Loan Agreement No: [ID-P245] - IFB No: [Schedule No. 1. Plan NAME OF THE BIDDER PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY) SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) 1 245 kV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSIC (As per Technical Specification) 2 245 kV,2000A,40KA,5CORE SINGLE PHASE CURRENT TRANSIC (I) 2 245 kV,2000A,40KA,ISOLATORS 2.1 S/I WITH SINGLE EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,200-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER 8.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, (4 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, 7 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER	WER TRANSMISSION	CORPO	RATION L	IMITED			
Schedule No. 1. Plan NAME OF THE BIDDER PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY) SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) 1 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSIC (C) 2 245 KV,2000A,40KA,ISOLATORS 2.1 S/I WITH OUT EARTH SWITCH 2.2 S/A WITH OUT EARTH SWITCH 3 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV,METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,20002,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 4 245KV,20002,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, CLASS) (IN EA		prox. Lir	e length-	12.378 Kms.)			
NAME OF THE BIDDER PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY) SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) SL NO 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI (As per Technical Specification) 1 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI (As per Technical Specification) 2 245 KV,2000A,40KA,ISOLATORS 2.1 S/I WITH OUT EARTH SWITCH 2.3 BEAM MOUNTED S/N WITHOUT EARTH SWITCH 3 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCT 3 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCT 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV / 2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER 8.1 36 KV 0.400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER 8.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 9.1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, (F 9.2 36 KV CLASS NCT FOR POWE	CPC/JICA/ICB/08/15-16/]-	Referenc	e Identificatio	n No: [OPTCL/J	ICA/PKG-8]	
PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY) SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) 1 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI (As per Technical Specification) 2 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI (CI) 2 245 KV,2000A,40KA,ISOLATORS 2.1 S/I WITH OUT EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF0 4 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV, 2 CORE,SINGLE PHASE INT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, 4 HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER<	t and Mandatory Sp	oare Pa	rts Supp	lied from A	broad		
SL NO SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification) 1 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI CI) 2 245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSI CI) 2 245 KV,2000A,40KA,ISOLATORS 2.1 S/I WITH OUT EARTH SWITCH 2.2 S/I WITH SINGLE EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER 8.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF							
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 CI) 2 245 KV,2000A,40KA,ISOLATORS 2.1 S/I WITH OUT EARTH SWITCH 2.2 S/I WITH SINGLE EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS (IN EACH POWER TRANSFORMER REF PROTECTION, 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION 9.1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 	ORMER(4 PS CI & 1 0.2s		NOS	(<i>1</i>) 18	(2)	(3)	(1) x (3)
2.1 S/I WITH OUT EARTH SWITCH 2.2 S/I WITH SINGLE EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCT 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION, S3 KY 9 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION (F 9.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F			1103	18			
 2.2 S/I WITH SINGLE EARTH SWITCH 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 8.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION 9.1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 			NOS	13			
 2.3 BEAM MOUNTED S/I WITHOUT EARTH SWITCH 3 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 4 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 5 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 6 245 KV,2 CORE,SINGLE PHASE,IVT 7 220 KV Bus Post Insulators 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 8.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 9.1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER REF PROTECTION (F 9.2 & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 			NOS	6			
 245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSF 245 KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUC 216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III 245 KV,2 CORE,SINGLE PHASE,IVT 220 KV Bus Post Insulators 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 			NOS				
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 8.1 36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFOR 8.2 36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFOR 9 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 9.1 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F 			NOS	6			
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 8.2 CI) 9 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 9.2 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 			NOS	6			
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9.1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORME 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (F 9.2 & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER	/ SIDE:1 NO)						
9.2 & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER	R 220 KV SIDE: 1 NO)		NOS	2			
	:ATIO 800-400-200/1-1 A) 33 KV SIDE:1 NO)		NOS	2			
10 36 KV,1250A,25KA,ISOLATORS			1				
10.1 S/I WITH OUT EARTH SWITCH			NOS	9			
10.2 D/I WITH SINGLE EARTH SWITCH			NOS	5			1
10.3 D/I WITHOUT EARTH SWITCH			NOS	2			
10.4 S/I WITH BEAM MOUNTED			NOS	2			
11 30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II(Beam Mounted)		NOS	27			
12 36 KV ,2 CORE,SINGLE PHASE,IVT	<u>·</u>		NOS	3			

13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	N	OS	8			
14	33 KV Bus Post Insulators		OS	27			
15	BUS BAR & CIRCUIT MATERIALS						
15.1	ANTI FOG TYPE INSULATOR						
15.1.1	160 KN INSULATOR	N	IOS	1701			
15.1.2	120 KN INSULATOR	N	IOS	228			
15.1.3	90 KN INSULATOR	N	IOS	322			
15.2	ACSR MOOSE CONDUCTOR	K	MS	5.00			
15.3	IPS 4" ALUMINIUM TUBES(114.2 mm OD, & 8.51mm Thickness) for equipment to equipment	N4 ⁻	ΓRS	370			
	connection in 220 KV side.	IVI	INO	370			
15.4	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS						
15.4.1	220 KV Single Tension H/W fitting for twin moose ACSR	N	OS	60			
15.4.2	220 KV Single Tension H/W fitting for single moose ACSR	Ν	OS	60			
15.4.3	220 KV Single Suspension H/W fitting for single mose ACSR	N	OS	24			
	33 KV Single Tension H/W fitting for single moose ACSR	N	OS	30			
	33 KV Single Tension H/W fitting for twin moose ACSR		OS	36			
	33 KV Single Suspension H/W fitting for single mose ACSR		OS	33			
	220kv T- clamp for ACSR ZEBRA run to ACSR MOOSE drop		OS	17			
	T-Clamp for single Moose -Single Moose ACSR		OS	244		ļ	
15.4.9	T-Clamp for twin Moose run -Single Moose drop ACSR		OS	48		ļ	
	220 KV PI clamp		OS	54			
	33KV PI Clamp		OS	27		ļ	
	Spacer for Moose ACSR		OS	222			
	220 KV Isolator pad clamp		OS	162			
-	220 KV LA Clamp		OS	12			
	220 KV CVT Clamp		OS	6			
	220 KV CT Clamp		OS	36			
	220 KV IVT Clamp		OS	6			
	220 KV CB Clamp		OS	30			
	33 KV Isolator pad clamp		OS	129			
	33 KV LA Clamp		OS	27			
	33 KV CT Clamp		OS	48			
	33 KV IVT Clamp 33 KV CB Clamp		OS OS	3 48			
	PG Clamp for ACSR Moose		OS OS	48			
	EARTH WIRES & IT'S HARDWARES & FITTING	N	03	40			
	Earthing Spikes and Its Fittings in all respect.						
	Earthing Spikes of 9 mtr long each and its Fittings in all respect. (220 kv side)	N	OS	31			
	Earthing Spikes of 5 mtr long each and its Fittings in all respect. (220 kV side)		OS OS	27			
16	SUBSTATION EARTHING SYSTEMS	14	00	21			
	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (spacing maximum 5m both		_				
16.1	way)	Ν	ΛT	31			
46.0	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to		лт	10.44			
16.2	equipment,structure etc)	N	ΛT	10.41			
16.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3	N	OS.	180			
10.5	mtrs long for treated earth pit)	IN .	U J.	100			
16.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated	N	os.	160			
	earth pit)						
17	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-						
	4 along with its accessories as per TS.						
17.1	G.I Cable Trays(size: 450x75x2500mm)	M	ΓRS	1200			
17.2	G.I Cable Trays(size: 300x75x2500mm)	M	FRS	2000			
17.3	G.I Cable Trays(size: 150x75x2500mm)		rrs	1500			
17.3	Support G. I angle 50x50x6 mm for cable tray		IRS /IT	2.5			
			/11	2.0			
18	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES					-	
18.1	BAY MARSHALLING KIOSK (03 nos on 220 kV bay & 04Nos 33 KV bay)	N	OS	7			
18.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 nos on 220 kV bay & 01 No in 33KV bay)	N	OS	2			
18.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (01 no. near 220/33 KV	N	os	1		T	
10.5	power Transformer)	N	03	I			

	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY (01 nos on 220 &					
	33 kV bay)	NO	S	2		
	SWITCH YARD STRUCTURES (LATTICE TYPE FOR TOWER COLUMN & BEAMS & PIPE TYPE					
	FOR ALL EQUIPMENT COLUMN) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.					
	DIFFERENT TYPES OF COLUMNS WITH DETAILS					
	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT) (31 NOS.)	M	т	139.5		
	P2A-220 KV (NOMINAL UNIT WT- 15 MT) (12 NOS.)	M		12		
	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT) (11 NOS.)	M		8.8		
	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) (16 NOS.)	M		9.6		
	DIFFERENT TYPE OF BEAMS WITH DETAILS			0.0		
	Q1-220KV (NOMINAL UNIT WT- 1.5 MT) (24NOS.)	М	Т	36		
	Q3-220KV (NOMINAL UNIT WT-2.5 MT) (8 NOS.)	M		20		
	Q4-220KV (NOMINAL UNIT WT- 0.9 MT) (4 NOS.)	M		3.6		
	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) (4 NOS.)	M		2.12		
	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT) (9 NOS.)	M		3.6		
19.2.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT) (6 NOS.)	M	Т	2.4		
	TOTAL WEIGHT OF COLUMN & BEAM	M	т	237.62		
40.4	EQUIPMENT SUPPORT STRUCTURES (PIPE TYPE) FOR ALL 220KV, 132 KV & 33KV					
19.4	EQUIPMENTS INCLUDING FOUNDATION BOLTS & NUTS					
19.4.1	ISOLATORS-220KV (SI with E/S-6 No.)	M	Т	7.626		
19.4.2	ISOLATORS-220KV (SI without E/S -13Nos.)	M	Т	16.523		
	ISOLATORS-33 KV (SI-9 Nos.)	M	Т	2.325		
	ISOLATORS-33 KV (DI with E/S -5 Nos.)	M	Т	3.222		
	ISOLATORS-33 KV (DI without E/S-2 Nos.)	M		1.234		
	CTS-220 KV (18 nos.)	M		4.05		
	CTS-33 KV (18 nos.)	M		2.088		
	CVTS-220 KV (6 nos.)	M		1.326		
	IVTS-220 KV (6 nos.)	M		1.723		
	IVTS-33 KV (3 nos.)	M		0.355		
	Surge Arrester-220 Kv(12 nos.)	M		3.505		
	BPI-220 KV (54nos.)	M		15.811		
	BPI-33 KV (15 nos.)	M		3.095		
	NCTs(4 nos)	M		0.464	r	
	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	M		63.346		
	Total weight of GI Nuts and bolts for Columns, Beams & Equipment Structures	M	1	12		
	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				 	
20.1	POWER CABLES,1.1KV,XLPE & PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)					
20.1.1	XLPE 3.5 CX300 mm ²	MT	R	800	 	
	XLPE 3.5 CX185 mm ²	MT	R	800		
	XLPE 3.5 CX120 mm ²	MT		600		
		MT		1000		
-	PVC 3.5 CX70 mm ²	MT				
	PVC 3.5 CX35 mm ²			2500		
20.1.6	PVC 4 CX 16 mm ²	MT	к	1500		

20.1.7	PVC 4CX 6 sqmm	MTR	4000		
20.1.7	PVC 4CX 6 sqmm	MTR	3500		
20.1.5	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)	IVITIN	3300		
20.2.1	2 CX 2.5 mm ²	MTR	6000		
20.2.3	4 CX 2.5 mm ²	MTR	14000		
20.2.4	5 CX 2.5 mm ²	MTR	4500		
20.2.5	7CX 2.5 mm ²	MTR	6000		
20.2.5	10 CX 2.5 mm ²	MTR	12000		
20.2.0	12 CX 2.5 mm ²	MTR	9000		
20.2.7		MTR	5000		
20.2.8	16 CX 2.5 mm ²	MTR	2000		
20.2.9	19 CX 2.5 mm ²	MTR	800		
	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	MIR	800		
21	ACCESSORIES FOR PLCC SYSTEM With OPGW cable	14.1			
21.1	24 Fibre Optic Approach cable along with HDPE Pipes	Kmtr	0.50		
21.2	Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX	No			
	& tributary cards for speech & data ports for interfacing of Speech & data which should		1		
	be compatible with existing OPTCL system				
21.3	Digital Teleprotection Equipment and accessories to be suitable for interfacing with SDH	No	2		
01.1	Cumply of EODD/Eikse Optic Distribution Depail) 40 Evanders type reals may read with ECDC equation	NL-			
21.4	Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted with FCPC coupling and pig tails(DWSm Fibre)	No	1		
21.5	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	No	1		
	for LDMS facility. Laptop should be part of the supply contract of RTU for monitoring, local	NU	1		
	data aquisition & configuration of RTU.				
21.6	48 V, 300 AH, maintenance free VRLA Battery set.	Set	1		
21.7	SMPS based battery charger of 75A suitable for 48V VRLA battery.	No	1		
21.8	2.5 sq. mm 2 core control cable(power supply,Transducer/MFT PT supply)	Metre	300		
21.9	2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT, supply)	Metre	300		
21.10	1.5 sq. mm 10 core control cable(Digital Input)	Metre	200		
21.11	10 sq. mm 2 core multi strand control cable(Battery)	Metre	100		
21.12	Earth Flat, Cable Tray, Telephone cable, ACDB, DCDB, Foundation rail, Junction Box,	Set	L.S		
22	SUPPLY OF POWER TRANSFORMER, STATION TRANSFORMER & OTHER MATERIALS FOR				
22	MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL				
22.1	POWER TRANSFORMER 220/33 KV, 20 MVA(AS PER SPECIFICATION)	NOS	2		
22.2	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2		
22.3	Supply of materials for exection of station transformers				
22.3	Supply of materials for erection of station transformers				
00.04	HDG DP STRUCTURE: each set shall comprise of [2X 9.0 Mtrs	CET	0		
22.3.1	(ISBM:200X100 mm(min) RS Joist(beam) with bracings of suitable channels(ISMC 75X40) & angles (L50X50X6) & different size Steel plate of 10 mm thick etc].	SET	2		
	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down)				
22.3.2	& handle for operation of AB switch	SET	2		
00.0.0	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single	0.DTT	0		
22.3.3	HG fuse)	SET	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				
22.3.4	PHASE SFU (500AMPS) AT THE OUTGOING SIDE AND SUITABLE BUS BAR ARRANGEMENT	SET	2		
	FOR TERMINATION of incoming cable from transformer & outgoing cable to Main ACDB.				
	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				
23.0	from the lighting outdoor distribution boards to the junction boxes and from junction boxes to the				
23.0	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.				
L					

23.1	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	40		
	STREET LIGHTING: IT INCLUDES SUPPLY OF GI TUBULAR POLE AS PER TECHNICAL SPECIFICATION, LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Baja).(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				
23.2.1	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light.	SET	20		
23.2.2	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	20		
23.2.3	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		
23.2.4	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		
24	2 TR CAPACITY 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.(*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)	SET	20		
25	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)				
25.1	FOAM TYPE-9 LTRS	NOS	4		
25.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4		
25.3	DRY POWDER TYPE - 5 KGS	NOS	4		
25.4	CO ₂ - 4.5 KGS	NOS	10		
25.5	CO ₂ - 9 KGS	NOS	10		
25.6	CO2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4		
25.7	9 litre water type	Nos.	4		
	50 Litres Mechanical Foam type	Nos.	2		
	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	 SET	5		
26	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC				
	220 KV SIDE(SIMPLEX TYPE)				
_	FEEDER CONTROL & RELAY PANEL	SET	2	 	
26.1.2	TRANSFORMER CONTROL & RELAY PANEL(FOR HV SIDE OF 220/33 KV TRANSFORMER)	SET	2		
	BUSCOUPLER CONTROL & RELAY PANEL	SET	1		
	SYNCHRONISING TROLLY	NOS	1	 	
	BUS-BAR RELAY PANEL(RBB-2D) TIME SYNCH EQUIPMENT	NOS	1		
	EVENT LOGGER PANEL	 NOS	1		
	33 KV SIDE	NOS	1		
	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5		
	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)			 	
26.2.2	BUSCOUPLER CONTROL & RELAT PANEL (CPB/RPB-0M)	NOS	2		
26.2.3	DUGGOUFLEN GUNTRUL & RELAT FAMEL (GFD/RPB-UM)	NOS	1		

