ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations along with 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Ex-works Prices against Package- MARSHAGHAI-OLAVARA)

PART-I, SCHEDULE-2A (FOR SUBSTATION)

							TO BE QUOTED IN INR					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
										Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	145 KV,(800-400-200/1-1-1-1 A),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15	15	6	36						
2	**145 KV,1250A,40 KA,ISOLATORS**											
2.1	S/I WITH OUT EARTH SWITCH	NOS	8	8	2	18						
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2	2	2	6						
2.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4						
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	6	18						
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12	12	6	30						
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6						
6	132 KV Bus Post Insulators	NOS	16	16	4	36						
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	5	2	12						
8	36KV(800-400-200/1-1-1A), 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	18	0	36						
9	36 KV,(800-400-200/1-1-1-1 A,(3- PS CL & 1-0.2),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	6	0	12						
10	NCT FOR TRANSFORMER PROTECTION RATING 36 KV, (800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	**2**	2	0	4						
11	NCT FOR TRANSFORMER PROTECTION RATING 36 KV, (800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 33 KV SIDE-1 NO.)	NOS	**2**	2	0	4						
12	**36 KV,800A,25KA,ISOLATORS**											
12.1	S/I WITH OUT EARTH SWITCH	NOS	9	9	0	18						
12.2	D/I WITH SINGLE EARTH SWITCH	NOS	5	5	0	10						
12.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4						

SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
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1	2	3	4	5	6	7	8	9	10	11	12	13
12.4	S/I WITH BEAM MOUNTED	NOS	2	2	0	4						
13	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	21	21	0	42						
14	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6						
15	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8	8	0	16						
16	33 KV Bus Post Insulators	NOS	14	14	0	28						
17	**BUS BAR & CIRCUIT MATERIALS**											
17.1	120 KN INSULATOR STRINGS ***for Double tension Twin Moose conductor*** (TENSION)-132 KV	SET	18	18	6	42						
17.2	120 KN INSULATOR STRINGS ***for single tension Single Moose conductor*** (TENSION)-132 KV	SET	42	42	24	108						
17.3	120 KN INSULATOR STRINGS for Double Tension Twin Moose conductor (TENSION)-33 KV	SET	18	18	0	36						
17.4	120 KN INSULATOR STRINGS ***for Single tension Single Moose conductor*** (TENSION)-33 KV	SET	27	27	0	54						
17.5	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-132 KV	SET	6	6	0	12						
17.6	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	15	15	9	39						
17.7	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-33 KV	SET	6	6	0	12						
17.8	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	Set	30	30	9	69						
18	ACSR MOOSE CONDUCTOR	Kms	3	3	0.3	6.3						
19	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	1	3						
20	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1	1	1	3						
21	**SUBSTATION SYSTEMS**											
21.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m both way*)	LOT	1	1	1	3						

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1	2	3	4	5	6	7	8	9	10	11	12	13
21.2	EARTHING CONDUCTOR: 50X6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1	1	1	3						
21.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1	1	1	3						
21.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1	1	1	3						
21.5	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.	LOT	1	1	1	3						
21.6	BAY MARSHALLING KIOSK (For Marshaghai & Olavara S/S & For Pattamundai:01 No.)	NOS	6	6	1	13						
21.7	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	1	5						
21.8	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1	1	0	2						
21.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	0	4						
22	**SWITCH YARD STRUCTURES (INCLUDING FOUNDATION BOLTS) FOR 132/33 KV CLASS**											
22.1	**DIFFERENT TYPES OF COLUMNS (INCLUDING FOUNDATION BOLTS) WITH DETAILS**											
22.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	16	16	4	36						
22.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5	5	1	11						
22.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9	9	0	18						
22.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11	11	0	22						
22.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**					0						
22.1.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	7	9	4	20						
22.1.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	4	4	0	8						
22.1.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4	6	2	12						

