	T1S - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(INOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(INOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(INOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 120A, 31.5 KA, ISOLATORS         5/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         145 KV, 200R, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5	0 0 0 6 2 2 2 0 6 6 6 0 4 2				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE FARTH SWITCH         D/I WITH OUT EARTH SWITCH         145 KV, 2 CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 6000pf, 3CORE, SINGLE PHASE, AND CLASS III         121 KV BUS POSI Insulators         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER         36 KV, CASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & 8	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18	0 0 0 2 2 0 6 6 6 6 0 4 2 2 0 0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.3.1 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9 1.10	T1S - 132 KV(NOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 300-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200A, 31.5 KA, ISOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         145 KV, 2600, 500E, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         135 KV, 2 CORE, SINGLE PHASE, IVT         132 KV Bus Post Insulators         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         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).	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18	0 0 0 2 2 0 6 6 6 6 0 4 2 2 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3.1           1.3.1           1.3.3           1.3.1           1.5           1.6           1.7           1.8           1.9           1.10           1.11	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         145 KV, 200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER         36 KV, 200A CAUS COR 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 NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18	0 0 0 2 2 2 0 6 6 6 6 0 4 2 2 0 0				
1.1.1 1.1.2 1.1.3 1.1.4 1.2 1.2.1 1.3 1.3.1 1.3.2 1.3.3 1.4 1.5 1.6 1.7 1.8 1.9 1.10 1.11 1.11.1	T1S - 132 KV(INOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 2004, 31.5 KA, 4CORE SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2004, 51NGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE, IVT         132 KV Bus Post Insulators         145 KV, 300, 400A, SFG, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         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)         36 KV,800A,25KA,ISOLATORS         31 WTIH OUT EARTH SWITCH	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4	0 0 0 2 2 2 0 6 6 6 6 0 4 2 2 0 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.2.1           1.3.1           1.3.2           1.3.3           1.4           1.5           1.6           1.7           1.8           1.9           1.10           1.11	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT- 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT- 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         145 KV, 200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 6600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER         36 KV, 200A CAUS COR 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 NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4	0 0 0 6 2 2 2 0 6 6 6 6 0 4 2 2 0 0 2 0 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3.1           1.3.1           1.3.3           1.3.1           1.5           1.6           1.7           1.8           1.9           1.10           1.11           1.11.1	T1S - 132 KV[NOMINAL UNIT WT - 1.2 MT]         T4S - 132 KV[NOMINAL UNIT WT - 0.95 MT]         T8S - 33KV[NOMINAL UNIT WT - 0.95 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T4S KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200-400-200 A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 2600pF, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         132 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE, IVT         132 KV BUS Post insulators         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         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, &         36 KV, 800A,25KA,ISOLATORS       S/I WITH OUT EARTH SWITCH         37 WITH OUT EARTH SWITCH       D/I WITH SINGLE EARTH SWITCH	NOS NOS NOS NOS NOS NOS NOS NOS NOS NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4 9 5	0 0 0 2 2 0 6 6 6 6 0 4 2 0 0 4 2 0 0 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.1.1           1.3.1           1.3.2           1.3.1           1.3.2           1.3.3           1.3.1           1.5           1.6           1.7           1.8           1.9           1.10           1.11.1           1.11.2           1.13	T1S - 132 KV(NOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV (NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 1200A, 31.5 KA, 1SOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         145 KV, 200R, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE, IVT         132 XV Bus Post Insulators         145 KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER         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)         36 KV, 800-425KA, ISOLATORS       S/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH       D/I WITH OUT EARTH SWITCH         D/I WITH OUT EARTH SWITCH       D/I WITH OUT EARTH SWITCH	NOS           NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4 9 5 2 3	0 0 0 2 2 2 0 6 6 6 6 6 0 4 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.1.1           1.3.1           1.3.2           1.3.1           1.3.2           1.3.3           1.3.1           1.5           1.6           1.7           1.8           1.9           1.10           1.11.1           1.11.2           1.13	T1S - 132 KV(NOMINAL UNIT WT - 1.2 MT)         T4S - 132 KV(NOMINAL UNIT WT - 0.95 MT)         T8S - 33KV(NOMINAL UNIT WT - 0.95 MT)         T9S - 33KV(NOMINAL UNIT WT - 0.6 MT)         Equipment foundations :         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 800-400-200, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 2004, 31.5 KA, 4CORE SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2004, 51NGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         145 KV, 2 CORE, SINGLE PHASE, IVT         132 KV Bus Post Insulators         145 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER         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)         36 KV, 8004, 25KA, ISOLATORS         S1/ WITH SUNGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE PARTSE_IVT	NOS           NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4 9 5 2	0 0 0 2 2 2 0 6 6 6 6 0 4 2 2 0 0 0 0 0 0 0 0 0 0 0 0				
1.1.1           1.1.2           1.1.3           1.1.4           1.2           1.3.1           1.3.1           1.3.1           1.3.3           1.3.1           1.3.3           1.3.1           1.3.3           1.3.1           1.3.3           1.3.1           1.3.3           1.4           1.5           1.6           1.7           1.8           1.9           1.10           1.11           1.11.1           1.11.1           1.11.3           1.13           1.14	T1S - 132 KV[NOMINAL UNIT WT - 1.2 MT]         T4S - 132 KV[NOMINAL UNIT WT - 0.95 MT]         T8S - 33KV[NOMINAL UNIT WT - 0.95 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         T9S - 33KV[NOMINAL UNIT WT - 0.6 MT]         Equipment foundations :         145 KV, 300-400-200 A, 31.5 KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER         145 KV, 200A, 31.5KA, ISOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH         145 KV, 2600pf, 3CORE, SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER         120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III         135 KV, 2 CORE, SINGLE PHASE, IVT         132 KV Bus Post Insulators         145 KV, 2 TOA, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING         STRUCTURE         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,         36 KV, 800A,25KA,JSOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH OUT EARTH SWITCH         D/I WITHOUT EARTH SWITCH	NOS           NOS	6 9 14 15 9 2 2 6 12 3 18 5 18 5 18 4 9 5 2 3	0 0 0 2 2 2 0 6 6 6 6 6 0 4 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0				