27	AC & DC SYSTEM					
	AC SYSTEM					
27.1.1	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)	S	ET	1		
	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1, AC DB-2 WITH B/C)	S	ET	1		
	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	S	ET	1		
27.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	S	ET	1		
27.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	S	ET	1		
27.1.6	INDOOR RECEPTACLE BOARD	S	ET	1		
27.2	DC SYSTEM					
	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1,DC DB-2 & B/C)	_	ET	1		
27.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	-	ET	1		
28	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	S	ET	2		
29	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST) (including provision of series dropper diodes with heat sinks & other protection facility at the DC Load terminal end in order to feed 220 V to the load).	s	ΕT	1		
30	DISTILLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	S	ET	1		
31	WALKIE TALKIE SET	-	ET AIR	2		
	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	N	os	2		
33	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	S	ET	1		
	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	S	ET	1		
35	WATER COOLER WITH WATER PURIFIER SYSTEM	N	OS	2		
36	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I , INDICATED IN TS-TIMK- SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	Ŀ	от	1		
37	OTHER TOOLS AND PLANTS (T&P'S) REQUIREMENT (AS PER ANNEXURE - II ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P'S)	Ŀ	от	1		
38	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.	L	от	1		
	BEST QUALITY & APPROVED MAKE INSULATING MAT (Confirming to IS:15652:2006) TO BE KEPT INFRONT OF ALL PANELS, BOARDS ETC.	Ν	10	35		
	TOTAL OF SUBSTATION(Plant)					

Manda	tory Spare Parts						
Item	DESCRIPTION OF ITEMS				Unit Price ²		
	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Code ¹	UNITS	Quantity	In Foreign Currency	CIP	Total Price ²
	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER(4 PS						
1	Cl & 1 0.2s Cl) Including terminal Connector		NOS	1			
2	245 KV,2000A,40KA,ISOLATORS						
2.1	MALE & FEMALE CONTACTS		SET	1			
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.		SET	1			
2.3	LIMIT SWITCH		SET	2			
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.		SET	1			
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY		SET	1			
2.6	EARTHING ROD & BLADE CONTACT SIDE		SET	1			1
2.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD		SET	1			Ì
2.8	POST INSULATOR SUPPORT		SET (3NOS. PER SET)	1			
3	245 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR		NOS	1			
4	216 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR.		NOS	2			
5	245 KV ,2 CORE, SINGLE PHASE, IVT INCLUDING TERMINAL CONNECTOR		NOS	1			
6	220 KV Bus Post Insulators		NOS	2			
7	245KV,3150A,40KA,SF6,CIRCUIT BREAKER						
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER		NOS	1			
7.2	SPRING CHARGING MOTOR		NOS	1			
7.3	BREAKER AUXILIARY CONTACTS		SET	1			
7.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.		SET	1			
7.5	DENSITY MONITORING SYSTEM		SET	1			
7.6	CLOSING COIL		NOS	4			
7.7	TRIPPING COIL		NOS	4			
7.8	SF6 GAS FILLING DEVICE		NOS	1			
7.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER		SET	1			
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER		NOS	2			
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER		NOS	1			
9	36 KV,1250A,25KA,ISOLATORS						
9.1	MALE & FEMALE CONTACTS		SET	1	ļļ		
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.		SET	1			
9.3	LIMIT SWITCH		SET	2			
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.		SET	1			
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY		SET	1			
9.6	EARTHING ROD & BLADE CONTACT SIDE		SET	1			
9.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD		SET	1			

	POST INSULATOR SUPPORT				
9.8		SET(3NOS. PER SET)	1		
10	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR	NOS	3		
11	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1		
12	36KV, 1250A,25KA,VACUUM CIRCUIT BREAKER				
12.1	ONE COMPLETE POLE ASSEMBLY OF CIRCUIT BREAKER	SET	1		
12.2	TRIPPING CIOLS	NOS	4		
12.3	CLOSING COIL	NOS	4		
12.4	SPRING CHARGING MOTOR	NOS	1		
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1		
12.6	SET OF GASKET, "O" RINGS, SEALING PER CIRCUIT BREAKER	SET	1		
12.7	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1		
13	33 KV Bus Post Insulators	NOS	3		
14	BUS BAR & CIRCUIT MATERIALS				
14.1	160 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-220KV	SET	2		
14.2	160 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-220 KV	SET	2		
14.3	160 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-33 KV	SET	2		
14.4	160 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-33 KV	SET	2		
14.5	120 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-220 KV	SET	2		
14.6	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-33 KV	SET	2		
15	ACSR MOOSE CONDUCTOR	MTRS	500		
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS ETC. FOR 220 KV & 33 KV	SET (EACH TYPE THREE NOS.)	1		
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				
17.1	POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)				
17.1.1	3.5 CX300 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		
17.1.2	3.5 CX185 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		
17.1.3	3.5 CX120 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1		
	3.5 CX70 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1		
17.1.5	3.5 CX35 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1		
	4 CX 16 mm ²⁻ -PVC	MTRS	150		
	4 CX 6 mm ² -PVC	MTRS	100	i	1

17.1.8	2CX 6 mm ² -PVC	MTRS	50			
_	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)	WIIKS	50			
	4 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500			
	5 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500			
	7 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500			
17.2.4	10 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500			
17.2.4		Mtrs				
	12 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250			
17.2.6	16 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)		250			
17.2.7	19 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250			
17.2.8		MTRS	100			
17.3	BAT TO BAT CHARGER & CHARGER TO DCDB CARRIER COMMUNICATION & OTHER MATERIALS					
	ONE COMPLETE CELL ASSEMBLY OF BATTERY (FOR 220 V PLANTE TYPE BATTERY					
17.3.1	350 AH.)	No	2			
47.0.0	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 300	000	1			
17.3.2	AH (48V)	SET	1			
17.3.3	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 350	SET	1			
		021	-			
18	PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN,					
18.1	COMM PAN, RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM 220 KV SIDE					
	DISTANCE PROTECTION RELAY	NOS	1			
-	OVER CURRENT & EARTH FAULT RELAY	NOS	1			
-	MASTER TRIP RELAY	NOS	1			
	DIFFERENTIAL PROTECTION RELAY	NOS	1			
	TRIP SUPERVISION RELAY					
18.1.5		NOS	1			
	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1			
	ANNUNCIATOR	NOS	1			
18.1.8	DISCREPANCY CONTROL SWITCH	100				
	a) FOR CIRCUIT BREAKER	NOS	1			
	b) FOR ISOLATOR	NOS	1			
	PROTECTION TRANSFER SWITCH	NOS	1			
	AMMETER SELECTOR SWITCH	NOS	3			
	VOLTMETER SELECTOR SWITCH	NOS	3			
-	AMMETER ALONG WITH TRANSDUCER	SET	2			
	VOLTMETER ALONG WITH TRANSDUCER	SET	2			
-	MW METER ALONG WITH TRANSDUCER	SET	2			
18.1.15	MVAR METER ALONG WITH TRANSDUCER	SET	2			
	33 KV SIDE					
18.2.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1			
18.2.2	MASTER TRIP RELAY	NOS	1			
18.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)	SET	1			
18.2.4	ANNUNCIATOR	NOS	1			
18.2.5	CONTROL SWITCHES FOR					
	a) CIRCUIT BREAKER	NOS	1			
	b) ISOLATOR	NOS	1			
18.2.6	PROTECTION TRANSFER SWITCH	NOS	1			
	AMMETER SELECTOR SWITCH	NOS	3			
18.2.8	VOLTMETER SELECTOR SWITCH	NOS	3			1
	AMMETER ALONG WITH TRANSDUCER	SET	1	1	1	
10.2.0		021	-	1	1	1

18.2.10	VOLTMETER ALONG WITH TRANSDUCER		SET	1					
18.2.11	MW METER ALONG WITH TRANSDUCER		SET	1					
18.2.12	MVAR METER ALONG WITH TRANSDUCER		SET	1					
	TOTAL OF MANDATORY SPARE PARTS								
	TOTAL OF SUBSTATION-SCHEDULE-1 -Plant and Mandatory Spa	re Parts(to Schedu	ıle No. 6 G	rand Summary)					
		N	Name of Bidder:						
		S	Signature of Bidder:						

¹ Bidders shall enter a code representing the country of origin of all imported plant and equipment. ² 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

Country of Origin Declaration Form

Item	Description	Code	Country

	ODISHA POWER TRANSMISS		PORAT	ION LIMI	TED		
	ME OF THE WORK:- Design, Supply and Installation of Sub-Stations & T ARH & associated 220KV LILO line from 220 line from Rengali to Tarkera Under Japan International Coope	(Approx. Lin	e length-12	.378 Kms.) in			
Lo	an Agreement No: [ID-P245] - IFB No: [CPC/JICA/ICB/08/15	-16/]-	Refer	ence Identif	ication No:	OPTCL/JIC	CA/PKG-8]
	Schedule No. 1. Plant and Mandator	y Spare Par	ts Supplie	ed from Abr	oad		
	NAME OF THE BIDDER						
	DESCRIPTION OF ITEMS				Unit	Price ²	
SI. No.	SUPPLY OF FOLLOWING EQUIPMENT,STRUCTURES & MATERIALS (As per Technical Specification)	Code ¹	UNITS	Quantity for Construction of 220 KV LILO line from Rengali-Tarkera line to Deogarh (Line length-12.378 Kms (APPOX).	In Foreign Currency	CIP	Total Price ²
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)	(2)	(3)	(1) x (3)
1.1	OA TYPE TOWER (Nominal unit weight 4.150 MT) (25 NOS.)		MT	103.750	-		
1.2	, +3 EXTENSION (Nominal unit weight 0.700 MT) (10 Nos)		MT	7.010	-		
1.3 1.4	, +6 EXTENSION (Nominal unit weight 1.410 MT) (8 NOS.)		MT	11.288	-		
1.4	OB TYPE TOWER (Nominal unit weight 6.350 MT) (10 NOS.) ,+3 EXTENSION (Nominal unit weight 1.208 MT) (3NO.)		MT MT	63.480 3.627	-		
1.6	OC TYPE TOWER (Nominal unit weight 9.51 MT) (13 nos.)		MT	123.773	-		
1.7	, +3 EXTENSION (Nominal unit weight 1.436 MT) (3 NOS.)		MT	4.308	-		
1.8	TEMPLATES						

1.8.1	OA (NOMINAL UNIT WEIGHT 0.579 MT)(1 NOS)	MT	0.579			
1.8.2		MT	0.815	-		
	OB (NOMINAL UNIT WEIGHT 0.815 MT) (1 NOS)			-		
1.8.3	OC (NOMINAL UNIT WEIGHT 0.984 MT) (1 NOS)	MT	0.984			
1.9	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)	MT	319.614			
1.10	Weight of different type G.I Nuts and Bolts	MT	13.397			
2.0	Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.					
2.1	EARTHING DEVICE	Nos.	48			
2.2	DANGER BOARD	Nos.	48			
2.3	NUMBER PLATE	Nos.	48			
2.4	PHASE PLATE	Nos.	288			
2.5	BIRD GUARD	Nos.	150			
2.6	ANTICLIMBING DEVICE	Nos.	48			
2.7	CIRCUIT PLATE	Nos.	96			
3.0	Supply of following POWER CONDUCTORS in the proposed 220kV lines with provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.					
3.1	ACSR Zebra (54/7/3.18mm)	Kms.	75.382			
	POWER CONDUCTOR ACESSORIES					
	For ACSR ZEBRA VIBRATION DAMPER		570			
4.1.1		Nos.	576			
1.1.2	MID SPAN JOINT	Nos.	45			
4.1.3	Repair Sleeve PG Clamp for ZEBRA conductor	Nos. Nos.	20 18			
	OPGW Cable and Accessries	1105.	10			
5.1	48Fibre(DWSM)OPGW fibre Optic Cable	Kmtr	13			
5.2	OPGW hardware set like suspension Asembly, Tensin Assembly(Dead end assembly, Pass through assembly), Vibration Damper, Down Lead Clamp Assemblies for 24/48 Fibre(DWSM) OPGW, Joint Box	Kmtr	13			
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	120KN Insulator	Nos.	2205			
6.2	160KN Insulator	Nos.	4442		1	
7.0	Supply of the following hard ware fittings suitable for following conductors as per the technical specification.					
7.1	For ACSR ZEBRA					
7.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 120 KN insulator.	Set	150			
7.1.2	Single tension Hard wares fittings, suitable for 160 KN insulator.	Set	282			
	TOTAL OF LINE -1- line (to Schedule No. 6 Gran	d Summary)	-	. <u> </u>		

	Name of Bidder:
	Signature of Bidder:
ipment.	

¹ Bidders shall enter a code repre*senting the country of origin of all* imported plant and equipment. ² 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

	Country of Origin Declaration Form		
ltem	Description	Code	Country

	ODISHA POWER TRANSMISSION CORPOR	ATION L	IMITED		
	DF THE WORK:- Design, Supply and Installation of Sub-Stations & Transi p-station at DEOGARH & associated 220KV LILO line from 220 line from F in Odisha State of India under PACKAGE-8 Under Japan Internationa	Rengali te	o Tarkera (Ap	prox. Line len	gth-12.378 Kms.)
	Loan Agreement No: [ID-P245] - IFB No: [CPC/JICA/ICB/08/15-16/]-	Referenc	e Identificatior	No: [OPTCL/J	ICA/PKG-8]
	Schedule No. 2. Plant and Mandatory Spare Parts Supplied	from W	ithin the En	nployer's Co	ountry
	NAME OF THE BIDDER				
	PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY)				
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for: Construction of 2x20 MVA, 220/33 KV Sub-Station at Deoagarh 220 KV BAY 05 NOS FDR:02,TFR:02 & B/C:01) & 33 KV BAY 08 NOS FDR:05,TFR:02 & B/C:01)	Unit Price ² (In INR)	Total Price ² (In INR)
			(1)	(2)	(1) x (2)
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER(4 PS CI & 1 0.2s CI)	NOS	18		
2	245 KV,2000A,40KA,ISOLATORS				
2.1	S/I WITH OUT EARTH SWITCH	NOS	13		
2.2	S/I WITH SINGLE EARTH SWITCH	NOS	6		
2.3	BEAM MOUNTED S/I WITHOUT EARTH SWITCH	NOS	8		
3 4	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER 245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS NOS	6 5		
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10 KA, class III	NOS	12		
6	245 KV ,2 CORE,SINGLE PHASE,IVT	NOS	6		
7	220 KV Bus Post Insulators	NOS	54		
8.1	36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER(3 PS CI & 1 0.2s CI)	NOS	6		

	36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER (2 PS CI & 1 0.2s				
8.2	CI)	NOS	18		
	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION, HAVING TWO CORE (PS				
9	CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV SIDE: 1 NO)				
	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 1200-600-300/1-1				
9.1	A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO)	NOS	2		
	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1				
9.2	A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE:1 NO)	NOS	2		
10	36 KV,1250A,25KA,ISOLATORS	NOO			
10.1	S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH	NOS	9		
10.2	D/I WITH SINGLE EARTH SWITCH	NOS	5		
10.3		NOS	2		
10.4	S/I WITH BEAM MOUNTED	NOS	2		
11 12	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II(Beam Mounted) 36 KV ,2 CORE,SINGLE PHASE,IVT	NOS NOS	27 3		
12	36 KV ,2 CORE,SINGLE PHASE,IVT 36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3		
13	33 KV Bus Post Insulators	NOS	8 27		
14	BUS BAR & CIRCUIT MATERIALS	NO3	21		
15.1	ANTI FOG TYPE INSULATOR				
	160 KN INSULATOR	NOS	1701		
	120 KN INSULATOR	NOS	228		
	90 KN INSULATOR	NOS	322		
15.2	ACSR MOOSE CONDUCTOR	KMS	5.00		
	IPS 4" ALUMINIUM TUBES(114.2 mm OD, & 8.51mm Thickness) for equipment to equipment				
15.3	connection in 220 KV side.	MTRS	370		
15.4	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS				
15.4.1	220 KV Single Tension H/W fitting for twin moose ACSR	NOS	60		
15.4.2	220 KV Single Tension H/W fitting for single moose ACSR	NOS	60		
15.4.3	220 KV Single Suspension H/W fitting for single mose ACSR	NOS	24		
	33 KV Single Tension H/W fitting for single moose ACSR	NOS	30		
	33 KV Single Tension H/W fitting for twin moose ACSR	NOS	36		
	33 KV Single Suspension H/W fitting for single mose ACSR	NOS	33		
15.4.7	220kv T- clamp for ACSR ZEBRA run to ACSR MOOSE drop	NOS	17		
15.4.8	T-Clamp for single Moose -Single Moose ACSR	NOS	244		
15.4.9	T-Clamp for twin Moose run -Single Moose drop ACSR	NOS	48		
	220 KV PI clamp	NOS	54		
	33KV PI Clamp	NOS	27		
	Spacer for Moose ACSR	NOS	222		
	220 KV Isolator pad clamp	NOS	162		
	220 KV LA Clamp	NOS	12		
	220 KV CVT Clamp	NOS	6		
	220 KV_CT Clamp	NOS	36		
	220 KV IVT Clamp	NOS	6		
	220 KV_CB Clamp	NOS	30	-	
	33 KV Isolator pad clamp	NOS	129		
	33 KV LA Clamp	NOS	27		
15.4.21	33 KV CT Clamp	NOS	48		