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1	2	3	4	5	6	7	8	9	10	11	12	13
22.1.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	2	2	0	4						
22.1.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3	3	0	6						
22.1.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7	7	0	14						
22.1.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	4	4	0	8						
22.1.8	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**59.82**	**59.82**	**10.05**	**129.69**						
23	**SUPPORT STRUCTURES (LATTICE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**											
23.1	**ISOLATORS-132KV**											
23.1.1	D.I W/O E/S	SET	2	2	0	4						
23.1.2	D.I with E/S	SET	2	2	2	6						
23.1.3	S.I W/O E/S	SET	8	8	2	18						
23.2	**ISOLATORS-33 KV**					0						
23.2.1	S.I W/O E/S	SET	9	9	0	18						
23.2.2	D.I W/O E/S	SET	2	2	0	4						
23.2.3	D.I with E/S	SET	5	5	0	10						
23.3	CT-132 KV	SET	15	15	6	36						
23.4	CT-33 KV	SET	24	24	0	48						
23.5	CVT-132 KV	SET	6	6	6	18						
23.6	IVT-132 KV	SET	3	3	0	6						
23.7	IVT-33 KV	SET	3	3	0	6						
23.8	Surge Arrester-132 kV	SET	12	12	6	30						
23.9	Surge Arrester-33 kV	SET	21	21	0	42						
23.10	Wave Trap-132 KV	SET	4	6	4	14						
23.11	BPI-132 KV	SET	16	16	4	36						
23.12	BPI-33 KV	SET	14	14	0	28						
23.13	NCTS	SET	4	4	0	8						
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**34.45**	**34.45**	**7.85**	76.75						
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT.**	MT	**94.27**	**94.27**	**17.90**	206.44						
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**9.43**	**9.43**	**1.79**	20.65						
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**											

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24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**											
24.1.1	3.5 CX300 mm²	LOT	1	1	0	2						
24.1.2	3.5 CX185 mm²	LOT	1	1	0	2						
24.1.3	3.5 CX120 mm²	LOT	1	1	0	2						
24.1.4	3.5 CX70 mm²	LOT	1	1	0	2						
24.1.4	3.5 CX35 mm²	LOT	1	1	0	2						
24.1.5	4 CX 16 mm²	LOT	1	1	1	3						
24.1.6	4 CX 6 mm²	LOT	1	1	1	3						
24.1.7	2CX 6 mm²	LOT	1	1	1	3						
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**											
24.2.1	2 CX 2.5 mm²	LOT	1	1	1	3						
24.2.2	4 CX 2.5 mm²	LOT	1	1	1	3						
24.2.3	5 CX 2.5 mm²	LOT	1	1	1	3						
24.2.4	7CX 2.5 mm²	LOT	1	1	1	3						
24.2.5	10 CX 2.5 mm²	LOT	1	1	1	3						
24.2.6	12 CX 2.5 mm²	LOT	1	1	1	3						
24.2.7	16 CX 2.5 mm²	LOT	1	1	1	3						
24.2.8	19 CX 2.5 mm²	LOT	1	1	1	3						
24.2.9	1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	1	0	2						
25	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**											
25.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4	4	4	12						
25.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	2	6						
25.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000	1000	500	2500						

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25.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1	1	0	2						
25.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500	500	0	1000						
25.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	300	300	0	600						
25.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300	300	100	700						
25.8	4 WIRE TELEPHONE SET	NO	4	4	1	9						
25.9	2 WIRE TELEPHONE SET	NO	10	10	2	22						
26	FAX MACHINE	NO	1	1	0	2						
27	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1	1	0	2						
28	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1	1	0	2						
29	48 V DCDB	SET	1	1	0	2						
30	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION**											
30.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2	2	0	4						
30.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	LOT	1	1	0	2						

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31	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard,Colony street and other street area)**											
31.1	***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 maintained).***	LOT	1	1	1	3						
31.2	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).	LOT	1	1	0	2						

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31.3	**ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS:-** > 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. **(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.)** > 1 NO. OUTDOOR KIOSK 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. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)** > 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. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS. **(* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS AS INDICATED ABOVE AT 24.1)**	LOT	1	1	0	2						
32	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 AT 24.1)**	LOT	1	1	0	2						

SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
										Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13
33	**FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-Vol-IIA-SCPE OF WORK AT-SL NO 15-ANNEXURE – I-Portable Fire Extingusher)**											
33.1	FOAM TYPE-9 LTRS	NOS	2	2	0	4						
33.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)-22.5 KGS	NOS	2	2	0	4						
33.3	DRY POWDER TYPE - 5 KGS	NOS	2	2	0	4						
33.4	CO_2 - 4.5 KGS	NOS	5	5	0	10						
33.5	CO_2 - 9 KGS	NOS	5	5	0	10						
33.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2	2	0	4						
33.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	3	3	0	6						
34	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**											
34.1	**132 KV SIDE**											
34.1.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2	2	2	6						
34.1.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr + 2 for 132 KV side of 132/33 KV Power Tfr)	NOS	2	2	0	4						
34.1.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1	1	0	2						
34.1.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2	2	2	6						
34.1.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE AND 02 NOS FOR 132/33 KV OTHER TRANSFORMERS	NOS	2	2	0	4						
34.1.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1	1	0	2						
34.1.7	COMMON PANEL (KP-1)	NOS	1	1	0	2						
34.1.8	SYNCHRONOUS TROLLY	NO	1	1	0	2						
34.2	**33 KV SIDE**											

SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
										Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13
34.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5	5	0	10						
34.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2	2	0	4						
34.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1	1	0	2						
35	**AC & DC SYSTEM**											
35.1	**AC SYSTEM**											
35.1.1	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	1	0	2						
35.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	1	0	2						
35.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2						
35.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2						
35.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	1	0	2						
35.1.6	INDOOR RECEPTACLE BOARD	SET	1	1	0	2						
35.2	**DC SYSTEM**											
35.2.1	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	1	0	2						
35.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	1	0	2						
35.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1	1	0	2						
35.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1	1	0	2						

SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
										Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13
35.2.5	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	1	0	2						
36	WALKIE TALKIE SET	SET /PAIR	2	2	0	4						
37	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 19)	NOS	1	1	0	2						
38	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORK AT SL NO. 20)	SET	1	1	0	2						
39	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	1	0	2						
40	*WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM*	NOS	1	1	0	2						
41	MAINTENANCE TESTING EQUIPMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 16 **ANNEXURE - II** ,INDICATED IN -SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	1	0	2						
42	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 17 **ANNEXURE - III** ,INDICATED IN SCHEDULE OF REQUIREMENTS OTHER T&P's)	LOT	1	1	0	2						
43	OFFICE FURNITURE (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 18 **ANNEXURE - IV** ,INDICATED IN SCHEDULE OF REQUIREMENTS OFFICE FURNITURE) & PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1	1	0	2						

SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5 Nos(2 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Ex-works Price	Total Ex-works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(6) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(6)]		
										Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13
44	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1	1	1	3						
	TOTAL OF SUBSTATION (PART-I)-2A (SUPPLY)											

Note:

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

2 **Bidders are required to fill up amount in all column except shaded portion.**

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

4 **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**

5 **In mode of transaction column please indicate Direct/Bought-Out. For Taxes & Duties on Direct/Bought-out items ref clause 6.0 of SCC (Vol-IA)**

Date :

Place :

(Signature) .....

(Name) .....

(Designation) .....

(Common Seal) .....