1.16	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES								
1.16.1	BAY MARSHALLING KIOSK (03 Nos 132 kv bay & 04 Nos 33 KV bay)	NOS	7	1					
	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2	0					
	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION	NOS	1	0					
1.16.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY	NOS	2	0					
1.16.5	CT, PT & CVT Out Door Console Boxes	NOS	17	4					
1.17	EXCAVATION (Open Cast).: This also includes excavation in all types of soil								
	or rocks,backfilling,and disposal of excess earth as per the direction of								
1.17.1	Engine In charge Normal Soil(SOFT/LOOSE)	Cum	950	93.677	1043.677				
	Hard Soil	Cum	1250	142.026	1392.026	-			
1.17.3	Soft Rock	Cum	1230	36.262	2006.262				
	Hard Rock(Requiring Blasting/Using breaker machinery)	Cum	430	30.218	460.218	-			
	Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade	ouiii	430	30.218	400.218				
	M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm), fine aggregates, cement in for the above column/equipment/marshalling box foundations { SI 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	170	9.712	179.712				
	Open cast foundation for the above column/equipment/marshalling box foundations { SI No. 1.1 & 1.2} with RCC: 1:1.5:3 (Grade M-20) ,including supply of Labour all materials like cement, coarse and fine aggregates,shuttering,proper curing of the foundations/concrete and T&P in line with the Technical Specification and as per direction of Engineer in Charge. ( without cost of steel)	Cum	1780	57.082	1837.082				
1.17.7	Supply of steel different sizes(TATA/RINL/SAIL make) (as per the design)with cutting, bending, binding and placing in position of steel rods for foundation concreting including cost of binding wire.	MT	20	3.07	23.07				
	Cable Trenches: Design, engineering, and construction 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 baourers, 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 Brick, plastering (1:6 Ratio) & curing, wherever required including the supply of labour,material, cement, etc. (5)Supply,fabrication & Fixing of MS Angle(G.I) 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 speci and instruction of Eng. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Eng in charge).								
2.1	Section 1-1	Mtrs	330	30	360				
2.2	Section 2- 2	Mtrs	230	50	280	ł	1		
2.3	Section 3-3	Mtrs	330	150	480	1	1	l	
2.4	Section 4-4	Mtrs	530	100	630	l		l	
3	Rain water harvesting system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	Nos	4	0	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	1				