15.4.22	33 KV IVT Clamp	NOS	3	
	33 KV CB Clamp	NOS	48	
	PG Clamp for ACSR Moose	NOS	48	
	EARTH WIRES & IT'S HARDWARES & FITTING	1100		
	Earthing Spikes and Its Fittings in all respect.			
	Earthing Spikes of 9 mtr long each and Its Fittings in all respect. (220 kv side)	NOS	31	
	Earthing Spikes of 5 mtr long each and Its Fittings in all respect. (33 KV side)	NOS	27	
16	SUBSTATION EARTHING SYSTEMS	1100	21	
	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (spacing maximum 5m			
16.1	both way)	MT	31	
	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to		10.11	
16.2	equipment,structure etc)	MT	10.41	
46.2	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE	Nee	100	
16.3	3 mtrs long for treated earth pit)	Nos.	180	
16.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated	Nos.	160	
10.4	earth pit)	1405.	100	
17	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-			
17	4 along with its accessories as per TS.			
17.1	G.I Cable Trays(size: 450x75x2500mm)	MTRS	1200	
	G.I Cable Trays(size: 300x75x2500mm)			
17.2		MTRS	2000	
17.3	G.I Cable Trays(size: 150x75x2500mm)	MTRS	1500	
17.4	Support G. I angle 50x50x6 mm for cable tray	MT	2.5	
18	SUB STATION SWITCYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES			
18.1	BAY MARSHALLING KIOSK (03 nos on 220 kV bay & 04Nos 33 KV bay)	NOS	7	
18.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 nos on 220 kV bay & 01 No in 33KV bay)	NOS	2	
10.2		N03	2	
18.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (01 no. near 220/33 KV	NOS	1	
10.5	power Transformer)	Nee	1	
18.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY (01 nos on 220	NOS	2	
10.4	& 33 kV bay)	NOS	2	
	SWITCH YARD STRUCTURES (LATTICE TYPE FOR TOWER COLUMN & BEAMS & PIPE TYPE			
19	FOR ALL EQUIPMENT COLUMN) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION			
	BOLTS & NUTS.			
	DIFFERENT TYPES OF COLUMNS WITH DETAILS			
	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT) (31 NOS.)	MT	139.5	
	P2A-220 KV (NOMINAL UNIT WT- 15 MT) (12 NOS.)	MT	12	
	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT) (11 NOS.)	MT	8.8	
	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT) (16 NOS.) DIFFERENT TYPE OF BEAMS WITH DETAILS	MT	9.6	
	Q1-220KV (NOMINAL UNIT WT- 1.5 MT) (24NOS.)	MT	36	
	Q1-220KV (NOMINAL UNIT WT- 1.5 MT) (24NOS.) Q3-220KV (NOMINAL UNIT WT-2.5 MT) (8 NOS.)	MT	20	
	Q4-220KV (NOMINAL UNIT WT- 0.9 MT) (4 NOS.)	MT	3.6	
	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT) (4 NOS.)	MT	2.12	
13.2.4			2.12	

19.2.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT) (9 NOS.)	MT	3.6	
	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT) (6 NOS.)	MT	2.4	
	TOTAL WEIGHT OF COLUMN & BEAM	MT	237.62	
40.4	EQUIPMENT SUPPORT STRUCTURES (PIPE TYPE) FOR ALL 220KV, 132 KV & 33KV			
19.4	EQUIPMENTS INCLUDING FOUNDATION BOLTS & NUTS			
	ISOLATORS-220KV (SI with E/S-6 No.)	MT	7.626	
	ISOLATORS-220KV (SI without E/S -13Nos.)	MT	16.523	
	ISOLATORS-33 KV (SI-9 Nos.)	MT	2.3247	
	ISOLATORS-33 KV (DI with E/S -5 Nos.)	MT	3.222	
	ISOLATORS-33 KV (DI without E/S-2 Nos.)	MT	1.234	
	CTS-220 KV (18 nos.)	MT	4.05	
	CTS-33 KV (18 nos.)	MT	2.088	
	CVTS-220 KV (6 nos.)	MT MT	1.326 1.7232	
	IVTS-220 KV (6 nos.) IVTS-33 KV (3 nos.)	MT	0.3546	
	Surge Arrester-220 Kv(12 nos.)	MT	3.5052	
	BPI-220 KV (54nos.)	MT	15.8112	
	BPI-33 KV (15 nos.)	MT	3.0945	
	NCTs(4 nos)	MT	0.464	
	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	63.3464	
	Total weight of GI Nuts and bolts for Columns, Beams & Equipment Structures	MT	12	
20	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES			
00.4	POWER CABLES,1.1KV,XLPE & PVC ARMOURED, ALUMINIUM CONDUCTOR (As per			
20.1	Specification)			
20.1.1	XLPE 3.5 CX300 mm ²	MTR	800	
20.1.2	XLPE 3.5 CX185 mm ²	MTR	800	
20.1.3	XLPE 3.5 CX120 mm ²	MTR	600	
20.1.4	PVC 3.5 CX70 mm ²	MTR	1000	
20.1.5	PVC 3.5 CX35 mm ²	MTR	2500	
	PVC 4 CX 16 mm ²	MTR	1500	
	PVC 4CX 6 sqmm	MTR	4000	
20.1.9	PVC 2CX 6 sqmm	MTR	3500	
20.2	CONTROL CABLES,1.1 KV, PVC, STRANDED COPPER(As per specification)			
	2 CX 2.5 mm ²	MTR	6000	
	4 CX 2.5 mm ²	MTR	14000	
	5 CX 2.5 mm ²	MTR	4500	
	7CX 2.5 mm ²	MTR	6000	
	10 CX 2.5 mm ²	MTR	12000	
	12 CX 2.5 mm ²	MTR	9000	
	16 CX 2.5 mm ²	MTR	5000	
	19 CX 2.5 mm ²	MTR	2000	
		MTR	800	
20.2.11	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB ACCESSORIES FOR PLCC SYSTEM With OPGW cable	IVIIR	000	
			0 ==	
21.1	24 Fibre Optic Approach cable along with HDPE Pipes	Kmtr	0.50	

21.2	Optical line Terminal Equipment(OLTE) -STM4 type SDH equipment with integrated MUX	No		
	& tributary cards for speech & data ports for interfacing of Speech & data which should be		1	
	compatible with existing OPTCL system			
21.3	Digital Teleprotection Equipment and accessories to be suitable for interfacing with SDH	No	2	
21.4	Supply of FODP(Fibre Optic Distribution Panel)48 F: Indoor type,rack mounted with FCPC coupling and pig tails(DWSm Fibre)	No	1	
21.5	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	
21.6	48 V, 300 AH, maintenance free VRLA Battery set.	Set	1	
21.7	SMPS based battery charger of 75A suitable for 48V VRLA battery.	No	1	
21.8	2.5 sq. mm 2 core control cable(power supply,Transducer/MFT PT supply)	Metre	300	
21.9 21.10	2.5 sq. mm multi strand 4 core control cable(Transducer/MFT CT, supply) 1.5 sq. mm 10 core control cable(Digital Input)	Metre Metre	300 200	
21.10	10 sq. mm 2 core multi strand control cable(Battery)	Metre	100	
21.11	Earth Flat, Cable Tray, Telephone cable, ACDB, DCDB, Foundation rail, Junction Box,.	Set	L.S	
	SUPPLY OF POWER TRANSFORMER, STATION TRANSFORMER & OTHER MATERIALS FOR	Oel	L.0	
22	MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL			
22.1	POWER TRANSFORMER 220/33 KV, 20 MVA(AS PER SPECIFICATION)	NOS	2	
22.2	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2	
22.3	Supply of materials for erection of station transformers			
22.3.1	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) & different size Steel plate of 10 mm thick etc].	SET	2	
22.3.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP) including required GI pipe(horizontal & vertically down) & handle for operation of AB switch	SET	2	
22.3.3	HG fuse set for 33 KV side of the Station transformer including base(each set comprises three single HG fuse)	SET	2	
22.3.4	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.	SET	2	
23.0	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.			
23.1	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	40	

	OTREET HOUTING IT INCLUDED OURDING OF OUTURINAR ROLE AD RED TEOLINICAL			
	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			
00.04	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each)	GET	20	
	for Street Light.	SET	20	
	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 otdeet hout dole, shall de of clithdhiad dole and ddolynon of a cl			
2222	(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.	SET	20	
	THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE			
	IN AND OUT.			
	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	NIC	1	
	DOOR KIOSK. XLPE CABLE OF 4C X 16 SQMM FROM OUTDOOR KIOSK TO THE STREET		1	
	LIGHT POLES AND 4CX6 SQMM FROM POLE TO POLE AND 2CX6 SQMM FROM POLE TO LIGHTING FIXTURES.			
	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		1	
	CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SQMM FROM KIOSK TO EACH	110	-	
	QUARTER.			
	2 TR CAPACITY 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,			
24	CARRIER ROOM & CONFERENCE ROOM. (*SUPPLY OF CABLES ARE COVERED IN CABLE	JE I	20	
	ITEMS AS INDICATED ABOVE )			
	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	
25.1				
-	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4	
25.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS DRY POWDER TYPE - 5 KGS			
25.2 25.3		NOS	4	
25.2 25.3 25.4	DRY POWDER TYPE - 5 KGS	NOS NOS	4 4	
25.2 25.3 25.4 25.5 25.6	DRY POWDER TYPE - 5 KGS $CO_2$ - 4.5 KGS $CO_2$ - 9 KGS $CO_2$ (TROLLY MOUNTED)- 22.5 KGS	NOS NOS NOS NOS	4 4 10 10 4	
25.2 25.3 25.4 25.5 25.6 25.7	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type	NOS NOS NOS NOS NOS	4 4 10 10 4 4	
25.2 25.3 25.4 25.5 25.6 25.6 25.7 25.8	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type	NOS NOS NOS NOS NOS. Nos.	4 4 10 10 4 4 2	
25.2 25.3 25.4 25.5 25.6 25.6 25.7 25.8 25.8 25.9	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	NOS NOS NOS NOS NOS. Nos. SET	4 4 10 10 4 4	
25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.8 25.9	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,	NOS NOS NOS NOS NOS. Nos. SET	4 4 10 10 4 4 2	
25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.8 25.9	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	NOS NOS NOS NOS NOS. Nos. SET	4 4 10 10 4 4 2	
25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.9 25.9 26	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC	NOS NOS NOS NOS NOS. Nos. SET	4 4 10 10 4 4 2	
25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.9 25.9 26 26.1	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,	NOS NOS NOS NOS NOS. SET	4 4 10 10 4 4 2 5	
25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.9 26 26.1 26.1.1	DRY POWDER TYPE - 5 KGS CO ₂ - 4.5 KGS CO ₂ - 9 KGS CO ₂ (TROLLY MOUNTED)- 22.5 KGS 9 litre water type 50 Litres Mechanical Foam type FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC 220 KV SIDE(SIMPLEX TYPE )	NOS NOS NOS NOS NOS. Nos. SET	4 4 10 10 4 4 2	

26.1.3	BUSCOUPLER CONTROL & RELAY PANEL	SET	1	
26.1.4	SYNCHRONISING TROLLY	NOS	1	
26.1.5	BUS-BAR RELAY PANEL(RBB-2D)	NOS	1	
26.1.6	TIME SYNCH EQUIPMENT	NOS	1	
26.1.7	EVENT LOGGER PANEL	NOS	1	
26.2	33 KV SIDE		-	
26.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5	
26.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2	
	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)			
26.2.3	, , , , , , , , , , , , , , , , , , ,	NOS	1	
27	AC & DC SYSTEM			
27.1				
27.1.1	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	
27.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	
27.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	
27.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	
27.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	
27.1.6	INDOOR RECEPTACLE BOARD	SET	1	
27.2	DC SYSTEM			
27.2.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1,DC DB-2 & B/C)	SET	1	
27.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	
28	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	2	
29	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST) (including provision of series dropper diodes with heat sinks & other protection facility at the DC Load terminal end in order to feed 220 V to the load).	SET	1	
30	DISTILLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	
		SET		
31	WALKIE TALKIE SET	/PAIR	2	
32	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2	
33	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1	
34	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	
35	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	2	
36	MAINTENANCE TESTING EQUIPMENT (AS PER <b>ANNEXURE - I</b> ,INDICATED IN TS-TIMK- SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	
37	OTHER TOOLS AND PLANTS (T&P'S) REQUIREMENT (AS PER <b>ANNEXURE - II</b> ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P'S)	LOT	1	
38	OFFICE FURNITURE (AS PER <b>ANNEXURE - III</b> , INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1	
39	BEST QUALITY & APPROVED MAKE INSULATING MAT (Confirming to IS:15652:2006) TO BE KEPT INFRONT OF ALL PANELS, BOARDS ETC.	NO	35	
	TOTAL OF SUBSTATION(Plant)			

Item	DESCRIPTION OF ITEMS				
	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING		0 ""	Unit Price ¹	Total Price ¹
	EQUIPMENTS.	UNITS	Quantity	(In INR)	(In INR)
	(As per Technical Specification)				
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER(4 PS	NOS	1		
-	CI & 1 0.2s CI) Including terminal Connector	1103	L		
2	245 KV,2000A,40KA,ISOLATORS				
2.1	MALE & FEMALE CONTACTS	SET	1		
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1		
2.3	LIMIT SWITCH	SET	2		
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1		
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1		
2.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1		
2.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD	SET	1		
2.8	POST INSULATOR SUPPORT	SET ( 3NOS. PER SET)	1		
3	245 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1		
4	216 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	2		
5	245 KV ,2 CORE, SINGLE PHASE, IVT INCLUDING TERMINAL CONNECTOR	NOS	1		
6	220 KV Bus Post Insulators	NOS	2		
7	245KV,3150A,40KA,SF6,CIRCUIT BREAKER				
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1		
7.2	SPRING CHARGING MOTOR	NOS	1		
7.3	BREKER AUXILIARY CONTACTS	SET	1		
7.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1		
7.5	DENSITY MONITORING SYSTEM (IF REQUIRED)	SET	1		
7.6	CLOSING COIL	NOS	4		
7.7	TRIPPING COIL	NOS	4		
7.8	SF6 GAS FILLING DEVICE	NOS	1		
7.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1		
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	2		
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	1		

9	36 KV,1250A,25KA,ISOLATORS			
9.1	MALE & FEMALE CONTACTS	SET	1	
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1	
9.3	LIMIT SWITCH	SET	2	
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1	
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	
9.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1	
9.7	HINGE PINS, TERMINAL CONNECTOR, TERMINAL PAD	SET	1	
9.8	POST INSULATOR SUPPORT	SET ( 3NOS. PER SET)	1	
10	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR	NOS	3	
11	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1	
12	36KV, 1250A,25KA,VACUUM CIRCUIT BREAKER			
12.1	ONE COMPLETE POLE ASSEMBLY OF CIRCUIT BREAKER	SET	1	
12.2	TRIPPING CIOLS	NOS	4	
12.3	CLOSING COIL	NOS	4	
12.4	SPRING CHARGING MOTOR	NOS	1	
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	
12.6	SET OF GASKET,"O" RINGS,SEALING PER CIRCUIT BREAKER	SET	1	
12.7	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1	
13	33 KV Bus Post Insulators	NOS	3	
14	BUS BAR & CIRCUIT MATERIALS			
14.1	160 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-220KV	SET	2	
14.2	160 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-220 KV	SET	2	
14.3	160 kN ANTIFOG INSULATOR STRINGS for Double Moose cond (TENSION)-33 KV	SET	2	
14.4	160 kN ANTIFOG INSULATOR STRINGS for Single Moose cond (TENSION)-33 KV	SET	2	
14.5	120 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond ( SUSPENSION)-220 KV	SET	2	

14.6	90 kN ANTIFOG INSULATOR STRINGS for Double/ Single Moose cond (SUSPENSION)-33 KV	SET	2	
15	ACSR MOOSE CONDUCTOR	MTRS	500	
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS ETC. FOR 220 KV & 33 KV	SET (EACH TYPE THREE NOS.)	1	
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES			
17.1	POWER CABLES,1.1KV,XLPE & PVC,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)			
17.1.1	3.5 CX300 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1	
17.1.2	3.5 CX185 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1	
17.1.3	3.5 CX120 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-XLPE	PCS.	1	
17.1.4	3.5 CX70 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1	
17.1.5	3.5 CX35 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)-PVC	PCS.	1	
17.1.6	4 CX 16 mm ²⁻ -PVC	MTRS	150	
17.1.7	4 CX 6 mm ² -PVC	MTRS	100	
17.1.8	2CX 6 mm ² -PVC	MTRS	50	
17.2	CONTROL CABLES, 1.1 KV, PVC, STRANDED COPPER(As per specification)			
17.2.1	4 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500	
17.2.2	5 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500	
17.2.3	7 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500	
17.2.4	10 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	Mtrs	500	
17.2.5	12 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250	
17.2.6	16 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250	
17.2.7	19 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	Mtrs	250	
17.2.8	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	100	
17.3	CARRIER COMMUNICATION & OTHER MATERIALS			
17.3.1	ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 220 V PLANTE TYPE BATTERY 350 AH,)	NO	2	
17.3.2	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 300 AH (48V)	SET	1	
17.3.3	ONE COMPLETE SET OF ELECTRONIC CARDS FOR BATTERY CHARGER FOR 350 AH (220V)	SET	1	
18	PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN, COMM PAN, RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM			
18.1	220 KV SIDE			
	DISTANCE PROTECTION RELAY	NOS	1	
18.1.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1	
18.1.3	MASTER TRIP RELAY	NOS	1	