PART-I, SCHEDULE-2B (FOR SUBSTATION)								
							TO BE QUOTED IN INR	
SL NO	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays**	**Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays**	**Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s**	**TOTAL**	**Unit F&I Price**	**Total F&I Price**
1	2	3	4	5	6	7	8	9=7X8
1	145 KV,(800-400-200/1-1-1-1 A),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15	15	6	36		
2	**145 KV,1250A,40 KA,ISOLATORS**							
2.1	S/I WITH OUT EARTH SWITCH	NOS	8	8	2	18		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2	2	2	6		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	6	18		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12	12	6	30		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		
6	132 KV Bus Post Insulators	NOS	16	16	4	36		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	5	2	12		
8	36KV(800-400-200/1-1-1A), 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	18	0	36		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
9	36 KV,(800-400-200/1-1-1-1 A,(3- PS CL & 1- 0.2),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	6	0	12		
10	NCT FOR TRANSFORMER PROTECTION RATING 36 KV,(800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	**2**	2	0	4		
11	NCT FOR TRANSFORMER PROTECTION RATING 36 KV,(800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 33 KV SIDE-1 NO.)	NOS	**2**	2	0	4		
12	**36 KV,800A,25KA,ISOLATORS**							
12.1	S/I WITH OUT EARTH SWITCH	NOS	9	9	0	18		
12.2	D/I WITH SINGLE EARTH SWITCH	NOS	5	5	0	10		
12.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		
12.4	S/I WITH BEAM MOUNTED	NOS	2	2	0	4		
13	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	21	21	0	42		
14	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		
15	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8	8	0	16		
16	33 KV Bus Post Insulators	NOS	14	14	0	28		
17	**BUS BAR & CIRCUIT MATERIALS**							
17.1	120 KN INSULATOR STRINGS ***for Double tension Twin Moose conductor*** (TENSION)-132 KV	SET	18	18	6	42		
17.2	120 KN INSULATOR STRINGS ***for single tension Single Moose conductor*** (TENSION)-132 KV	SET	42	42	24	108		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
17.3	120 KN INSULATOR STRINGS for Double Tension Twin Moose conductor (TENSION)-33 KV	SET	18	18	0	36		
17.4	120 KN INSULATOR STRINGS ***for Single tension Single Moose conductor*** (TENSION)-33 KV	SET	27	27	0	54		
17.5	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-132 KV	SET	6.00	6	0	12		
17.6	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	15.00	15	9	39		
17.7	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-33 KV	SET	6	6	0	12		
17.8	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	Set	30	30	9	69		
18	ACSR MOOSE CONDUCTOR	Kms	3	3	0.3	6.3		
19	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	1	3		
20	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1	1	1	3		
21	**SUBSTATION SYSTEMS**							
21.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m both way*)	LOT	1	1	1	3		
21.2	EARTHING CONDUCTOR: 50X6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1	1	1	3		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
21.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1	1	1	3		
21.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1	1	1	3		
21.5	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.	LOT	1	1	1	3		
21.6	BAY MARSHALLING KIOSK (For Marshaghai & Olavara S/S & For Pattamundai:01 No.)	NOS	6	6	1	13		
21.7	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	1	5		
21.8	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1	1	0	2		
21.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	0	4		
22	**SWITCH YARD STRUCTURES (INCLUDING FOUNDATION BOLTS) FOR 132/33 KV CLASS**							
22.1	**DIFFERENT TYPES OF COLUMNS (INCLUDING FOUNDATION BOLTS) WITH DETAILS**							
22.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	16	16	4	36		
22.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5	5	1	11		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
22.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9	9	0	18		
22.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11	11	0	22		
22.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**					0		
22.1.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	7	9	4	20		
22.1.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	4	4	0	8		
22.1.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4	6	2	12		
22.1.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	2	2	0	4		
22.1.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3	3	0	6		
22.1.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7	7	0	14		
22.1.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	4	4	0	8		
22.1.8	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**59.82**	**59.82**	**10.05**	**129.69**		
23	**SUPPORT STRUCTURES (LATTICE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**							
23.1	**ISOLATORS-132KV**							
23.1.1	D.I W/O E/S	SET	2	2	0	4		
23.1.2	D.I with E/S	SET	2	2	2	6		
23.1.3	S.I W/O E/S	SET	8	8	2	18		
23.2	**ISOLATORS-33 KV**					0		
23.2.1	S.I W/O E/S	SET	9	9	0	18		
23.2.2	D.I W/O E/S	SET	2	2	0	4		
23.2.3	D.I with E/S	SET	5	5	0	10		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
23.3	CT-132 KV	SET	15	15	6	36		
23.4	CT-33 KV	SET	24	24	0	48		
23.5	CVT-132 KV	SET	6	6	6	18		
23.6	IVT-132 KV	SET	3	3	0	6		
23.7	IVT-33 KV	SET	3	3	0	6		
23.8	Surge Arrester-132 kV	SET	12	12	6	30		
23.9	Surge Arrester-33 kV	SET	21	21	0	42		
23.10	Wave Trap-132 KV	SET	4	6	4	14		
23.11	BPI-132 KV	SET	16	16	4	36		
23.12	BPI-33 KV	SET	14	14	0	28		
23.13	NCTS	SET	4	4	0	8		
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**34.45**	**34.45**	**7.85**	76.75		
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT.**	MT	**94.27**	**94.27**	**17.90**	206.44		
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**9.43**	**9.43**	**1.79**	20.65		
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**							
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**							
24.1.1	3.5 CX300 mm^2	LOT	1	1	0	2		
24.1.2	3.5 CX185 mm^2	LOT	1	1	0	2		
24.1.3	3.5 CX120 mm^2	LOT	1	1	0	2		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
24.1.4	3.5 CX70 mm^2	LOT	1	1	0	2		
24.1.4	3.5 CX35 mm^2	LOT	1	1	0	2		
24.1.5	4 CX 16 mm^2	LOT	1	1	1	3		
24.1.6	4 CX 6 mm^2	LOT	1	1	1	3		
24.1.7	2CX 6 mm^2	LOT	1	1	1	3		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**							
24.2.1	2 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.2	4 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.3	5 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.4	7CX 2.5 mm^2	LOT	1	1	1	3		
24.2.5	10 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.6	12 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.7	16 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.8	19 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.9	1CX 120 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	1	0	2		
25	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**							
25.1	132 kV Line Trap for Pedestal mounting with complete accessories : 800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4	4	4	12		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
25.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	2	6		
25.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000	1000	500	2500		
25.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1	1	0	2		
25.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500	500	0	1000		
25.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	300	300	0	600		
25.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300	300	100	700		
25.8	4 WIRE TELEPHONE SET	NO	4	4	1	9		
25.9	2 WIRE TELEPHONE SET	NO	10	10	2	22		
26	FAX MACHINE	NO	1	1	0	2		
27	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1	1	0	2		
28	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1	1	0	2		
29	48 V DCDB	SET	1	1	0	2		
30	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION**							