4.2	Section 2- 2	Nos	1	0	1			1
4.2	Section 2- 2 Section 3-3	Nos	3	0	3			
	Section 3-3 Boundary wall : Soil investigation, Design, engineering, procurement of material, labour	INUS	3	U	3			
5	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 Fly ash Bricks shall be 250mm using fly ash Fly ash Brick & having							
	compressive strength with 75kg/cm2). 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.(**APPROXIMATE LENGHTH OF THE BOUNDARY WALL) and approved drawing.							
	Аррох.							
5.1	Appox length of the boundary walls(Brick works rested on RCC Beam and RCC Column &	RM	1100	0	1,100			
	footings as per TS ) in mtrs	RIVI	1100	U	1,100			
6	Contour Survey & Leveling, Back Filling:							
6.1	Contour survey and furnishing contour map including supply of all materials,	Sq. Mtr	57870	500	58370			
	Labour and T&P	Sq. IVIU	57870	500	56370			
6.2	Soil investigation : Supply of labour,T&Pand other necessary arrangements for Soil							
	investigation/testing of the Switchyard,control Room, transformer, Quarters area etc.as	Der point	5	0	5			
	per the site requirement, Technical specification & instruction of Engineer-in-Charge.	r er point	5	U	5			
7	Cutting, Filling and Leveling of Sub-station area including supply of labour and							
	T&P							
7.1	LEVELLING OF S/S AREA: Providing, neatly dressing up and levelling of substation area							
	including switchyard 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, if required as per direction of the Project In charge,							
	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, back filling and							
	disposal of excess earth or rocks to make the area to a level for construction as per scope							
	and as per approved drawing and specification.							
	· · · · · · · · · · · · · · · · · · ·							
7.1.1	CUTTING of substation area							
7.1.1.1	[i]Soft/loose soil	Cum	9320	30	9350			
7.1.1.2	[ii]Dense/ Compact soil	Cum	8300	20	8320			
7.1.2	FILLING of substation area with borrowed earth with supply of all labour, T & P.							
74.24		Cum	2100	250	2450			
7.1.2.1	(ii) Beyond 30 mtr & up to 100mtr lead	Cum	3100	350	3450			
ð	CONTROL ROOM BUILDING: Design, engineering and construction of switch							
	yard buildings including the piling where required, the cost of material, supply of all							
	labour, T&P, 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							
1	filling, and disposal of excess earth as per the direction of Engineer In charge. As							
	per approved drawings and specification. 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 : 42 mtrsX13 mtrs (546 sq mtrs) & Area of first							
	floor 21 mtrsX13mtrs (273 sq mtrs), Only Fly ash brick is to used for brick work.							
	One no. room shall be used for ladies rest room & should have attached toilet							
	facility meant for ladies staff is to be included in ground floor of the Control room							
	building.							
8.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical							
0.1	spec & approved drawings.	Lot	1	0	1			
L	spec & approved drawings.		1	1		I	l	