18.1.4	DIFFERENTIAL PROTECTION RELAY	NOS	1			
18.1.5	TRIP SUPERVISION RELAY	NOS	1			
18.1.6	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1			
18.1.7	ANNUNCIATOR	NOS	1			
18.1.8	DISCREPANCY CONTROL SWITCH					
	a) FOR CIRCUIT BREAKER	NOS	1			
	b) FOR ISOLATOR	NOS	1			
18.1.9	PROTECTION TRANSFER SWITCH	NOS	1			
18.1.10	AMMETER SELECTOR SWITCH	NOS	3			
18.1.11	VOLTMETER SELECTOR SWITCH	NOS	3			
18.1.12	AMMETER ALONG WITH TRANSDUCER	SET	2			
18.1.13	VOLTMETER ALONG WITH TRANSDUCER	SET	2			
18.1.14	MW METER ALONG WITH TRANSDUCER	SET	2			
18.1.15	MVAR METER ALONG WITH TRANSDUCER	SET	2			
	33 KV SIDE					
-	OVER CURRENT & EARTH FAULT RELAY	NOS	1			
18.2.2	MASTER TRIP RELAY	NOS	1			
18.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)	SET	1			
18.2.4	ANNUNCIATOR	NOS	1			
18.2.5	CONTROL SWITCHES FOR					
	a) CIRCUIT BREAKER	NOS	1			
	b) ISOLATOR	NOS	1			
	PROTECTION TRANSFER SWITCH	NOS	1			
-	AMMETER SELECTOR SWITCH	NOS	3			
18.2.8	VOLTMETER SELECTOR SWITCH	NOS	3			
18.2.9	AMMETER ALONG WITH TRANSDUCER	SET	1			
18.2.10	VOLTMETER ALONG WITH TRANSDUCER	SET	1			
18.2.11	MW METER ALONG WITH TRANSDUCER	SET	1			
18.2.12	MVAR METER ALONG WITH TRANSDUCER	SET	1			
	TOTAL OF MANDATORY SPARE PARTS					
	TOTAL OF SUBSTATION-SCHEDULE-2 Plant and Mandatory Spare Par	ts (to Schedule No. 6 Gra	and Summary)	)		
		Name of Bi	dder:			
		Signature of	Bidder:			
	1	1				
1 Pr	ices of Items quoted in Schedule No.1 shall not be quoted again in Schedule No. 2	and shall have a remark	c against the s	aid row "Quoted	l in Schedule No	o1"

NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Procurement of 2X20 MVA-220/33 KV Sub-station at DEOGARH & associated 220KV LILO line from 220 line from Rengali to Tarkera (Approx. Line length-12.378 Kms.) 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/]-	<b>Reference Identification No:</b>
	[OPTCL/JICA/PKG-8]	

	Schedule No. 2. Plant and Mandatory Spare Parts Supplied	from With	nin the Emp	loyer's Cou	ntry
	NAME OF THE BIDDER				
	DESCRIPTION OF ITEMS				
SI. No.	SUPPLY OF FOLLOWING EQUIPMENT,STRUCTURES & MATERIALS (As per Technical Specification)	UNITS	Quantity for Construction of 220 KV LILO line from Rengali-Tarkera line to Deogarh (Line length-12.378 Kms (APPOX).	Unit Price ² (In INR)	Total Price ² (In INR)
			(1)	(2)	(1) x (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				

MT

MT

MT

103.750

7.010

11.288

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

OA TYPE TOWER (Nominal unit weight 4.150 MT) ( 25 NOS.)

+3 EXTENSION (Nominal unit weight 0.700 MT) (10 Nos)

+6 EXTENSION (Nominal unit weight 1.410 MT) (8 NOS.)

1

1.1

1.2

1.3

Technical Specification.

1.4	OB TYPE TOWER (Nominal unit weight 6.350 MT) (10 NOS.)	MT	63.480	
1.5	,+3 EXTENSION (Nominal unit weight 1.208 MT) (3NO.)	MT	3.627	
1.6	OC TYPE TOWER (Nominal unit weight 9.51 MT) (13 nos.)	MT	123.773	
1.7	, +3 EXTENSION (Nominal unit weight 1.436 MT) (3 NOS.)	MT	4.308	
1.8	TEMPLATES			
1.8.1	OA (NOMINAL UNIT WEIGHT 0.579 MT)(1 NOS)	MT	0.579	
1.8.2	OB (NOMINAL UNIT WEIGHT 0.815 MT) (1 NOS)	MT	0.815	
1.8.3	OC (NOMINAL UNIT WEIGHT 0.984 MT) (1 NOS)	MT	0.984	•
1.9	WEIGHT OF THE STRUCTURES (including Tower stubs, & Foundation Nut and Bolts)	MT	319.614	
1.10	Weight of different type G.I Nuts and Bolts	MT	13.397	
2.0	Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.			
2.1	EARTHING DEVICE	Nos.	48	
2.2	DANGER BOARD	Nos.	48	
2.3	NUMBER PLATE	Nos.	48	
2.4	PHASE PLATE	Nos.	288	
2.5	BIRD GUARD	Nos.	150	
2.6	ANTICLIMBING DEVICE	Nos.	48	
2.7	CIRCUIT PLATE	Nos.	96	
3.0	Supply of following POWER CONDUCTORS in the proposed 220kV lines with provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.			
3.1	ACSR Zebra (54/7/3.18mm)	Kms.	75.382	
4.0	POWER CONDUCTOR ACESSORIES			
4.1	For ACSR ZEBRA			
4.1.1	VIBRATION DAMPER	Nos.	576	
4.1.2	MID SPAN JOINT	Nos.	45	
4.1.3	Repair Sleeve	Nos.	20	
	PG Clamp for ZEBRA conductor	Nos.	18	
5.0	OPGW Cable and Accessries			
5.1	48Fibre(DWSM)OPGW fibre Optic Cable	Kmtr	13	
5.2	OPGW hardware set like suspension Asembly, Tensin Assembly(Dead end assembly, Pass through assembly), Vibration Damper, Down Lead Clamp Assemblies for 24/48 Fibre(DWSM) OPGW, Joint Box	Kmtr	13	

BRATION DAMPER EXIBLE COPPER EARTH BOND USPENSION CLAMP NSION CLAMP D SPAN JOINT pair Sleeve pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.	Nos. Nos. Nos. Nos. Nos.	96 74 25 49 10 5		
USPENSION CLAMP NSION CLAMP D SPAN JOINT pair Sleeve pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.	Nos. Nos. Nos. Nos.	25 49 10		
NSION CLAMP D SPAN JOINT pair Sleeve pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.	Nos. Nos. Nos.	49 10		
D SPAN JOINT pair Sleeve pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.	Nos. Nos.	10		
pair Sleeve pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.	Nos.			
pply of the following Anti Fog Type DISC insulators as per the technical ecification and as per the instruction of the Engineer in charge.		5		
ecification and as per the instruction of the Engineer in charge.				
0KN Insulator				
	Nos.	2205		
0KN Insulator	Nos.	4442		
pply of the following hard ware fittings suitable for following conductors as per etchnical specification.				
r ACSR ZEBRA				
ngle suspension Hard wares fittings.(AGS type) suitable for 120 KN insulator.	Set	150		
ngle tension Hard wares fittings, suitable for 160 KN insulator.	Set	282		
TOTAL OF LINE -1- line (to Schedule No. 6 Grand Summ	nary)		_	
TOTAL SCHEDULE-2-LINE(To Schedule 6 Grand Summary)				
r ngl ngl	by of the following hard ware fittings suitable for following conductors as per echnical specification. ACSR ZEBRA e suspension Hard wares fittings.(AGS type) suitable for 120 KN insulator. e tension Hard wares fittings, suitable for 160 KN insulator. TOTAL OF LINE -1- line (to Schedule No. 6 Grand Summ DTAL SCHEDULE-2-LINE(To Schedule 6 Grand Summary)	Diverse       Integration         Diverse       Filter Stress         Construction       ACSR ZEBRA         e suspension Hard wares fittings.(AGS type) suitable for 120 KN insulator.       Set         e tension Hard wares fittings, suitable for 160 KN insulator.       Set         TOTAL OF LINE -1- line (to Schedule No. 6 Grand Summary)       DTAL SCHEDULE-2-LINE(To Schedule 6 Grand Summary)         DTAL SCHEDULE-2-LINE(To Schedule 6 Grand Summary)       Name of Bid	Items       Items         Poly of the following hard ware fittings suitable for following conductors as per echnical specification.       Items         ACSR ZEBRA       Items         e suspension Hard wares fittings.(AGS type) suitable for 120 KN insulator.       Set       150         e tension Hard wares fittings, suitable for 160 KN insulator.       Set       282         TOTAL OF LINE -1- line (to Schedule No. 6 Grand Summary)       Items       Name of Bidder:         Signature of Bidder:       Signature of Bidder:       Signature of Bidder:	Invos.       Invos.

	Loan Agreement No: [ID-P245] - IFB No: [CPC/JICA/ICB/08/15-16/	]- R	Reference Identifi	cation No: [OPT	CL/JICA/PKG-8	]	
	NAME OF THE BIDDER						
			κΑ,	Unit F	Price ¹	Total	Price ¹
SI.No.	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for: Construction of 2x20 MVA, 220/33 KV Sub-Station at Deogarh: 220 KV BAY 05 NOS( FDR:02,TFR:02 & B/C:01) & 33 KV BAY 08 NOS( FDR:05,TFR:02 & B/C:01)	Foreign Currency Portion	Local Currecncy Portion	Foreign Currency Portion	Local Currency Portion
PART A			(1)	(2)	(3)	(1) x (2)	(1) x (3)
	CONTOUR SURVEY, AND LEVELING, BACK FILLING						
1.1	Contour survey and furnishing contour map including supply of all materials, Labour and T&P	SQ.MTRS.	71688				
1.2	Soil investigation : Supply of labour, T&Pand other necessary arrangements for Soil investigation/testing of the Switchyard, control Room, Quarters area etc.as per the site requirement, Technical specification & instruction of Engineer-in- Charge.	PER POINT	5				
2	Cutting, Filling and Leveling of Sub-station area including supply of labour and T&P						
2.1	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.						
2.1.1	CUTTING of substation area						
2.1.2		CUM	500		l		
2.1.3	[iii]Dense/ Compact soil [iiii]Soft/Disintegrated rock[not requiring blasting]	CUM CUM	1500 2000				
2.1.4	[in]Soli/Disinlegrated tock[riot requiring blasting] [iv]Hard rock[requiring blasting or by using concrete breaker machinery]	CUM	100				
2.1.6	FILLING of substation area with borrowed earth with supply of all labour, T & P.						
2.1.7	(i) Up to 30 mtr lead	CUM	0				
2.1.8	(ii) Beyond 30 mtr & up to 100mtr lead	CUM	0				
2.1.9	(iii) Beyond 100mtr lead Anti-Weed Treatment	CUM	56700				
3.1	Supply of labour, T&P, Chemicals and other necessary arrangements for anti-weed treatment of the switch-yard areas, controlroom etc. as per the instruction of Engineer-in-Charge.	Sq.Mtrs	6000				
4	Boundary wall : Soil investigation, Design, engineering, procurement of material, labour including all associated works for construction of boundary-wall along the property line of the sub-station as per technical specification and instruction of the Engineer in Charge.(the size of the 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. Appox.						
4.1	Appox length of the boundary walls(Brick works rested on RCC Beam and RCC Column & footings as per TS ) in mtrs	Mtrs.	1250				
5	EXCAVATION FOR PREPARATION OF FOUNDATION WORK FOR THE SWITCHYARD COLUMN, EQUIPMENT etc.: This also includes excavation in all types of soil or rocks, back filling, and disposal of excess earth as per the direction of Engineer In charge.						

				1	
5.1.2	Soft Soil/Loose Soil.	CUM	1200		
5.1.3	Hard Soil.	CUM	2400		
5.1.4	Wet/Muddy Soil.	CUM	0		
5.1.5	Soft/Disintegrated Rock( not Requiring Blasting)	CUM	650		
5.4.6	Hard Rock (Requiring Blasting/Using Rock Breaker Machinery)	CUM	500		
6	OPEN CAST/SHALLOW FOUNDATION CONCRETE WORKS				
6.1	Foundations : Design, engineering, supply of all labour, material and construction(open cast foundation) of PCC, RCC footings of any depth, pedestal including the cost of soil investigation, concreting, cement, reinforcement steel, shuttering, grouting, underpinning and back filling of foundations etc complete for the switchyard gantry/ portal /column structures and equipment support as per the technical specification and approved drawings & disposal of excess earth as per the direction of Engineer In charge.				
6.1.1	PCC(1:3:6)	CUM	110		
6.1.2	(RCC) MIX 1:1.5:3 (of grade M20)	CUM	1690		
7	FOUNDATIONS FOR TRANSFORMERS:				
7.1	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.				
7.1.1	20 /40 MVA, 220/ 33kV transformers a) Overall dimension of transformer(appox) Length:7200 mmX Width 6000 mmX Height 6200 mm) Total weight with oil and tank: 97.5 MT (appox)	Nos	2		
8	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,220/33 KV : 36000 Itrs.	Nos	1		
9	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 ratio:1.5.3 and the walls are of fire resistant bricks). 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. As per approved drawing and specification. Painting of the walls as per direction of the Site In charge	Nos	1		
10	NCT FOUNDATION: Design, engineering, procurement of labour, material including all associated works for construction of foundation NCT(also refer clause 1,1.1,&1.2) near Transformers and as per approved drawing and requirement and also as per the instruction of Engineer in charge. 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.	Nos	4		
11	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		

12	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 including supply of all labour, T&P, materials. (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 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. (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(FE 500),Cement, coarse and fine aggregates,s,buttering,cutting,bending,of Labour all materials like MS Rod(FE 500),Cement, coarse and fine aggregates, cament TeXP 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 before concreting. (6) Precast of RCC covers (1:1.5:3) and its fixing on the cable trench as per spec and instruction of Eng. In Charge. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Eng. In Charge. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Eng				
	Oakle tonach with an una				
12.1 12.1.1	Cable trench with covers	N4+	250		
12.1.1	Section 1-1 Section 2- 2	Mtrs Mtrs	350 330		
12.1.2	Section 2-2 Section 3-3	Mtrs	280		
12.1.4	Section 4-4	Mtrs	250		
12.2	Cable trench crossing:Design,engineering,construction including supply of labour, materials, cement, reinforcement steel, form box etc,and all associated works for construction of trench crossing as per technical specification and approved drawing.		200		
12.2.1	Road crossing for				
12.2.2	Section 1-1	Nos	2		
12.2.3	Section 2- 2	Nos	1		
12.2.4	Section 3-3	Nos	1		
13	PCC before site surfacing :Providing and supplying all labour, material, equipments etc. required for proper levelling 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 levelling of the switch yard area (after anti-weed treatment), spreading of plain cement concert with mixing ratio 1:4:8 (M10) and maintaining proper sloping for easy discharge of storm water having concrete thickness of 75 mm. including rolling , dressing, compacting,the area . As per technical specification and approved drawing, and as per the instruction of the Engg-in-Charge.This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge and approved drawing.	СИМ	580		
14	METAL SPREADING IN THE SWITCH-YARD				
14.1	Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 50 mm thickness coarse/ 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	774		
15	Roads: Design, construction of roads and walkways/ shoulders within sub-station as per specification, layout and approved drawings complete. 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 drains on both the side of the roads for easy discharge of rain water.				
15.1	3.75 mtrs Concrete road with shoulder at both the side & shall have drain on both side of the road as per technical specification indicated in the civil section( Periphery roads outside switch yard fencing and colony roads)	MTRS	350		
15.2	7 mtrs concrete road with shoulder at both the side as per technical specification indicated in the civil section(from the switch yard main gate to all internal roads of the switch yard). Shall have drain on both side of the road.	MTRS	170		
15.3	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	750		
16	Drainage system:Collection of rainfall data, Design, construction of storm water drainage scheme, road-culverts, and drains crossing cable trenches etc. as per specification and approved drawing. This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge. All the switcyard bays, roads water drainage shall be connected to the main surface drain. As per approved drawing and specification.				
16.1	Storm water drain	MTRS	500		
16.2	Road-culverts, drain crossings	MTRS	150	 	
16.3	Cable trench crossing	MTRS	50		