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
30.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2	2	0	4		
30.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	LOT	1	1	0	2		
31	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard,Colony street and other street area)**							
31.1	***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 maintained).***	LOT	1	1	1	3		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
31.2	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).	LOT	1	1	0	2		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
31.3	**ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS**;- > 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. **(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.)** > 1 NO. OUTDOOR KIOSK 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. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)** > 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. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS. **(* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS AS INDICATED ABOVE AT 24.1)**	LOT	1	1	0	2		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
32	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 AT 24.1)**	LOT	1	1	0	2		
33	**FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-Vol-IIA-SCPE OF WORK AT-SL NO 15-ANNEXURE – I-Portable Fire Extingusher)**							
33.1	FOAM TYPE-9 LTRS	NOS	2	2	0	4		
33.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2	2	0	4		
33.3	DRY POWDER TYPE - 5 KGS	NOS	2	2	0	4		
33.4	CO_2 - 4.5 KGS	NOS	5	5	0	10		
33.5	CO_2 - 9 KGS	NOS	5	5	0	10		
33.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2	2	0	4		
33.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	3	3	0	6		
34	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**							
34.1	**132 KV SIDE**							
34.1.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2	2	2	6		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
34.1.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr + 2 for 132 KV side of 132/33 KV Power Tfr)	NOS	2	2	0	4		
34.1.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1	1	0	2		
34.1.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2	2	2	6		
34.1.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE AND 02 NOS FOR 132/33 KV OTHER TRANSFORMERS	NOS	2	2	0	4		
34.1.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1	1	0	2		
34.1.7	COMMON PANEL (KP-1)	NOS	1	1	0	2		
34.1.8	SYNCHRONOUS TROLLY	NO	1	1	0	2		
34.2	**33 KV SIDE**							
34.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5	5	0	10		
34.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2	2	0	4		
34.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1	1	0	2		
35	**AC & DC SYSTEM**							
35.1	**AC SYSTEM**							
35.1.1	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	1	0	2		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
35.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	1	0	2		
35.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2		
35.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2		
35.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	1	0	2		
35.1.6	INDOOR RECEPTACLE BOARD	SET	1	1	0	2		
35.2	**DC SYSTEM**							
35.2.1	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	1	0	2		
35.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	1	0	2		
35.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1	1	0	2		
35.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1	1	0	2		
35.2.5	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	1	0	2		
36	WALKIE TALKIE SET	SET /PAIR	2	2	0	4		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
37	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 19)	NOS	1	1	0	2		
38	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORK AT SL NO. 20)	SET	1	1	0	2		
39	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	1	0	2		
40	*WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM*	NOS	1	1	0	2		
41	MAINTENANCE TESTING EQUIPMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 16 **ANNEXURE - II** ,INDICATED IN -SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	1	0	2		
42	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 17 **ANNEXURE - III** ,INDICATED IN SCHEDULE OF REQUIREMENTS OTHER T&P's)	LOT	1	1	0	2		