8.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per	Lot	1	0	1		
	technical spec & approved drawings.						
	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 provided with ceramic tiles), Acid	Lot	1	0	1		
	proof industrial tiles to be provided on the floor and wall of the battery room as per						
	technical spec & approved drawings.						
	External and internal wall (External (18mm thk ) and internal (12 mm thk) wall and ceiling						
	plastering as per technical spec mentioned in the civil section) and Building internal &						
	external & ceiling paintings as per technical spec mentioned in the civil section. The left	Lot	1	0	1		
	over portion of walls and ceiling of Battery room shall be acid proof paints as per						
	specification & approved drawings.						
8.5	Provision of ceiling in the control room area as per specification mentioned in the civil	Lot	1	0	1		
	section & approved drawings.	201	÷	ÿ	-		
	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 &	Lot	1	0	1		
	approved drawing.						
	Provision of PHD and other fittings(in Toilets,wash room,overhead water tank of						
	adequate capacity etc) 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	Lot	1	0	1		
	includes supply of all types of materials of reputed make, labour etc to complete the	LOU	-	Ū	-		
	work. Toilets for Gents & Ladies to be provided including all good quality reputed fittings						
	as per technoical specification. The toilets & wash room shall have antiskid floor tiles &						
	wall tiles of seramic upto height of 8 feet.						
	Internal concealed wiring (including supply of flexible copper FRP 1.1 KV PVC						
	wire, conduits & its accessories, modular type switches & switch board, Junction boxes						
	with required MCB & Earth leakage detector switcghear etc), fixing of lighting fixtures &						
	switchgear ,ceiling fans of 1400 sweep and regulators( including supply) ,exhaust fan	Lot	1	0	1		
	(including supply), Erection of all Lighting FIXTURES & LAMPS (LED), D.C emergency						
	lighting (including supply) as per approved drawing and direction of Engineer In charge.						
	Supply, fitting and fixing of stainless steel pf 304 grade in hand railing using 50mm dia of						
	2mm thick circular pipe with balustrade of size 32mmx32mmx32mm @0.90mtr C/C and						
8.9	stainless square pipe bracing of size 32mmx32mmx32mm in three rows in staircase as	Lot	1	0	1		
0.9	per approved design and specification, buffing, polishing etc with cost, conveyance, taxes	LOL	1	0	1		
	of all materials, labour, T&P etc required for the complete in all respect						
8.10	Provision of smoke and fire detection system of the building.	Lot					

9	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 Enginer 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)						
9.1	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	600	30	630		
9.2	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	170	0	170		
9.3	7 mtrs wide Concrete roads with shoulder as per specification indicated in the civil section.( for main and approach roads).Shall have drain on both side of the road.	MTRS	850	0	850		
10	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 Enginer In charge. All the switcyard bays, roads water drainage shall be connected to the mainsurface drain. As per approved drawing and specification.						
10.1	Storm water drain	LOT	1	1	2		
10.2	Road-culverts, drain crossings	LOT	1	0	1		
10.3	Cable trench crossing	LOT	1	0	1		
11	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. <b>1. 132/33 KV 20/40 MVA Transformer (2 Nos)</b>						
11.1	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	2		
11.2	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 Itrs.	Nos	1	0	1		

	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 (MIO) 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 vard area)	СИМ	312	45	357		
	Metal Spreading: Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 50 mm trickness consel/ 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	410	50	460		
	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	1		
	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.	LOT	1	0	1		
	RETAINING WALL: Construction of RCC retaining wall below the FGL and from NSL as per the site condition to sustain the earth pressure. The depth and length of RCC wall shall be designed as per site requirement. This includes excavation in all type of soil, PCC(1:3:6), & RCC (1:1.5:3) with supply of steel(Fe-500), cement ,sand etc. including cutting, bending, binding, backfilling in layers after concreting for soil compaction and also supply of other required materials and labour . The work shall be executed as per the approved design , drawing as per direction of Engineer In charge	СИМ	100	50	150		
	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	335	50	385		
18	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	1		
	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.)						

			I		1	1	1	
	Excavation This also includes excavation in all types of soil or rocks, back filling, and	Cu.m.	1	1	2			
	disposal of excess earth as per the direction of Engineer In charge.							
	PCC: M10(1: 3 : 6)	Cu.m.	1	1	2			
	RCC M 15(1:2:4)	Cu.m.	1	1	2	1	1	
	RCC: M 20(1:1.5:3)	Cu.m.	1	1	2			
	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1	1	2			
	12 mm thick plaster in cement sand mortar (1:6).	Sq.m.	1	1	2			
19.7	Cutting, bending, binding (supply of binding wires) and fixing of reinforcement (including supply of reinforcement).	M.T.	1	1	2			
19.8	Fabrication and welding (if any): Fabrication ( cutting of different size angles flats drilling of holes including cost of consumable labour T& P and steel	M.T.	1	1	2			
	<b>Construction of township/colony</b> (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 minimum 6 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 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 spit, swerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage, culverts, roads, street lighting, internal lighting, internal lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town ship.							
	"D" type Quarter As per technical specification(01 Nos Quarter, of size 120 SQ Mtrs)							
20.2	"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 Mtr	120	0	120			
20.4	"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)							
	"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 Mtr	146	0	146			
	"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 Mtr	146	0	146			
	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,backfilling,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 CFL lamp, LV XLPE cables, switchgear etc required to complete works as per specification and approved drawings							
		AL						
21.1	MAIN GATE	Nos.	1	0	1			