17	Rain water harvesting system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	Nos	2		
18	Switchyard fencing: Providing and fixing of G.I chain link(2.5mm dia) fencing( the posts and links shall be of HD Galvanised ) 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 RR masonary work with ratio 1:5 and cement pointing of the joints, for the fencing upto a height of 350mm from the finished ground level). 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. The earthing of the fencing as per specification.	MTRS	450		
19	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				
19.1	MAIN GATE	NOS	1		
19.2	WICKET GATE NEAR MAIN GATE	NOS	1		
19.3	SWITCH YARD GATE(ON BOTH SIDES OF 7MTRS. CONCRETE ROAD OF SWITCHYARD)	NOS	2		
19.4	WICKET GATE NEAR SWITCHYARD	NOS	1		
20	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.				
20.1	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 regulators (including supply) 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		
21	BORE WELL & PUMP HOUSE:Design, engineering, procurement of labour, material including all associated works for construction of two nos. bore wells for control room building including switch yard and colony quarters as per specification and approved drawing and instruction of Engineer in charge. This includes supply and fixing and commissioning of two nos 5 HP submersible water pump with starter and other protection. Construction of two nos pump house at ideal location for fixing of the electrical starter units. The pump house be of RCC roof and having walls of Brick masonry and plastering and painting with MS door having locking arrangement. The size of the room shall be 2.5mtrsX2.5 mtrs having height of 3 mtrs. as per approved drawing and specification. There shall be approach road to the pump house. This includes supply of materials,labours and T&P & excavation of all type of soils including rock and disposal of excess materials as per instruction of Engineer In charge. Supply & laying of LV XLPE 3.5CX.35 sqmm cable from ACDB to pump house, control gear & earthing of the system etc to complete the scheme as per approved drawing & instruction of Engineer-in charge.	NOS	2		
22	PLATFORM FOR STORING EQUIMENTS: Design, engineering, procurement of labour, material including all associated works for construction of a platform for storing of bushings, Instrument transformers etc, as per specification and approved drawing. This also includes excavation in all types of soil or rocks, back filling, and disposal of excess earth as per the specification, approved drawing and direction of Engineer In charge. One no platform outside the store shed RR masonry (compacted) with PCC (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.	LOT	1		
23	PROVISION OF RAMP:Design, engineering, procurement of labour, material including all associated works for construction and fixing of Ramp as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of a ramp of adequate size and capable of for loading and unloading of the materials of 5 Ton capacity from the lorry or to the lorry near the store shed. Adequate size of MS frames and RCC (1:1.5:3) based ramps to be used for the said purpose.	LOT	1		
24	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		
25	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.)				
25.1	Excavation. This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge.	сим	1		

25.2	PCC 1: 4 : 8	CUM	1	T	T	r r
25.3	PCC 1:3:6	CUM	2			
25.4	RCC M 15	CUM	1			
25.5	RCC M 20	CUM	2			
25.6	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 150KG/SQ.MTR.	CUM	1			
25.7	12 mm thick plaster in cement sand mortar (1:6).	SQ. MTRS.	1			
25.8	Cutting, bending and fixing of reinforcement.	MT	1			
26	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 & T&P as per the direction of Engineer In charge and as per approved drawing and specification.					
26.1	Excavation in Soft & Loose Soil	Cum	375			
26.2	P.C.C (1:3:6): Lean Concrete Grade M-10	Cum	90			
26.3	RR Masonry (1:5)	Cum	585			
26.4	P.C.C (1:2:4): Lean Concrete Grade M-15	Cum	20			
27	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 masonry works (as per standard practice of flooring). Provision of adequate nos of MS racks (proper paintings also to be done as per the direction of site in charge) for keeping the spare materials. The height of the shed shall be 4mtrs above the plinth. 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 & switch gear ,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)}	Lot	1			
28	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 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. On 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.					
28.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	Lot	1			
28.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	Lot	1			
28.3	Flooring with vitrified tiles with dado in all the rooms,Bath and toilets shall be provided with anti skid ceramic tiles(wall of the same also to be provided with ceramic tiles),Acid proof industrial tiles to be provided on the floor and wall of the battery room as per technical spec & approved drawings.	Lot	1			
28.4	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 over portion of walls and ceiling of Battery room shall be acid proof paints as per specification & approved drawings.	Lot	1			
28.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	Lot	1	1	1	
28.6	Doors and windows shall be of sliding type with locking facility and shall be of aluminium with glaze of 6mm & windows shall	Lot	1			
28.7	have aluminium grills. As per technical spec & 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 includes supply of all types of materials of reputed make, labour etc to complete the 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.	Lot	1			
28.8	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 (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.	Lot	1			

					-		1
	Supply, fitting and fixing of stainless steel pf 304 grade in hand railing using 50mm dia of 2mm thick circular pipe with balustrade						
28.9	of size 32mmx32mmx32mm @0.90mtr C/C and stainless square pipe bracing of size 32mmx32mmx32mm in three rows in	Lot	1				
	staircase as per approved design and specification, buffing, polishing etc with cost, conveyance, taxes of all materials, labour, T&P etc required for the complete in all respect		•				
28.10	Provision of smoke and fire detection system of the building.	Lot	1				
29	Construction of township/colony (residential quarters) for staff and employees of the employer. Layout, design, survey,						
	leveling, site dressing and clearing of the area, soil investigation, excavation, PCC, RCC, brick work, plastering ,flooring(flooring						
	shall be with vitrified tiles of reputed make with a dado of 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 distemper of approved quality as per the instruction and approval of the same by OPTCL. This also includes						
	excavation in all types of soil or rocks,(piling if required),back filling,and disposal of excess earth as per the direction of						
	Engineer In charge. Internal electrical wiring with fixing of light fixtures and fans with electronic regulators and exhaust fans as						
	per technical specification and approved drawing. Construction of over head RCC tank(1000 ltrs capacity one for each						
	quarters), sewerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage,						
	culverts, roads, with suitable radius on the curves and its connection with main road the substation, street lighting, internal						
	lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town						
	ship.						
29.1	"D" type Quarter As per technical specification: 1 no quarter on ground floor & the size of quarter plinth area shall be	SQ.MTRS	120				
	120 Sq Mtrs(appox)	30.101163	120				
29.2	"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)						
29.2.1	"E" type Quarter As per technical specification: 2 nos quarters on ground floor & 2 nos quarters on first floor(Each		202				
	quarter size plinth area shall be 73 Sq Mtrs(appox)	SQ.MTRS	292				1
	TOTAL OF ERECTION SUBSTATION (Civil Work)						
PART B	ELECTRICAL WORKS						
30.0	ERECTION OF SUPERSTRUCTURE :						
30.1	Supply of labour,T&P and other necessary arrangements for erection of Columns,Beams,Equipments supporting structures &						
	Nuts and Bolts	MT	312.966				
31	ERECTION OF EQUIPMENTS						
	Supply of all labour ,T&P and Transportation from the site store, erections as per specification and testing						
	commissioning etc as per the instruction of the Engineer-in-charge.						
31.1	245 KV.1200-600-300A.40KA.5CORE SINGLE PHASE CURRENT TRANSFORMER(4 PS CI & 1 0.2s CI)	NOS	18				
31.2	245 KV,2000A,40KA,ISOLATORS		.0				
31.2.1	S/I WITH OUT EARTH SWITCH	NOS	13				
31.2.2	S/I WITH SINGLE EARTH SWITCH	NOS	6	1		1	1
31.2.3	BEAM MOUNTED S/I WITHOUT EARTH SWITCH	NOS	8	1	1		1
31.3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	1	1		1
31.4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	1	1		1
31.5	216 KV, METAL OXIDE SURGE ARRESTOR, 10 KA, class III	NOS	12	1	1		1
31.6	245 KV ,2 CORE,SINGLE PHASE,IVT	NOS	6	1			
31.7	220 KV Bus Post Insulators	NOS	54	1	1		1
31.8	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER(2 NOS PS CLASS & 1 NO. 0.2s CLASS)			1	1		1
00		NOS	18	1			
31.9	36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER(3 PS CI & 1 0.2s CI)	NOS	6	1	1	1	1
31.10	36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 1200-600-300/1-1 A) & HAVING TWO CORET		-				
31.10	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 1200-600-300/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO)	NOS	2				
	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO)						
31.10	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE	NOS NOS	2				
31.11	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO)						
31.11 31.12	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE:1 NO) 36 KV,800A,25KA,ISOLATORS	NOS	2				
31.11 31.12 31.12.1	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH	NOS	<b>2</b> 9				
31.11 31.12 31.12.1 31.12.2	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH	NOS NOS NOS	<b>2</b> 9 5				
31.11 31.12 31.12.1 31.12.2 31.12.3	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS 5/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITHOUT EARTH SWITCH	NOS NOS NOS NOS	<b>2</b> 9 5 2				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.3 31.12.4	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH BEAM MOUNTED S/I WITH BEAM MOUNTED	NOS NOS NOS NOS NOS	2 9 5 2 2				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.4 31.13	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH OUT EARTH SWITCH D/I WITH OUT EARTH SWITCH S/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II	NOS NOS NOS NOS NOS NOS	2 9 5 2 2 2 27				
31.11 31.12.1 31.12.2 31.12.2 31.12.3 31.12.4 31.13 31.14	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH OUT EARTH SWITCH S/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV ,2 CORE,SINGLE PHASE,IVT	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 2 27 3				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.4 31.13 31.14 31.15	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH OUT EARTH SWITCH D/I WITHOUT EARTH SWITCH S/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 20 CRE,SINGLE PHASE, IVT 36 KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE.	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 27 3 8				
31.11 31.12.1 31.12.1 31.12.2 31.12.3 31.12.4 31.12.4 31.13 31.14 31.15 31.16	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV, 300A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE, SINGLE PHASE,IVT 36 KV, 2 CORE, SINGLE PHASE,IVT 33 KV Bus Post Insulators	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 2 27 3				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.3 31.12.4 31.13 31.14 31.14 31.16 31.16 <b>32</b>	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH GAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 20 CORE,SINGLE PHASE,IVT 36 KV, 20 CORE,SINGLE PHASE,IVT 36 KV, 20 CORE,SINGLE PHASE,IVT 36 KV, 20 CORE,SINGLE FARESTOR, 10 KA, CLASS II 36 KV, 20 CORE,SINGLE FARESTOR, 10 KA, CLASS II 37 KV BUS POSI InsulatorS BUS-BAR STRINGING	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 27 3 8				
31.11 31.12.1 31.12.1 31.12.2 31.12.3 31.12.4 31.12.4 31.13 31.14 31.15 31.16	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH OUT EARTH SWITCH S/I WITH DE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE. 33 KV Bus Post Insulators BUS-BAR STRINGING Supply of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 27 3 8				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.3 31.12.4 31.13 31.14 31.14 31.16 31.16 <b>32</b>	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO)         36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE         (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO)         36 KV, 300A,25KA,ISOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH OUT EARTH SWITCH         S/I WITH BEAM MOUNTED         30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II         36 KV, 2 CORE, SINGLE PHASE, IVT         36 KV, 2004, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE.         33 KV Bus Post Insulators         BUS-BAR STRINGING         Supply of labour, T&P and other necessary arrangements for stringing of bus bar conductors, hoisting of single or double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers,	NOS NOS NOS NOS NOS NOS NOS	2 9 5 2 2 27 3 8				
31.11 31.12 31.12.1 31.12.3 31.12.3 31.12.4 31.12.4 31.13 31.14 31.15 31.16 <b>32</b> 32.1	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV, 300A, 25KA, ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE, SINGLE PHASE, IVT 36 KV, 2 CORE, SINGLE PHASE, IVT 38 KV, 1250A, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE. 33 KV Bus Post Insulators BUS-BAR STRINGING Supply of labour, T&P and other necessary arrangements for stringing of bus bar conductors, hoisting of single or double insulator strings, Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments, testing, commissioning etc. as per the instruction of Engineer-in charge.	NOS NOS NOS NOS NOS NOS NOS NOS	2 5 2 2 27 3 8 27				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.4 31.12.4 31.13 31.14 31.15 31.16 <b>32</b> 32.1 32.1.1	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/ WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH EAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 20 CORE, SINGLE PHASE,IVT 36 KV, 20 CORE, SINGLE PHASE,IVT 36 KV, 20 CORE, SINGLE PHASE,IVT 36 KV, 20 FO, SINGLE PHASE, IVT 36 KV, 20 FO, SINGLE PHASE, IVT 37 KV BUS POST Insulators BUS-BAR STRINGING SUPPLY OF IADUR, T&P and other necessary arrangements for stringing of bus bar conductors, hoisting of single or 40 couble insulator strings, Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, 50 connections to Equipments, testing, commissioning etc. as per the instruction of Engineer-in charge. Single conductor/Phase/Mtr.	NOS NOS NOS NOS NOS NOS NOS NOS KM	2 9 5 2 2 2 7 3 8 27 3 8 27 1				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.4 31.13 31.14 31.15 31.16 <b>32</b> 32.1 32.1.1 32.1.2	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO)         36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE         (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO)         36 KV,800A,25KA,ISOLATORS         S/I WITH OUT EARTH SWITCH         D/I WITH SINGLE EARTH SWITCH         D/I WITH OUT EARTH SWITCH         S/I WITH BAM MOUNTED         30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II         36 KV,2 CORE,SINGLE PHASE,IVT         36 KV,2 CORE,SINGLE PHASE,IVT         36 KV,2 CORE,SINGLE PHASE,IVT         36 KV,2 Bus Post Insulators         BUS-BAR STRINGING         Supply of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or double insulator strings,Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments,testing.commissioning etc. as per the instruction of Engineer-in charge.         Single conductor/Phase/Mtr.	NOS NOS NOS NOS NOS NOS NOS NOS	2 5 2 2 27 3 8 27				
31.11 31.12 31.12.1 31.12.2 31.12.3 31.12.4 31.12.4 31.13 31.14 31.15 31.16 <b>32</b> 32.1 32.1.1	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,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 S/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 2 CORE,SINGLE PHASE,IVT 33 KV Bus Post Insulators BUS-BAR STRINGING SUPPly of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or double insulator strings,Single or Double Hard-wares Fittings, Clamp & connections, as per requirements, Jumpers, connections to Equipments,testing,commissioning etc. as per the instruction of Engineer-in charge. Single conductor/Phase/Mtr. Twin Conductor /Phase/Mtr. EARTHING SPIKES & IT'S HARDWARES & FITTING( 220 KV SIDE @ 9 MTRS LENGTH EACH & 33KV SIDE: @ 5 MTRS	NOS NOS NOS NOS NOS NOS NOS NOS KM	2 9 5 2 2 2 7 3 8 27 3 8 27 1				
31.11 31.12 31.12.1 31.12.3 31.12.4 31.12.4 31.12.4 31.15 31.16 32.1 32.1 32.1.1 32.1.2 33	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 2 CORE,SINGLE PHASE,IVT 33 KV Bus Post Insulators <b>BUS-BAR STRINGING</b> <b>BUS-BAR STRINGING</b> Supply of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or double insulator strings,Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments,testing,commissioning etc. as per the instruction of Engineer-in charge. Single conductor/Phase/Mtr. Twin Conductor /Phase/Mtr. EARTHING SINGLES & IT'S HARDWARES & FITTING( 220 KV SIDE @ 9 MTRS LENGTH EACH & 33KV SIDE: @ 5 MTRS EACH)	NOS NOS NOS NOS NOS NOS NOS NOS KM KM	2 9 5 2 2 2 2 7 3 8 8 27 27 1 2				
31.11 31.12 31.12.1 31.12.3 31.12.3 31.12.4 31.13 31.14 31.15 31.16 32 32.1 32.1 32.1.1 32.1.2 33 33.1	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV, 800A, 25KA, ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITHOUT EARTH SWITCH D/I WITHOUT EARTH SWITCH 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE, SINGLE PHASE, IVT 36KV, 1250A, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE. 33 KV Bus Post Insulators BUS-BAR STRINGING Supply of labour, T&P and other necessary arrangements for stringing of bus bar conductors, hoisting of single or double insulator strings, Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments, testing, commissioning etc. as per the instruction of Engineer-in charge. Single conductor/Phase/Mtr. Twin Conductor /Phase/Mtr. EARTHING SPIKES & IT'S HARDWARES & FITTING( 220 KV SIDE @ 9 MTRS LENGTH EACH & 33KV SIDE: @ 5 MTRS EACH) EARTHING Spikes of 9 mtr long each and Its Fittings in all respect. (220 kv side)	NOS NOS NOS NOS NOS NOS NOS NOS KM KM KM	2 9 5 2 2 7 3 8 27 3 8 27 3 1 2 2 3 1				
31.11 31.12 31.12.1 31.12.3 31.12.4 31.12.4 31.12.4 31.15 31.16 32.1 32.1 32.1.1 32.1.2 33	(PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO) 36 KV CLASS NOT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200/1-1 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 33 KV SIDE: 1 NO) 36 KV,800A,25KA,ISOLATORS S/I WITH OUT EARTH SWITCH D/I WITH SINGLE EARTH SWITCH D/I WITH BEAM MOUNTED 30 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class II 36 KV, 2 CORE,SINGLE PHASE,IVT 36 KV, 2 CORE,SINGLE PHASE,IVT 33 KV Bus Post Insulators <b>BUS-BAR STRINGING</b> <b>BUS-BAR STRINGING</b> Supply of labour,T&P and other necessary arrangements for stringing of bus bar conductors,hoisting of single or double insulator strings,Single or Double Hard-wares Fittings, Clamp & connectors, as per requirements, Jumpers, connections to Equipments,testing,commissioning etc. as per the instruction of Engineer-in charge. Single conductor/Phase/Mtr. Twin Conductor /Phase/Mtr. EARTHING SINGLES & IT'S HARDWARES & FITTING( 220 KV SIDE @ 9 MTRS LENGTH EACH & 33KV SIDE: @ 5 MTRS EACH)	NOS NOS NOS NOS NOS NOS NOS NOS KM KM	2 9 5 2 2 2 2 7 3 8 8 27 27 1 2				