SL NO	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit F&I Price	Total F&I Price
43	OFFICE FURNITURE (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 18 **ANNEXURE - IV** ,INDICATED IN SCHEDULE OF REQUIREMENTS OFFICE FURNITURE) & PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1	1	0	2		
44	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1	1	1	3		
	TOTAL OF SUBSTATION (PART-I)-2B (F&I)							

Note:

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

2 **Bidders are required to fill up amount in all column except shaded portion.**

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

4 **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**

5 **Bidder should be quoted including service tax, no service tax shall be paid/reimbursed.**

Date :

Place :

(Signature) ……

(Name) ……

(Designation) ……

(Common Seal) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations alongwith 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Erection Prices against Package MARSHAGHAI-OLAVARA

PART-I, SCHEDULE-2C (FOR SUBSTATION)

							TO BE QUOTED IN INR	
SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
A	**ELECTRICAL WORKS**							
1	145 KV,(800-400-200/1-1-1-1 A),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15	15	6	36		
2	**145 KV,1250A,40 KA,ISOLATORS**							
2.1	S/I WITH OUT EARTH SWITCH	NOS	8	8	2	18		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2	2	2	6		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	6	18		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12	12	6	30		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
6	132 KV Bus Post Insulators	NOS	16	16	4	36		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	5	2	12		
8	36KV(800-400-200/1-1-1A), 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	18	0	36		
9	36 KV,(800-400-200/1-1-1-1 A,(3- PS CL & 1-0.2),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	6	0	12		
10	NCT FOR TRANSFORMER PROTECTION RATING 36 KV, (800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	**2**	2	0	4		
11	NCT FOR TRANSFORMER PROTECTION RATING 36 KV, (800-400-200/1-1 A, HAVING TWO PS CLCORE (IN EACH POWER TRANSFORMER 33 KV SIDE-1 NO.)	NOS	**2**	2	0	4		
12	**36 KV,800A,25KA,ISOLATORS**							
12.1	S/I WITH OUT EARTH SWITCH	NOS	9	9	0	18		
12.2	D/I WITH SINGLE EARTH SWITCH	NOS	5	5	0	10		
12.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
12.4	S/I WITH BEAM MOUNTED	NOS	2	2	0	4		
13	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	21	21	0	42		
14	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		
15	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8	8	0	16		
16	33 KV Bus Post Insulators	NOS	14	14	0	28		
17	**BUS BAR & CIRCUIT MATERIALS**							
17.1	120 KN INSULATOR STRINGS ***for Double tension Twin Moose conductor*** (TENSION)-132 KV	SET	18	18	6	42		
17.2	120 KN INSULATOR STRINGS ***for single tension Single Moose conductor*** (TENSION)-132 KV	SET	42	42	24	108		
17.3	120 KN INSULATOR STRINGS for Double Tension Twin Moose conductor (TENSION)-33 KV	SET	18	18	0	36		
17.4	120 KN INSULATOR STRINGS ***for Single tension Single Moose conductor*** (TENSION)-33 KV	SET	27	27	0	54		
17.5	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-132 KV	SET	6.00	6	0	12		
17.6	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	15.00	15	9	39		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
17.7	90 KN INSULATOR STRINGS (SUSPENSION for Twin ACSR Moose)-33 KV	SET	6	6	0	12		
17.8	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	Set	30	30	9	69		
18	ACSR MOOSE CONDUCTOR	Kms	3	3	0.3	6.3		
19	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	1	3		
20	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1	1	1	3		
21	SUBSTATION EARTHING SYSTEMS							
21.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Earth Flat for laying (*spacing maximum 5m*) (Substation earth mat): Design, engineering, supply (except the 75X10 mm GI Earth Flat, only erection) inclusive of corrosion protection measures if any,laying of earth mat conductors of size 75X10 mm GI Flat as per the approval of Engineer in charge, excavation, welding/jointing of ground conductors along with risers (a) up to Finished level from the mat size 75X10 mm GI Flat with back filling and good compaction,The spacing between the earth conductor not more than 5 mtrs (both way) and to be buried at depth of 700 mm from the finished ground level as per the practice and as per specification.	LOT	1	1	1	3		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
21.2	EARTHING CONDUCTOR: 50x6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure including proper welding, bending and anti corrosive painting etc from the finished ground level to the top of the structure and equipment shall be with 50X6 mm GI Flats, as per approved drawing and specification.	LOT	1	1	1	3		
21.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit): perforated 50 mm Heavy duty GI pipes for treated earth pits (with details of treatment as per IS) including, excavation,supply of Bentonate powder and other materials for the treated earth pit as per standard practice and as per specification.	LOT	1	1	1	3		
21.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit) to be inserted directly inside the soil.	LOT	1	1	1	3		
21.5	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.	LOT	1	1	1	3		
21.6	BAY MARSHALLING KIOSK (For Marshaghai & Olavara S/S & For Pattamundai:01 No.)	NOS	6	6	1	13		