21.3		Nee	2	0			
21.3	SWITCH YARD GATE(ON BOTH SIDES OF 7MTRS. CONCRETE ROAD OF SWITCHYARD) WICKET GATE NEAR SWITCHYARD	Nos. Nos.	2	0	2		
22	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	1	2		
	STATION TRANSFORMER:Design, engineering, procurement of labour,material including all associated works for construction of foundation and DP structure for station transformers 33/0.415 KV,250 KVA STN TRANSFORMER as per approved drawing and specification.33 KV AB Switch(600A),HG Fuse, DP Structure & Angles (duly painted),Chanels, Plinth for erection of the transformer, including fixing and laying of (insulators,surge arresters,XLPE armoured power cables3.5 core 300 sq mm,LT out door kiosk near transformers and other accessories for complete installation of transformer as per standard) and instruction of Engineer In charge. As per the specification and approved drawing.	NOS	2	0	2		
	SECURITY SHED CUM VISITOR ROOM AND VEHICLE PARKING SHED: Design, engineering, procurement of labour, material including all associated works for construction of Security shed with a Toilet 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.						
	SECURITY SHED: The size of the security shed shall be 3.5 mtrsX6.5mtrs and height of 3.5mtrs RCC roof, brick masonary works, plastering and painting and fixing of MS doors and windows with attached Toilet. Internal concealed wiring (including supply of flexible copper FRP 1.1 KV PVC wire, conduits & its accessories, modular type switches & switch board, Junction boxes with required MCB & Earth leakage detector switcghear etc), fixing of lighting fixtures & switchgear ,ceiling fans of 1400 sweep and regulators( including supply) 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. (* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE supply)}	Nos	1	0	1		
	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. 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	1		
	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 5 HP submersible water pump with starter and other protection. Construction 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 2,5mtrsX25 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	2		

	STORE SHED:Design, engineering, supply of all labour, T&P, 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 10X10 mtr having Fly ash brick walls and plastering with RCC roof. The flooring shall be of 75 mm thickness PCC (mix ratio1:2:4) over RR masony 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. Internal concealed wiring (including supply of flexible copper FRP 1.1 KV PVC wire,conduits & its accessories,modular type switches & switch board,Junction boxes with required MCB & Earth leakage detector switcghear etc),fixing of lighting fixtures & switchgear ,ceiling fans of 1400 sweep and regulators (including supply) and provision of quarters. Also includes painting of the building (in side and out side) as per recommended for colony building in the specification. (* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE supply))	Lot	1	0	1			
27	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 (1:2:4) 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.		1	0	1			
	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	1			
29	Anti-Weed Treatment							
29.1	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	5000	400	5400			
30	Dismantalling of existing structures & shifting of LT/HT lines (if any as per site requirement) at proposed Gondia S/s	LOT	0	1	1			
	TOTAL OF SUBSTATION (Civil Work)(PART-B)							
	TOTAL OF ERECTION OF SUBSTATION (Electrical Wor	k) & (Civ	il Work) -Schedule-	4-ss (to Schedule No	o. 6 Grand Summary	7)		
						Name	e of Bidder:	 

Signature of Bidder:

1 Specify currency in accordance with specifications in Bid Data Sheet under ITB 19.1 in Single-Stage Bid, or ITB 34.1 in Two-Stage Bid.