exclusters of Ha dup planzard flus of an ZN10mm to the approval of Papet Manager, excluster, and Papet Manager, exclusters and press of the cost of the						-		
Application of the coals of Bulletiness Parking of HT Tage to global conducting source and park these of tage 2000 emits     Off and is the short ting and source and comparison ground conducting products and the short ting and the short tin the short tin		Substation earth-mat Design, engineering, supply inclusive of corrosion protection measures if any, laying of earth-mat						
of line) at back time and paid consisting down in diversion device in a province of pays for treated each in the set on the set of back as provided each provide in the set of back as provided each provide in the set of back as provided each provide in the set of back as provided each provided each provided in the diversity be setted each as the set of back as provided each provided		conductors of Hot dip galvanized flats of size 75X10mm to the approval of Project Manager, excavation, welding/jointing						
pack(wh) deals of deploy of Zom For spectral generation and a contract mutual during and by the pack of the provide of the spectra of the provide of		application of two coats of bituminous Paint, wrapping of HT Tape etc of ground conductors along with risers (of size 50X6 mm,						
pack(wh) deals of deploy of Zom For spectral generation and a contract mutual during and by the pack of the provide of the spectra of the provide of		GI flats) etc back filling and good compaction grounding driven rods(40 mm MS solid rod) perforated GI pipes for treated earth						
A1.         burie at adjet in 2700m from the finishing ground (real. For provision of treated each pit adjet the pit adjet t								
Isochischol for Ordenpilor, Provision of weak "gas include the eicht yard asses, and propried trades of an interaction and provide and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of an interaction of the and prime tank of an orden of the and prime tank of the and of the and of the and prime tank of the and	34.1							
is a maginal to be provided for values of the transformation of the set of the constraint of a spectration.  Figure 1 and the set of								
the practice and a in dicated in the drawing for different equiprenets. This is an par expressed drawing and specification.           H.1.1         (DTX 10) MG (FLAT         MTR8         5167         MTR8         5167           14.1.2         (DTX 10) MG (FLAT         MTR8         5167         MTR8         5167           14.1.3         (DTX 10) MG (FLAT         MTR8         5167         MTR8         5167           14.1.4         (DTX 10) MG (FLAT         MTR8         5167         MTR8         5167           14.1.4         (DTX 10) MG (FLAT         MTR8         5160         MTR8         MTR8         100         MTR8         100         MTR8         MTR8         100         MTR8								
All.1         OTEX to MIK GIFLAT         MTRS         5 157         Common Normal State           H.1.1         UDDet MIK GIFLAT         MTRS         5 157         Common Normal State         Common Normal State <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
11.12         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NTRS         44.66            14.13         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.15         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio M MS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio MMS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.15         (i)Dio MMS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio MMS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.15         (i)Dio MMS ROD FOR NON-TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio MMS ROD FOR TREATED EARTH PT ELECTORE         NOS         160            14.14         (i)Dio MMS ROD FOR TREATED EARTH PT ELECTORE         NOS         170           14.14         (								
Intel         MTRS         4466         MTRS         4466           84.31         Global MM SR GO PCR NOL TREATED EARTH PT ELECTORE         NOS         160            84.43         Global MM SR GO PCR NOL TREATED EARTH PT ELECTORE         NOS         160            84.44         Global MJ SR GO PCR NOL TREATED EARTH PT ELECTORE         NOS         160            84.44         Global MJ SR GO PCR NOL TREATED EARTH PT ELECTORE         NOS         160            84.4         Global MJ SR GO PCR NOL TREATED EARTH PT ELECTORE         NOS         160            84.4         Global Tray Include Support Global Science (Tray Include Sc								
ital         Impo Num Ms ROO FOR NON-TREATED EARTH HT ELECTORDE         NOS         150           ital         Model (PIEFE COR REATED EARTH HT ELECTORDE WITH AND EXOLOGUER         NOS         150           ital         Model (PIEFE COR REATED EARTH HT ELECTORDE WITH AND Exologue Control (Piefe earting by uing)         NOS         4           ital         Providing and supplying all labor, material, explorent site, required for making of Special Bore will type earting by uing         NOS         4           ital         Providing and supplying all labor, material, explorent sections 1.6. Section:1-1.2-2.3-3 & 4-4 along with its         NOS         4           ital.         G1Cable Traylogue Sto75c300trmin         MTRS         1000         1           ital.         G1Cable Traylogue Sto75c300trmin         MTRS         1000         1         1           ital.         G1Cable Traylogue Sto75c300trmin         MTRS         1000         7         1         1           ital.         G1Cable Traylogue Sto75c300trmin         MTRS         1000 <td>34.1.1</td> <td>(i)75x10 MM GI FLAT</td> <td>MTRS</td> <td>5167</td> <td></td> <td></td> <td></td> <td></td>	34.1.1	(i)75x10 MM GI FLAT	MTRS	5167				
14.1         4 Mith of IPPE FOR TREATED FARTH PT ELECTRODORS WITH CHAMBER AND COVER         NOS         180           34.5         Pro-In-Program Balour, material, exaponents is c. regulated for waiting of special Box with presenting by using the contract to minimize the auth resistance (CT HE SWITCH-YARD balou 0.5 OHM.         NOS         4           34.1         Folden Trays including support (C angle southeb for different sections is. Section: 1.1.2.2.3.3 & 4.4 along with to statistical of THE SWITCH-YARD balou 0.5 OHM.         NOS         4           34.2         Cladel Traysfacts: 30x73z2500m1         MTR         1720             34.2.1         Cladel Traysfacts: 30x73z2500m1         MTRS         1200             34.3         Cladel Traysfacts: 30x73z2500m1         MTRS         1200             34.3         Bugoot CL Targle Stock of mit or analysing         MTR         25             34.4         BWTCH YARD AC CONSOLE FOR USHTNR (OT non anz 20 XV bay S ATW bay)         NOS         2             34.4         BWTCH YARD AC CONSOLE FOR WELDING A COTHER MARSHALLING Not on anz 20 XV bay S ATW bay 30 XV bay         NOS         2             34.4         BWTCH YARD RECEPTACLE BOARD FOR WELDING A COTHER MARSHALLING Not on 32 XV bay 30 XV bay         NOS         2 <td< td=""><td>34.1.2</td><td>(ii)50x6 MM GI FLAT</td><td>MTRS</td><td>4165</td><td></td><td></td><td></td><td></td></td<>	34.1.2	(ii)50x6 MM GI FLAT	MTRS	4165				
IAI.4         Solution (Imper FOR TREATED EARTH PT ELECTRODORS WITH CHAMBER AND COVER         NOS         180           3A1.5         Pre-Im-Pre-entry at block meaning and supplying at block meaning the using block meaning and supplying at block meaning the using block of SOLM.         NOS         4           44.1         Clock Trays including support GL angle subble for different sections i.e. Section:11,22,33 & 4.4 along with to section the construction of the c	-		-					
Providing and supplying all about, material, supported at the material of Special Bore well type earling by support         No.5         4           81.5         Perioding and support gal about, material, support and constrained to a strateging of Special Bore well type earling by support Gal angle suitable for different sections i.e. Section:1-1:22.3.3 & 4.4 acrag well is a strateging by support Gal angle suitable for different sections i.e. Section:1-1:22.3.3 & 4.4 acrag well is a strateging by support Gal angle suitable for different sections i.e. Section:1-1:22.3.3 & 4.4 acrag well is a strateging by support Gal angle suitable for different sections i.e. Section:1-1:22.3.3 & 4.4 acrag well is a strateging by support Gal angle suitable for different sections i.e. Section:1-1:22.3.3 & 4.4 acrag well is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is a strateging by support Gal angle substrate item is and substrate item is and substrateging by of MALLinks place. State Markers JPC Carebox Carebo								
High-im-Page saming electrods in order to minimize the earth resistance OF THÉ SWTCH-YARD balow 0.5 OHM.         NOS         4           GL Cable Tragging in CBS         Constraints         NOS         4           High-im-Page saming electrods in order to minimize the earth resistance OF THÉ SWTCH-YARD balow 0.5 OHM.         NOS         4           High-im-Page saming electrods in order to minimize the earth resistance OF THÉ SWTCH-YARD balow 0.5 OHM.         NTRS         1200         NOS           High-im-Page saming electrods in order to minimize the earth resistance OF THÉ SWTCH-YARD balow 0.5 OHM.         MTRS         1200         NOS         4           High-im-Page saming electrods in order to minimize the earth resistance OF THÉ SWTCH 1.22.3 & 4 44 along with its         MTRS         1200         NOS         1           High-im-Page saming electrods in order to minimize the earth resistance OF THE SWTCH 1.22.3 & 4 44 along with its         MTRS         1200         NOS         1           High-im-Page saming electrods in order to minimize the earth resistance OF The SWTCH 1.22.3 & 4 4 along with its         MTRS         2         NOS         1           High in order to minimize the earth resistance OF the SWTCH 1.22.3 & 4 4 along with its saming and control page in daming of the saming and control page in daming of the saming and control page and frage of the bit mays. Including supply of NoS 1         NOS         2           High in order lase prenaleclase saming in alor or the transformatin termal conc	0.111		1100	100				
Lag         GL Cable Trayse including support GL angle suitable for different sections i.e. Section 1-1.2-2.3-3 & 4-4 along with its accessions as per TS.         Lag         Lag <thlag< th=""> <thlag< th="">         Lag</thlag<></thlag<>	34 1 5		NOS	4				
Image: Part and the probability of the probability precentrate of the probability of the probability of	54.1.5	ripering percende in order to minimize the earth esistance of the Switch Pract below 0.5 On M.	NOO	-				
IAI.2         accessories sign TS		C. L. Cable, Trave, including, support, C.L. apple, suitable, for different, sections, i.e., Sections, 1.1.2.2.2.2.8.4.4. along, with its						
194.2.1         G. Cabb Trayliza: 4507:55200mm)         MTRS         1200         Image: 1200           34.2.2         G. Cabb Trayliza: 5507:55200mm)         MTRS         1500         Image: 1200	34.2							
B4.22         G1 Cabe Traylate: 5007/52500rm)         MTRS         2000         MTRS         2000           B4.24         G1 Cabe Traylate: 5007/52500rm)         MTR         1500	24.2.1		MTDS	1200				
B4.23         G1 Cable Trage/size: 1507/52/3200m)         MTR         1500         MTR           B4.24         SUBSTATION SWITC/VARD BMK/AC CONSOLE A OTHER MARSHALLING BOXES         MT         2.5         —         —         —         —         —         —         —         —         —         —         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …         …					1	+	+	+
B4.2         Support G1. largie 506/306 mm for cable tray.         MT         2.5           34.3         SUB STATION SWITCARD BMAC.CONSOLE & OTHER MARSHALLING BDXES         Image: Console Console Console Console Console &					1	+	+	+
34.3         SUB STATION SWITCYARD BWK.AC CONSOLE & OTHER MARSHALLING BOXES         Image: Construct of the construction of t								
BAY MRSHALING KIOSK (02 nos 0n 220 K Joby & 60 Nos 33 KV Joby)         NOS         7         Image: Construct For Rel LeftTMS (01 nos 0n 220 K Joby & 01 Noi n3KV Joby)         NOS         2           346         SWITCH YABD AC CONSIGLE FOR LIGHTING (01 no. neer 22033 KV power Transformer)         NOS         1         Image: Construct For Rel LeftTR Rel To Rel FLITERATION (01 no. neer 22033 KV power Transformer)         NOS         1         Image: Construct For Rel LeftTR Rel FOR TO LIFTLERATION (01 no. neer 22033 KV power Transformer)         NOS         2         Image: Construct For Rel LeftTR Rel To Rel To Rel LeftTR Rel To Rel Rel Rel To Rel To Rel Rel Rel To Rel Rel To Rel			IVI I	2.5				
34.6         SWTCH YARD AC CONSOLE FOR LUGHTNG (0f nos on 220 kV bay k 01 No in 33KV bay)         NOS         2           34.7         SWTCH YARD RECEPTACLE BOARD FOR TROLING.         ILETRATING (0f no. nos. nos. 202 AV bay V         NOS         1           34.8         SWTCH YARD RECEPTACLE BOARD FOR TROLING. This no. nos. 202 AV bay V         NOS         2             35         Laying of Power and Control Cable Cable with termination connections both at equipments and control panels with supply of and fixing of Lable with termination connections both necessary arrangements, laying of Earthing Flats.earthing Jusing of Cable trans, M-Seal compounds et for sealing purpose and all necessary arrangements, laying of Cable trans, M-Seal compounds et for sealing purpose and all necessary arrangements, laying of Cable trans, M-Seal compounds et for sealing purpose and all necessary arrangements, laying of Cable trans, M-Seal compounds et for sealing purpose and all necessary arrangements, laying of Cable trans, M-Seal compounds et for sealing purpose and all necessary arrangements, laying of Cable trans, M-Seal contractor           35.1.1         AVE 3.5 CX30 mm ² MTR         600             35.1.3         AVE 3.5 CX30 mm ² MTR         1000             35.1.4         AVE 3.5 CX30 mm ² MTR         1000             35.1.5         AVE 3.5 CX30 mm ² MTR         1000             35.1.6			NOC	7				
34.7         SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ( <i>dt no. near 22033 KV powr</i> Transformer)         NOS         1             34.8         SWITCH YARD RECEPTACLE BOARD FOR WEIDINGS to OTHER EMERGENCY ( <i>dt nos an 220 33 kV bay</i> )         NOS         2             34.8         SWITCH YARD RECEPTACLE BOARD FOR WEIDINGS to OTHER EMERGENCY ( <i>dt nos an 220 63 kV bay</i> )         NOS         2 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
34.8.         SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY (0f nos on 20 43 kV bay)         NOS         2             35         Laping of Power and Control Cable with terminal connections both at equipments and control panels with supply of and fixing of lugs, Ferrules, clamps, connectors, glands, fixing of cable trans, including supply of N&B, Link plates, Cable Markers, PVC ppes Bends, Plastor of Panis, M-Sael compounds et cfor sealing purpose and al necessary arrangements, laying of Earthing Flats, earthing, Laying of Cable trans, slabs and chequered plate etc for the cable trench, Cable scheduled and cable diagram to be propared by the contractor								
35       Laying of Power and Cartural Cable Including fixing of cable with terminal connections both at equipped Intrays, including support Intrays, including support Integration and fixing of Laying Fixed States and Tables and Laying of Earthing Fixing of Cable InterNA, Seal compounds et for sealing purpose and all necessary arrangements laying of Earthing Fixing of Cable InterNA, Seal compounds et for sealing purpose and all necessary arrangements laying of Earthing Fixing of Cable InterNA, Seal compounds et for sealing purpose and all necessary arrangements laying of Earthing Fixing of Cable InterNA, Seal compounds et for sealing purpose and all necessary arrangements laying of Earthing Fixing of Cable InterNA, Seal Cable State All Sea and Sea a	-							
win supply of and fixing of lugs,Ferrules,clamps,connectors,glands,fixing of cable trays, including supply of NAB_Link       NAB_Link         attack.able Matters,PVC Dipse Bends,Plaster of Paris, M-Seal compounds et for sealing purpose and all necessaria       NAB_Link         35.1       POWER CABLES,1.ItKV.XPE & PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)       NITR       800       NITR         35.1.1       XLPE 3.5 CX180 mm ² MTR       800       NITR       NITR         35.1.2       XLPE 3.5 CX180 mm ² MTR       800       NITR       NITR         35.1.3       XLPE 3.5 CX180 mm ² MTR       600       NITR       NITR         35.1.4       NLPE 3.5 CX180 mm ² MTR       600       NITR       NITR         35.1.5       PVC 3.5 CX10 mm ² MTR       1000       NITR       NITR         35.1.5       PVC 3.5 CX10 mm ² MTR       1000       NITR       NITR         35.1.6       PVC 4.5 K Garm       MTR       4000       NITR       NITR         35.1.7       PVC 4.5 K Garm       MTR       4000       NITR       NITR         35.2       CONTROL CABLES,1.IKV, PVC, STRANDED COPPER(As per specification)       MTR       4000       NITR       352.2         35.2.2       4 CX 2.5 mm ²			NOS	2				
plates.Cable. Markers.PVC pipes Bends.Plaster of Paris, M-Seal compounds etc for sealing purpose and all necessary arrangements.plates.arthing.jung of Cable trench.Cable scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to be prepared by the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and cable diagram to the contractor.       Image: Comparison of Cable Markers.PVC announces of Cable Academic Scheduled and Cable Academic Ac	35							
arrangementsJaying of Easts, anthing, Jaying of Cable trench slabs and chequered plate site for the cable trench, Cable     Image: Cable State								
scheduled and cable diagram to be prepared by the contractor         Image: Contractor <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
35.1         POVER CABLES,1:KV,XLPE & PVC ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)         MTR         800            35.1.1         XLPE 3.5 CX300 mm ² MTR         800								
35.1.1       XLPE 3.5 CX300 mm²       MTR       800       800         36.1.2       XLPE 3.5 CX186 mm²       MTR       800       1         35.1.3       XLPE 3.5 CX120 mm²       MTR       600       1         35.1.4       PVC 3.5 CX30 mm²       MTR       1000       1         35.1.5       PVC 3.5 CX30 mm²       MTR       2500       1         35.1.6       PVC 3.5 CX36 mm²       MTR       2500       1         35.1.7       PVC 4CX 6 gmm       MTR       4000       1       1         35.1.8       PVC 2.5 CX36 mm²       MTR       4000       1       1         35.1.7       PVC 4CX 6 sgmm       MTR       4000       1       1       1         35.1.7       PVC 2.5 Sgmm       MTR       4000       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1								
35.12         KLPE 35 CX185 mm²         MTR         800         Image: constraint of the second s								
36.13         NLPE 35 CM20 mm²         MTR         600         Image: Constraint of the second se	-	XLPE 3.5 CX300 mm ²						
35.1.4         PVC 3.5 CX70 mm²         MTR         1000         Image: constraint of the second	35.1.2	XLPE 3.5 CX185 mm ²	MTR	800				
35.1.5         PVG 35 CX35 mm²         MTR         2500         MTR         1500           35.1.6         PVC 4 CX 16 mm²         MTR         1500         MTR         4000         MTR         1500         1500         1500         1500         1500         1500         1500         1500         1500	35.1.3	XLPE 3.5 CX120 mm ²	MTR	600				
35.1.5         PVC 3.5 CX35 mm²         MTR         2500         Image: constraint of the system           35.1.6         PVC 4 CX 16 mm²         MTR         1500         Image: constraint of the system	35.1.4	PVC 3.5 CX70 mm ²	MTR	1000				
35.1.6         PVC 4CX 6 nm²         MTR         1500         Image: constraint of the second sec	35.1.5	PV/C 3 5 CX35 mm ²	MTR	2500				
35.1.7         PVC 4CX 6 sqmm         MTR         4000         Image: constraint of the symmetry of								
35.1.8         PVC 2CX 6 sqmm         MTR         3500         Image: constraint of the system           35.2         CONTROL CABLES, 1.1 KV, PVC, STRANDED COPPER(As per specification)         Image: constraint of the system         Image: constraint of the system <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
35.2         CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)         MTR         MTR         6000         Image: Constraint of the specification of the spe					1	+	+	+
35.2.1       2 CX 2.5 mm ² MTR       6000       Image: constraint of the constrain			IVITE	3000				
35.2.2       4 CX 2.5 mm²       MTR       14000       Image: constraint of the state of the st			MTD	6000				
35.23         5 CX 2.5 mm²         MTR         4500         MTR         6000           35.24         7CX 2.5 mm²         MTR         6000         Image: Constraint of the second se	-							
35.2.4         TCX 2.5 mm ² MTR         6000         Image: constraint of the second sec								
35.2.5         10 CX 2.5 mm²         MTR         12000         Image: Constraint of the second se								
35.2.6         12 CX 2.5 mm²         MTR         9000         Image: Constraint of the system           35.2.7         16 CX 2.5 mm²         MTR         5000         Image: Constraint of the system         Image: Constem         Image: Const		7CX 2.5 mm ²		6000				
35.2.7         16 CX 2.5 mm ² MTR         5000         Image: Constraint of the second s	35.2.5	10 CX 2.5 mm ²	MTR	12000				
35.2.7         16 CX 2.5 mm ² MTR         5000         Image: Constraint of the second s	35.2.6	12 CX 2.5 mm ²	MTR	9000	1	1		
35.2.8         19 CX 2.5 mm²         MTR         2000         Image: Constant of the second secon	35.2.7		MTR	5000				
35.2.9     1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB     MTR     800       36.0     ERECTION FOR OPGW System     0     0       36.1     Erection/comissioning of SDH/MUX along with termination with FODP     No     1     0       36.2     Erection/commissioning of SDH/MUX along with fixing, cabling of MFMs     No     1     0       36.3     Erection/commissioning of digital tele-protection coupler     No     2     0								
36.0     ERECTION FOR OPOW System     Control of SDH/MUX along with termination with FODP     No     1       36.1     Erection/commissioning of SDH/MUX along with termination with FODP     No     1       36.2     Erection/commissioning of RTU along with fixing, cabling of MFMs     No     1       36.3     Erection/commissioning of digital tele-protection coupler     No     2					1	+	+	+
36.1     Erection/comissioning of SDH/MUX along with termination with FODP     No     1       36.2     Erection/commissioning of RTU along with fixing, cabling of MFMs     No     1       36.3     Erection/commissioning of digital tele-protection coupler     No     2			WIR	800				
36.2     Erection/commissioning of RTU along with fixing, cabling of MFMs     No     1       36.3     Erection/commissioning of digital tele-protection coupler     No     2			NL					
36.3 Erection/commissioning of digital tele-protection coupler No 2				1				
			-	1				
36.4 148 V. 300 AH, maintenance free VRLA Battery set.			-					
Jet	36.4	48 V, 300 AH, maintenance free VRLA Battery set.	Set	1				
36.5 SMPS based battery charger of 75A suitable for 48V VRLA battery. No 1	36.5	SMPS based battery charger of 75A suitable for 48V VRLA battery.	No	1	1			1
			-					
37.0 ACCESSORIES	37.0							
AUCEGOURIEG	1	AUGEGUNIEG						

and billing instructions and a consequence of billing instruction in the second method. For the line instruction in the second method in the line instruction in the second method. Second method in the line instruction in the second method in the line instruction.           asis         Structure instructions and instructions in the second method in the line instruction.         Structure instructions and instructions in the second method instruction in the second method.           asis         Structure instructions in the second method in the line instruction.         Structure instructions in the second method in the second method.         Structure instruction.         Structure instruction.           asis         Structure instruction.         Structure instruction.         Structure instruction.         Structure instruction.         Structure instruction.         Structure instructure instruction.         Structure instructure instr	37.1	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 TRANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTTION INCLUDING T&P'S. 1. 220/33 KV 20/40 MVA: 02 NoS	Nos	2		
Bits         Exection of other materials for commissioning of station transformers         Image: Commission of Station transformers           38.1         HIGB/20X10 miniming R5 Jost(Rem vib brance) of Station transformers         SET         2           38.2         Station of Station transformer including brance of station transformer including brances and one of the station transformer including brances and the station transformer including brances and one of the station transformer including brances and the station of the station transformer including brances and the station transformer including brances and the station of the station transformer including brances and the station of the station of the station transformer including brances. The could brance and the station of the station of the station transformer including brances and the station of the station of the station of the station transformer including brances and the station of the station transformer including brances and the station						
HOD OP STRUCTURE: each bit hall company of (2X & 8 Mint scattering)         STE         2           82.1         (SBX0000 mmming): Statistican) with bit charmed (SBX 75X40), angles (LSXX0X0), Sattering (SSX0000 mmming): Statistican) with bit charmed (SBX 75X40), angles (LSXX0X0), SET         SET         2           82.2         SXX NO SDE (SDE(OVALDP)) charmed (SSX NOV SDE (SDE(OVALDP)) (SSX0000 mmming); SSX NOV SDE (SDE(OVALDP)) (SSX0000 mmming); SSX NOV SDE (SDE(OVALDP)) (SSX0000 mmming); SSX NOV SDE (SDE(OVALDP)); SET         2           82.2         SXX000 mmming); SSX NOV SDE (SDE(OVALDP)); CDE (SSX0000 mmming); SXX0000 mmming); SSX000 mmming); SSX000 mmming); SSX000 mmming (SSX0000 mmming); SXX000 mmming); SXX000 mmming (SSX0000 mmming); SXX000 mmm is a statistical sol in protein sets, and patigning; Dark statistical specification and approxement diversity output dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity output dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity dark sol in protein sets, and patigning; Dark statistical specification and approxement diversity dark sol in protein sets, and patigning; Dark sol in the statistical statistical statistical statistical membersity sets frame dark sol in dark sol in the statistical statistical statistical statistical statistical membersity sets frame dark sol in the statistical statistical statistical statistical statistical membersity sets frame dark sol in the statistical statis and in protein statistical			NOS	2		
98-10       (IBBN-20X100 mm/mm) RS Justicement) with braining or studies channels (IBM 75X40) & angles (LDXSX00)       SET       2         98-22       33 KV AB SWITCH IN 33 KV SDE(60AMP) including required GI pipe(horizontal & vericially to the fait for 33 kV and board in the Astern transformer including base(each set comprises three single HG Isa0)       SrT       2         98-23       Control Contro	38.2					
above         State         State <th< td=""><td>38.2.1</td><td>(ISBM:200X100 mm(min) RS Joist(beam) with bracings of suitable channels(ISMC 75X40) &amp; angles (L50X50X6) &amp; different size Steel plate of 10 mm thick etc].</td><td>SET</td><td>2</td><td></td><td></td></th<>	38.2.1	(ISBM:200X100 mm(min) RS Joist(beam) with bracings of suitable channels(ISMC 75X40) & angles (L50X50X6) & different size Steel plate of 10 mm thick etc].	SET	2		
Status         Status         Status         Status           0UT DOOR KLOSK MADE OUT OF 3mm thick CRCA steal duly galvanised having gland plates OR BETTER quality WTH 3 NOS. OF CUT-OUTS(1000 AMPS) AT THE INCOMING cable to Main ACDES Status         Status         2           38.4         Status         Status         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2 </td <td>38.2.2</td> <td>down) &amp; handle for operation of AB switch</td> <td>SET</td> <td>2</td> <td></td> <td></td>	38.2.2	down) & handle for operation of AB switch	SET	2		
as2.4       Blace OR BETTER quality WTH 3 NOS. OF CUT-OUTS(1000 AMPS) AT THE INCOMING cable (No. OF 3 PHASE SFU (SOMAPS) AT THE UNCOMING CAN DUTATIONER & Outgoing cable to Main ACDER.       SET       2         asset to Main ACDER.       Setter A write Mathematic Transmission and agroom daways. The black has all to develop and and phase and main prices base to be decayed and daways. The black has all to develop and and the price of the Main ACDER.       Setter A write Mathematic Transmission and agroom daways. The black has all to develop and and phase and have be adreged and to be adcentance.       Setter A write Mathematic Transmission and agroom daways. The black has all to develop and and the base of the Main. The NULDES SUPPLY OF FXTURES & LAMPS (LED) of regular make phase and have be adreged and to be adcentance.       Setter Adv add the base of the Main. The NULDES SUPPLY OF FXTURES & LAMPS (LED) of regular make phase and have be adding to add to be adcentance.       Setter Adv add the Main Adv add the Main Adv add the Main are to be failed on the setter Display (LID) and and to be adcentance.       Setter Adv add the Main Adv add the M	38.2.3		SET	2		
awith just jointing as jet technical specification and approved drawings. The future shall be of regulated make bases and tionity action bases to the futures. The lighting futures are to be insolated or the swatch yard structures. The quarking of additional structures and be decined and the swatch and the swatch ward structures. The quarking of additional structure and the second structure are to be insolated on the swatch yard structures. The quarking of additional structures and the swatch gene (EUC) and prover drawing are to be insolated on the swatch yard structures. The quarking of additional structures and the swatch gene (EUC) and the swatch yard structures are been for adjust on the control and subside heights SET         40           31         EVENESTIONED SWITCH YARD LIGHTING IT INCLUDES SUPPLY OF FITURES & LAMPS (LED) of regulated make provide the structure and the light of the structures are to be for adjust on the control and subside height so SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS), COLONY QUARTERS AND DITTENT STRUCTURES TRUCTURES and the structure and the	38.2.4	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	SET	2		
39.1       (Philps/CCL20Eaplay with switch genr, GI Conduit etc. Lighting factures are to be fixed righty on the Column at a submit etc. To be Provided in the required tax can be achieved, for Storet Light.       SET       40         STREET LIGHTING: TI INCLUDES SUPPLY OF GI TUBULAR POLE AS PER TECHNICAL SPECIFICATION, LED LIGHTING FINANCE, LAMPS of reputed made (Philps/CCL20Eaplay) (100 wat each) for Street Light.       SET       40         39.2       SWTICH YAED, ALONG THE ROADS (APPROACH INSIE YARD AND OTHER ROADS), COLONY QUARTERS AND COMPLETE TO THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STADARD PRACTICE       Set       20         39.2.1       LED LIGHTING STREME PROPER LEARDY THE FORM THE GROUND. THE JUNCTON BOX WITH THE STRUE TO THE PROVIDE IN THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STRUCTOR DOX SHALL HAVE PROVISION OF STREET LIGHT FOLL STRUCTOR TO A SHALL HAVE PROVISION OF THE STRUET. CONTROL ROOK TO THE STRUET LIGHT OF LIGHTING CHARGE OF THE FROM THE GROUND. THE JUNCTON BOX WITH STRUET AND LONG CAS BOAR FROM DUT.       SET       20         39.2.2       SUTTABLE COVERS AT A HEGHT OF 1 METRE FROM THE GROUND. THE JUNCTON BOX SHALL HAVE PROVISION OF THE STRUET AND THE GROUND. THE JUNCTON BOX WITH STRUET AND LONG CAS BOAR FROM DUT.       SET       20         39.2.3       OUTOOOR KIOSK of 3 mm thick CRCA sheet duly hot dig gavanised FOR STREET LIGHT HAVING 2 NOS 200 AMP       SET       20       SET       20         39.2.4       CONTOOR KIOSK of 3 mm thick CRCA sheet duly hot dig gavanised FOR COLONY SUMPLY PURPOSE HAVING 2 NOS.       SET       20       SET       20       SET	39.0	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				
FIXTURES including LAMPS of reputed make (Philips/CGLBaja) (100 watt each) for Street Light. TO BE PROVIDED IN THE         39.2       SWITCH YARD, ALONS THE CROADS (APPROACH INSIDE YARD AND OTHER RADS). COLONY QUARTERS AND OTHER RADS).         0THER RADADS.       ALL MATERIALS AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER RATHING AS PER STANDARD PRACTICE         39.2       IED LIGHTING FYNDERS Including Tables (And Stepsel) (100 watt each) for Street Light.       SET       20         39.2.1       IED LIGHTING FYNDERS Including Tables (And Stepsel) (100 watt each) for Street Light.       SET       20         39.2.2       IED LIGHTING FYNDES Including To glob 55 mtrainminum wuigh 158 (RS)).       SET       20          39.2.2       OUTDOOR NOSK of 3 mm thick CRCA sheet day hot dig palvanized FOR STREET LIGHT HAVING 2 NOS 200 AMP       SET       20          91.2.2       OUTDOOR NOSK of 3 mm thick CRCA sheet day hot dig palvanized FOR STREET LIGHT HAVING 2 NOS 200 AMP       NO       1         32.2.3       ACDB FERON CONTROL ROOM TO THE OUT DOOR KIOSK X.PE CABLE OF 4C X 16 SDMM FROM MOUTDOOR KIOSK NO       1          32.2.3       ACDB FERON CONTROL ROOM TO THE OUT DOOR KIOSK X.PE CABLE OF ACX 16 SDMM FROM MOUTDOOR KIOSK NO       1          32.2.3       ACDB FERON CONTROL ROOM TO THE OUT DOOR KIOSK X.PE CABLE OF ACX 16 SDMM FROM MOUTDOOR KIOSK NO       1          32.4       SOM F	39.1	(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	40		
GI Tubular Pole: (410-SP-24: IS 2713-Part-II-1980 or latest) Length of pole 8.5 mitrs(minimum weight 158 Kgs).       Dut	39.2	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				
39.22       (ALL THE STREET LIGHT POLE SHALL BE OF GI TUBULAR POLE AND PROVISION OF A GI JUÑCTION BOX WITH SUTTABLE COVERS AT A HEIGHT OF 1 METRE FROM THE ROUND. THE UNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT.       SET       20         0UTDOOR KIOSK of 3 mm thick CRCA sheet duy hot dip galvanised FOR STREET LIGHT HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND 10 NOS. OUT LETS OF 32 AMP MOB, XLPE CABLES(3,5 CORE 120 SOMM FROM OUTDOOR KIOSK TO THE STREET LIGHT POLES AND 4CX8 SOMM FROM POLE TO POLE AND 2CX6 SOMM FROM OUTDOOR KIOSK FOR CONTROL ROOM TO THE OUT DOOR KIOSK, XLPE CABLE OF 4C X 16 SOMM FROM OUTDOOR KIOSK OUTDOOR KIOSK of 3 mm thick CRCA sheet duy hot dip galvanised FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE LINITS, 6 NOS OUT LETS OF 32 AMP MCB FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE LUNITS, 6 NOS OUT LETS OF 32 AMP MCB FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE LUNITS, 6 NOS OUT LETS OF 32 AMP MCB FOR COLONY OUARTES, XLPE CABLES(3,5 CORE 120 39.24       NOT       1         39.24       SOM) FROM MOC ONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SOMM FROM KIOSK TO EACH QUARTER.       NO       1         39.3       2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF 5 star Tated AIR CONDITIONING LONG SUBJIESF. CONTROL FOOL FOOL COMPLETING THE A. CSCHME (AS NOC)       SET       20         40.0       TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16 ANNEXURE - 1)       NOS       4       4         40.1       FOM TYPE-5 LTRS       NOS       4       4       4       4       4       4	39.2.1	LED LIGHTING FIXTURES including LAMPS of reputed make (Philips/CGL/Bajaj).(100 watt each) for Street Light.	SET	20		
SWITCH FUSE UNITS AND 10 NOS. OUT LETS OF 32 AMP MCB. XLPE CABLES(3.5 CORE 120 SOMM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4LC X16 SOMM FROM POLE TO LIGHTING FIXTURES.       NO       1         39.2.3       ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4LC X16 SOMM FROM POLE TO LIGHTING FIXTURES.       NO       1         0UTDOOR 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 SOM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SOMM FROM KIOSK TO EACH QUARTER.       NO       1         39.2.4       20 A SWITCH FUSE UNITS, 6 NOS OUT LETS OF 32 AMP MCB FOR COLONY QUARTES. XLPE CABLES(3.5 CORE 120 SOM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SOMM FROM KIOSK TO EACH QUARTER.       NO       1         39.3       2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF 5 star rated AIR CONDITIONINES, Automatic Votage Stabiliser, CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION ) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM, OFFICE ROOM etc ("SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)       SET       20         40.0       TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16- ANNEXURE - I)       NOS       4          40.1       FOAM TYPE-9 LTRS       NOS       4            40.1       FOAM TYPE-9 LTRS       NOS       4<	39.2.2	(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	SET	20		
39.2.4       200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES. XLPE CABLES(3.5 CORE 120 QUARTER.       NO       1         39.2.4       SQM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 40X16 SQMM FROM KIOSK TO EACH QUARTER.       NO       1       1         39.3       2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF 5 star rated AIR CONDITIONERS, Automatic Voltage Stabiliser, CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION ) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM, OFFICE ROOM etc ("SUPPLY OF CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM, OFFICE ROOM etc ("SUPPLY OF CONTROL ROOM, CARRIER ROOM & SONDE CONTROL ROOM, EQUIPMENT LIKE tRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)       SET       20         40.0       FOAM TYPE-9 LITRS       NOS       4           40.1       FOAM TYPE -5 KGS       NOS       4           40.2       DRY ONDER TYPE -5 KGS       NOS       4           40.3       DRY POWDER TYPE -5 KGS       NOS       4            40.4       CO2 - 45 KGS       NOS       10	39.2.3	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	NO	1		
39.3       rated AIR CONDITIONERS, Automatic Voltage Stabiliser, CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS OF RESPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM, OFFICE ROOM etc (*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)       SET       20       20         FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM, EQUIPMENT LIKE ANNEXURE - I)       SET       20       20       20         40.0       TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)       NOS       4       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20       20	39.2.4	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	NO	1		
40.0TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16- ANNEXURE - I)NOSAImage: Constraint of the second sec	39.3	rated AIR CONDITIONERS, Automatic Voltage Stabiliser,CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION ) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.,OFFICE ROOM etc (*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)	SET	20		
40.2         DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS         NOS         4            40.3         DRY POWDER TYPE - 5 KGS         NOS         4	40.0	TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-				
40.3         DRY POWDER TYPE - 5 KGS         NOS         4            40.4         CO2 - 4.5 KGS         NOS         10             40.5         CO2 - 9 KGS         NOS         10						
40.4         CO2 - 4.5 KGS         NOS         10         10           40.5         CO2 - 9 KGS         NOS         10         10         10						
40.5 CO2 - 9 KGS NOS 10 CO2 - 9 KGS						<b>├</b> ─── <b>├</b>