	ODISHA POWER TRANSMISSION CORPORATION LIMITED										
at	NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Construction of 2X20 MVA-132/33 KV Sub-station at Lakhanpur with 2Nos 132KV Feeder Bay Extension at Brajarajnagar and associated 132 KV D/C line from 132/33 KV Grid Sub-Station at Brajrajnagar to Lakhanpur (Line length- 19.218Km approximately) in Odisha State of India under PACKAGE-8 Under Japan International Cooperation Agency (JICA)'s ODA Loan.										
I	Loan Agreement No: [ID-P245] - FB No: [CPC/JICA/ICB/08/15-16/]- Reference Identification No: [OPTCL/JICA/PKG-8]										
	Schedule No. 4. Installation	1 and O	ther Services								
	NAME OF THE BIDDER										
				Unit	Price <sup>1</sup>	Total Price <sup>1</sup>					
Sl. No.	DESCRIPTION OF ITEMS(SCHEDULE-4-line) ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNIT	132 KV D/C line from Brajrajnagar to Lakhanpur	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currency Portion				
			(1)	(2)	(3)	(1) x (2)	(1) x (3)				
PART A											
1.0	<b>ERECTION,TESTING &amp; COMMISSIONING</b> of Following tested Lattice type Galvanized steel tangent / Angle tower without stubs and cleats including different type of G.I HT Nuts & Bolts, washer, spring washer for the above type towers ,hanger and all accessories, tower super structure complete with tightening, punching of bolts including step bolts. All other left out portion of the bolts above bottom cross arm shall be riveted by using suitable hammer. Painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping legs & bracing members. All Erection should confirm to the Technical Specification laid there in the Tender Specification.										
1.1	PA TYPE (SUSPENSION ) TOWERS (Nominal unit weight 3.430 MT) (43 NOS)	MT	147.49				-				
1.1.1	+3 EXTENSION (Nominal unit weight 0.611 MT) (14 NOS.)	MT	8.554								
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT) (2 NO)	MT	2.698								
1.2	PB TYPE (30 deg ANGLE ) TOWERS (Nominal unit weight 4.973 MT) (12 NOS)	MT	59.676								
1.2.1	+3 EXTENSION (Nominal unit weight1.018 MT)( 2nos)	MT	2.036								
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT) (1 NO)	MT	2.104								
1.3	PC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight6.214MT) (9 NOS.)	MT	55.926								
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT) (0NOS.)	MT	0								
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT) ( 4 NOS.)	MT	9.368								
	UR TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 13.125 MT) (2 nos) +6 EXTENSION (Nominal unit weight 4.161 MT) (2 nos)	MT MT	26.250 8.322								

	OC TYPE (60 deg ANGLE ) TOWERS (Nominal unit weight 9.014 MT) (2 nos)	MT	18.028		
	+15 EXTENSION (Nominal unit weight 18.622 MT) (2 nos)	MT	37.244		
	T1S COLUMN- 132 KV(NOMINAL UNIT WT- 1.2 MT) = 6 Sets.	MT	7.200		
	G1 BEAM - 132 KV (NOMINAL UNIT WT- 0.62 MT) =4 Sets.	MT	2.480		
1.3.3	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and				
	Bolts)	МТ	387.376		
	Weight of different type G.I Nuts and Bolts	MT	19.071		
	Fixing of of Templates				
	PA Type(43 Nos.)	MT	28.595		
	PB Type (12 Nos.)	MT	7.224		
1.5.3	PC Type (9 Nos.)	MT	8.136		
1.5.4	UR (Nominal unit weight 1.475 MT)(2 Nos.)	MT	2.950		
1.5.5	OC+15 (Nominal unit weight 2.074 MT)(2 Nos.)	MT	4.148		
1.6	Erection of the following tower accessories as per technical specification and as				
1.0	directed by the engineer-in charge.				
1.6.1	DANGER BOARD	Nos.	68		
	NUMBER PLATE	Nos.	68		
1.6.3	PHASE PLATE (R,Y,B)	Sets	408		
1.6.4	BIRD GUARD	Sets	258		
1.6.5	ANTICLIMBING DEVICE	Sets	68		
1.6.6	CIRCUIT PLATE ( Phase-I,II)	Nos.	136		
1.6.7	EARTHING OF TOWER including supply of all materials except Earthing Device				
	Pipe Type earthing including cost of charcoal,salt/coke and good borrowed earth and Bentonite where necessary in accordance with IS:3043 and with supply of all T&P and Labour.	Nos.	68		
2	Hoisting and fixing of insulators with required accessories, paying out of conductor ,jointing, stringing, sagging & Jumpering etc. of power conductor in the proposed lines 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 1.5% provision for Sag & Wastage and as per the direction of Engineer in charge.				
2.1	DOUBLE CIRCUIT (ACSR PANTHER, SIX POWER CONDCTOR )	Route (Km)	15.810		
2.2	SINGLE CIRCUIT (ACSR PANTHER, THREE POWER CONDCTOR )	Route (Km)	0.082		
2.3	DOUBLE CIRCUIT (ACSR PANTHER,SIX POWER CONDCTOR ), ADDITIONAL CHARGES FOR STRINGING NATIONAL HIGHWAY CROSSING	Route (Km)	0.320		
2.4	DOUBLE CIRCUIT (ACSR PANTHER,SIX POWER CONDCTOR ), ADDITIONAL CHARGES FOR STRINGING IN SPECIAL TOWERS BEYOND +6 MTR EXTENSION AND MULTICIRCUIT TOWERS	Route (Km)	2.856		
2.5	DOUBLE CIRCUIT (ACSR PANTHER,SIX POWER CONDCTOR ), ADDITIONAL CHARGES FOR STRINGING RAILWAY CROSSING	Route (Km)	0.150		
	Erection of OPGW fibre Optic Cable for speech, data & protection				
1	Erection of 24Fibre(DWSM)OPGW fibre Optic along with hardwares and approach cables	Kmtr	24.000		

	TOTAL of ELECTRICAL WORKS Part- (A)				
PART B	CIVIL WORKS				
1	SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting				
	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.	19.218		
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.	19.218		
	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.Detail GIS (Geographical Information System) of towers to be included.	KM.	19.218		
1.4	Soil Testing in complete shape along with submission of report etc. up to the depth of 7.0 Mtrs.	Per Loc.	15		
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 for foundation				
2.1.1	Soft/Loose soil	CUM	1354.986		
	Wet soil	CUM	1896.98		
2.1.3	Dense/Compact soil	CUM	1445.318		
	Partial Submerged soil	CUM	2348.642		
	Fully submerged soil	CUM	0		
	Soft/Disintegrated rock(Not requiring Blasting)	CUM	1083.989		
	Hard Rock(Requiring Blasting/Using breaker machinery)	CUM	903.324		
3	<b>FOUNDATION MATERIALS</b> : 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	PCC(Lean Concrete) in the ratio 1:3:6(Grade M-10)	CUM	195.8		

r	1			r		
3.2	<ul> <li>(i) FOR OPENCAST FOUNDATION:Providing &amp; laying of RCC work of ratio 1:1.5:3</li> <li>(Grade M-20) with approved quality stone chips of nominal size 12mm to 20mm in tower foundation and cooping inclusive of cost of mixing, supply of form boxes Chimney &amp; fixing, curing, testing of sample cement concrete cubes &amp; cost of all materials like cement, etc. as per IS.456</li> <li>(ii) The cooping height shall be 350mm above the ground level. The surrounding area shall be clear from materials and damage of land if any shall be repaired before measurement and as per requirement, including labours and T&amp;P as per specification in the concrete ratio 1:1.5:3 (Grade M-20.)</li> </ul>	СЛМ	1447.946			
3.2.1	Steel of different size (as per design ) with cutting, bending , binding in position of M.S.Rod for reinfocement of foundation concret of towers (open cast ) including supply of binding wire (With supply of steel rod (TATA/RINL/SAIL make )		27.626			
4.0	DE-WATERING(FOR OPEN CAST LOCATION)					
4.1	(ii) With Supply of all T&P, Fuel, Lubricant & electricity on HP Hour basis.	HP Hour	214			
5.0	Supply of borrowed earth/morrum for back filling for foundation/revertment works					
5.1	beyond 100 mtr lead	CUM	650			
6	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	2900			
7	<b>Head-Loading</b> 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	12000			
8	WELDING OF TOWER MEMBERS					
8.1	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.	69,121			
9	<b>REVETMENT:</b> (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.					
9.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	CUM	1150			
9.2	Lean Concrete in the ratio1:3:6(Grade M-10) including supply of sand chips etc.	CUM	190			
9.3	PCC in the ratio 1:2:4(Grade M-15) as above.	CUM	40		 	
9.4	RR Massonary work in the ratio 1:5.	CUM	860			