40.7	9 litre water type	Nos.	4			
40.8	50 Litres Mechanical Foam type	Nos.	2			
70.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5			
	PROTECTION.CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER	021				
41	TECH SPEC					
41.1	220 KV SIDE(SIMPLEX TYPE)					
41.1.1	FEEDER CONTROL & RELAY PANEL	NOS	4			
41.1.2	TRANSFORMER CONTROL & RELAY PANEL(FOR HV SIDE OF 220/33 KV TRANSFORMER)	NOS	4			
41.1.3	BUSCOUPLER CONTROL & RELAY PANEL	NOS	2			
41.1.4	SYNCHRONISING TROLLY	NOS	1			 
41.1.5	BUS-BAR RELAY PANEL(RBB-2D) TIME SYNCH EQUIPMENT	NOS NOS	1			 
41.1.6 41.1.7	EVENT LOGGER PANEL	NOS	1			 
41.2	33 KV SIDE	1100	1			
41.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5			
41.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2			
41.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1			
42	AC & DC SYSTEM					
42.1	AC SYSTEM					
42.1.1	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			
42.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1			
42.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1			
42.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1			
42.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1			
42.1.6	INDOOR RECEPTACLE BOARD	SET	1			
43	DC SYSTEM					
43.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1,DC DB-2 & B/C)	SET	1			
43.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1			
43.3	BATTERY (350 AH PLANTE TYPE) for 220 V DC	SET	2			
43.4	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST) (including provision of series dropper diodes with heat sinks & other protection facility at the DC Load terminal end in order to feed 220 V to the load).	SET	1			
43.5	DISTILLED WATER PLANT of 10 L/Hr FOR BATTERY BANKS	NOS	1			
44	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			
45	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	NOS	1			
46	AC & DC SYSTEM	NOS	1			
47	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1			
48	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I ,INDICATED IN TS-TIMK-SCHEDULE OF	SET	1		1	
48	REQUIREMENTS OF MAINTENANCE EQUIPMENT) OTHER TOOLS AND PLANTS (T&P'S) REQUIREMENT (AS PER ANNEXURE - II ,INDICATED IN TS-TIMK-SCHEDULE OF	SET	1			
+9	REQUI-REMENTS OTHER T&P's)	361	1			
50	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			
51	BEST QUALITY & APPROVED MAKE INSULATING MAT (Confirming to IS:15652:2006) TO BE KEPT INFRONT OF ALL PANELS, BOARDS ETC.	NOS	35			1
52	WALKIE TALKIE SET	SET/PAIR	2			
	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF					
53	EQUIPMENT INSIDE SWITCH YARD.	NOS	2			
	TOTAL OF ERECTION SUBSTATION (Electrical Work-PART B)					
TOTA	L OF ERECTION SUBSTATION (Electrical Work) & (Civil Work) -Sche	edule-4-ss	(to Schedule	No. 6 Gran	d Summarv)	
			<u></u>		er:	 
	1 Specify currency in accordance with specifications in Bid Data Sheet under	er ITB 19.1 in	Single-Stage Bio	, or ITB 34.1 in '	Two-Stage Bid.	

	ORISSA POWER TRANSM E OF THE WORK:- Design, Supply and Installation of Sub-Stations & Trans ted 220KV LILO line from 220 line from Rengali to Tarkera (Approx. Line lei Cooperation Age	smission ngth-12.3	Lines for Procuren 78 Kms.) in Odish	nent of 2X20 M			
	Loan Agreement No: [ID-P245] - IFB No: [CPC/JICA/ICB/08	/15-16/	]- Reference	e Identification I	No: [OPTCL/JIC	CA/PKG-8]	
	NAME OF THE BIDDER						
	DESCRIPTION OF ITEMS				LINE	_	1
SI. No.	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for Construction of 220 KV LILO line from Rengali-Tarkera line to Deogarh (Line length-12.378 Kms (APPOX).	Unit F Foreign Currency Portion		Foreign Currency Portion	I Price ¹ Local Currency Portion
			(1)	(2)	(3)	(1) x (2)	(1) x (3)
PART A	CIVIL WORKS SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required						
1	T&P's, Technical personnel's, labours for conducting						
1.1	Preliminary survey, Detail survey and resurvey (required for avoiding ROW problem) including but not limited to taking of levels, profile plotting, tower spotting ,marking of towers locations at site including showing P&T line, power line, Railway line, river crossing, roads and submission of route map and survey report etc. The P&T lines and railway lines for a minimum distance of 8 kms on either side of alignment shall be clearly indicated.(This item is applicable for revised portion of the line only if the survey work was done by OPTCL previously)	KM.	12.378				
1.2	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.(This item is applicable for revised portion of the line only if the survey work was done by OPTCL previously)	KM.	12.378				
	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	KINI.	12.378				
	Soil Testing in complete shape along with submission of report etc.	Per Loc.					
1.5	Soil Testing in complete shape along with submission of report etc. upto the depth of 45 mtrs for River bed pile.	Per Loc.	0				
2	EXCAVATION WORKS FOR OPEN CAST/SHALLOW TYPE FOUNDATIONS Excavation in all type soil and rocks and back filling (back filling shall be done in layers of 500mm sprinkling of water and compaction thereafter and disposed of excess quantity of excavated soil at suitable place after back filling), & if required for filling the foundation, borrowed earth/morrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.						

2.1.1	Soft/Loose soil	CUM	1144.697		<u> </u>	
2.1.2	Dense/Compact soil	CUM	1030.227		-	
2.1.3	Wet soil	CUM	1144.697		-	
2.1.4	Partial Submerged soil	CUM	972.992			-
2.1.5	Fully submerged soil	CUM	0		-	
2.1.6	Soft/Disintegrated rock(Not requiring Blasting)	CUM	858.523			-
2.1.7	Hard Rock(Requiring Blasting/Using breaker machinery)	CUM	572.348			-
3.0	Fixing of Templates & setting of stubs	00101	572.540			
3.1	A Type	MT	20.593			
3.2	В Туре	MT	12.668			
3.3	С Туре	MT	22.943			-
3.3		MT	0			-
3.4	D Туре		0			
4.0	FOUNDATION MATERIALS: Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making foundations of the required above mentioned type towers as per the direction laid down in the technical specification and the direction of the site- in charge					
4.1	PCC(Lean Concrete) in the ratio 1:3:6(Grade M-10)	CUM	102.11			
4.1.1	(i) FOR OPENCAST FOUNDATION:Providing & laying of RCC work of ratio 1:1.5:3 (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 & fixing, curing, testing of sample cement concrete cubes & cost of all materials like cement,reinforcement steel etc. as per IS.456 (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&P as per specification in the concrete ratio 1:1.5:3 (Grade M-20.)	СИМ	881.555			
4.2	DE-WATERING(FOR OPEN CAST LOCATION)					
4.2.1	With Supply of all T&P, Fuel, Lubricant & electricity on HP Hour basis.	HP Hour	400			
4.3	Supply of borrowed earth/morrum for back filling for foundation/revertment works					
4.3.1	(iii beyond 100 mtr lead	CUM	1144			
4.3.1	SHORING & SHUTTERING-Required in wet/submerged or special	CON	1144			╉─────┤
4.4	locations of open cast/shallow type foundations with supply of all materials,T&P and Labour.	SQ.MTR.	4000			
4.5	Head-Loading of all types of foundation-materials,towers,structures, conductors,Insulators,Hard-wares & Emergency Restoration System towers required for special inaccessible Locations beyond 400 mtrs from the nearest approach road as per the recommendation of site Engineer-In- Charge and approval of GM of Concerned circle.	Per MT/Per Mtr	12000			
5	REVETMENT / STONE PITCHING FOR PROTECTION OF TOWER BASE.					
5.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	СЛМ	450			
5.2	Lean Concrete in the ratio1:3:6(Grade M-10) including supply of sand chips etc.	CUM	30			
5.3	PCC in the ratio 1:2:4(Grade M-15) as above.	CUM	18			
5.4	RR Massonary work in the ratio 1:5.	CUM	90			
5.5	Plastering and punning etc.	SQ.MTR.	550			
	Stone Pitching	CUM	65			
5.6	Stone Fitching	00101	00			
5.6	TOTAL(Civil Work)	00111	00			

PART B	ELECTRICAL WORKS						
	ERECTION, TESTING & COMMISSIONING of tested Lattice type Galvanized						
	steel tangent / Angle tower super structures without stubs and cleats , 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,						
6.0	punching of bolts including step bolts. All other left out portion of the bolts	МТ	222.04				
6.0	above bottom cross arm shall be riveted by using suitable hammer. Painting of	MT	333.01				
	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.						
	Hoisting and fixing of insulators with required accessories, paying out of						
	conductor ,jointing, stringing, sagging & Jumpering etc. of power						
	conductor in the proposed lines and without earth wire with all required						
6.1	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.						
6.1.1	SINGLE CIRCUIT(ACSR/AAAC, THREE POWER CONDCTOR WIRE)	RKM	1				
6.1.2	DOUBLE CIRCUIT(ACSR/AAAC, SIX POWER CONDCTOR	RKM	12.378				
7.0	WELDING OF TOWER MEMBERS						
	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						
7.1	machine (diesel engine operator.), application of required zinc rich paints	Nos.	55645				
	around the welding portion after welding (two coats),fuel,lubricants,T&P and						
	labours and other arrangements etc.						
8	EARTHING OF TOWER						
	Pipe Type earthing including cost of charcoal,salt/coke and good borrowed						
8.1	earth and Bentonite where necessary in accordance with IS:3043 and with	Nos.	48				
	supply of all T&P and Labour.						
	Erection, Testing and Commissioning of the following tower accessories						
9	as per technical specification and as directed by the engineer in charge.						
9.1	DANGER BOARD	Nos.	48				
9.2		Nos.	48				
	PHASE PLATE(R,Y,B)	Sets.	288				
9.4	BIRD GUARD	Nos.	150				
9.5		Nos.	48				
9.6		Nos.	96				
10	Erection of OPGW and its Accessories	Karta					
10.1	Erection of 24Fibre/48(DWSM)OPGW fibre Optic along with hardwares and	Kmtr	13				
-	approach cables						
	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						
11	submitted by the contractor within 5 months of award of contract. Beyond the	LS	1				
	above period L.D as applicable & the amount shall be deducted as specified in	LO	I.				
	the specification.						
	ine specification.						
	TOTAL(Electrical Work)		1	L		1	
	TOTAL OF ERECTION LINE (Electrical Work) & (Civil W	(ork) -	Schedule-4-line	to Schedule	No. 6		
		<b>JIN</b> / *k	-mount-t-mit		- 1 <b>U</b> U	I	
				Name of Bidder:			
					ler:		
				0			_
	1 Specify currency in accordance with specifications in Bid Data S	heet unde	r ITB 19.1 in Single-S	tage Bid, or ITB 3	4.1 in Two-Stage	Bid.	

NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Procurement of 2X20 MVA-220/33 KV Sub-station at DEOGARH & associated 220KV LILO line from 220 line from Rengali to Tarkera (Approx. Line length-12.378 Kms.) 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]

	Schedule No. 6. Grand Sun	nmary	
	NAME OF THE BIDDER		
		Total	Price ¹
ltem	Description	Foreign	Local
1	Total Schedule No. 1. Plant, and Mandatory Spare		
	Parts Supplied from Abroad (Substation+Line)		
2	Total Schedule No. 2. Plant, and Mandatory Spare, Parts Supplied from		
	Within the Employer's Country (substation+Line)		
3	Total Schedule No. 3. Design Services (Not Applicable)		
4			
	Total Schedule No. 4. Installation and Other Services (substation+Line)		
5	Total Schedule No. 5. Provisional Sums (Not to be considered for		
	Evaluation)		
	Total( to Bid Form)		
	Name of Bidder:		
	Signature of Bidder:		

¹ 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

NAME OF THE WORK:- Design, Supply and Installation of Sub-Stations & Transmission Lines for Procurement of 2X20 MVA-220/33 KV Substation at DEOGARH & associated 220KV LILO line from 220 line from Rengali to Tarkera (Approx. Line length-12.378 Kms.) 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]

	Sche	edule No. 7	. Recommende	d Spare Parts		
	NAME OF THE BIDDER					
Sl. No.	DESCRIPTION OF ITEMS SUPPLY OF SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)		Quantity	CIP (foreign parts)	Unit Price Ex-Works Price Local Parts	Total Price in INR
			(1)	(2)	(3)	(1) x (2) or (3)

TOTAL			

Name of Bidder:_____

Signature of Bidder:_____

Note: Recommended Spares shall not be taken in to consideration for evaluation purpose.