10	PTCC approval, railway crossing has to be obtained by submitting the required documents to the concerned department through OPTCL. 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.	10	1			
	TOTAL OF Line (Civil Work)					
	TOTAL OF ERECTION LINE (Electrical Work) & (Civil					
	Work) -Schedule-4-line					
				Name of Bidder Signature of Bid	 	_

1 Specify currency in accordance with specifications in Bid Data Sheet under ITB 19.1 in Single-Stage Bid, or ITB 34.1 in Two-Stage Bid.

## **ODISHA POWER TRANSMISSION CORPORATION LIMITED**

NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Construction of 2X20 MVA-132/33 KV Sub-station at Lakhanpur with 2Nos 132KV Feeder Bay Extension at Brajarajnagar and associated 132 KV D/C line from 132/33 KV Grid Sub-Station at Brajrajnagar to Lakhanpur (Line length- 19.218Km approximately) in Odisha State of India under PACKAGE-8 Under Japan International Cooperation Agency (JICA)'s ODA Loan.

Loan Agreement No: [ID-P245] -	IFB No: [CPC/JICA/ICB/08/15-16/]-	Reference Identification No: [OPTCL/JICA/PKG-8]
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NAME OF THE BIDDER	Total I Foreign	
•		
•	Foreign	
Total Schedule No. 1. Plant, and Mandatory Spare		Local
Parts Supplied from Abroad (Substation+Line)		
Total Schedule No. 2. Plant, and Mandatory Spare, Parts Supplied		
from Within the Employer's Country (substation+Line)		
Total Schedule No. 3. Design Services (Not Applicable)		
Total Schedule No. 4. Installation and Other Services (substation+Line)		
Total Schedule No. 5. Provisional Sums (Not to be considered for		
Evaluation)		
Total( to Bid Form)		
Nome of Biddom		
Signature of Bidder		
	From Within the Employer's Country (substation+Line)         Fotal Schedule No. 3. Design Services (Not Applicable)         Fotal Schedule No. 4. Installation and Other Services (substation+Line)         Fotal Schedule No. 5. Provisional Sums (Not to be considered for Evaluation)	From Within the Employer's Country (substation+Line)         Fotal Schedule No. 3. Design Services (Not Applicable)         Fotal Schedule No. 4. Installation and Other Services (substation+Line)         Fotal Schedule No. 5. Provisional Sums (Not to be considered for         Evaluation)         Total( to Bid Form)         Name of Bidder:

<sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 19.1 in Single-Stage Bidding, or ITB 34.1 in Two-Stage Bidding. Create and use as many columns for Foreign

	ODISHA POWER TRANSMISSION CORPORATION LIMITED											
NAME O	F THE WORK:- Design, Supply and Installation											
at L	akhanpur with 2Nos 132KV Feeder Bay Extension	on at Braja	rajnagar and a	ssociated 132	KV D/C line from 132/3	33 KV Grid Sub-Station at						
Bra	jrajnagar to Lakhanpur (Line length- 19.218Km				a under PACKAGE-8 U	Inder Japan International						
	С	ooperation	Agency (JICA)	's ODA Loan.								
Ι	Loan Agreement No: [ID-P245] - IFB No: [CF	PC/JICA/IC	CB/08/15-16/	]- Refer	ence Identification No:	OPTCL/JICA/PKG-8						
Schedule No. 7. Recommended Spare Parts												
	NAME OF THE BIDDER											
Sl. No.	DESCRIPTION OF ITEMS	Unit	Quantity		Unit Price	Total Price in INR						
	SUPPLY OF SPARES FOR THE FOLLOWING			CIP	Ex-Works Price							
	EQUIPMENTS.		(1)	(foreign parts) (2)	Local Parts (3)	(1) x (2) or (3)						
			(1)	(2)	(3)							
				1								
		1										
		1		1								

	TOTAL								
			Signature of Bidder:						
Note: Recom	Note: Recommended Spares shall not be taken in to consideration for evaluation purpose.								