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1	2	3	4	5	6	7	8	9
21.7	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	1	5		
21.8	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1	1	0	2		
21.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2	2	0	4		
22	**SWITCH YARD STRUCTURES (INCLUDING FOUNDATION BOLTS) FOR 132/33 KV CLASS**							
22.1	**DIFFERENT TYPES OF COLUMNS (INCLUDING FOUNDATION BOLTS) WITH DETAILS**							
22.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	16	16	4	36		
22.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5	5	1	11		
22.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9	9	0	18		
22.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11	11	0	22		
22.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**					0		
22.1.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	7	9	4	20		

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1	2	3	4	5	6	7	8	9
22.1.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	4	4	0	8		
22.1.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4	6	2	12		
22.1.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	2	2	0	4		
22.1.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3	3	0	6		
22.1.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7	7	0	14		
22.1.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	4	4	0	8		
22.1.8	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**59.82**	**59.82**	**10.05**	**129.69**		
23	**SUPPORT STRUCTURES (LATTICE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**							
23.1	**ISOLATORS-132KV**							
23.1.1	D.I W/O E/S	SET	2	2	0	4		
23.1.2	D.I with E/S	SET	2	2	2	6		
23.1.3	S.I W/O E/S	SET	8	8	2	18		
23.2	**ISOLATORS-33 KV**					0		
23.2.1	S.I W/O E/S	SET	9	9	0	18		
23.2.2	D.I W/O E/S	SET	2	2	0	4		
23.2.3	D.I with E/S	SET	5	5	0	10		

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1	2	3	4	5	6	7	8	9
23.3	CT-132 KV	SET	15	15	6	36		
23.4	CT-33 KV	SET	24	24	0	48		
23.5	CVT-132 KV	SET	6	6	6	18		
23.6	IVT-132 KV	SET	3	3	0	6		
23.7	IVT-33 KV	SET	3	3	0	6		
23.8	Surge Arrester-132 kV	SET	12	12	6	30		
23.9	Surge Arrester-33 kV	SET	21	21	0	42		
23.10	Wave Trap-132 KV	SET	4	6	4	14		
23.11	BPI-132 KV	SET	16	16	4	36		
23.12	BPI-33 KV	SET	14	14	0	28		
23.13	NCTS	SET	4	4	0	8		
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**34.45**	**34.45**	**7.85**	76.75		
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT.**	MT	**94.27**	**94.27**	**17.90**	206.44		
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**9.43**	**9.43**	**1.79**	20.65		
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**							

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1	2	3	4	5	6	7	8	9
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**							
24.1.1	3.5 CX300 mm²	LOT	1	1	0	2		
24.1.2	3.5 CX185 mm²	LOT	1	1	0	2		
24.1.3	3.5 CX120 mm²	LOT	1	1	0	2		
24.1.4	3.5 CX70 mm²	LOT	1	1	0	2		
24.1.4	3.5 CX35 mm²	LOT	1	1	0	2		
24.1.5	4 CX 16 mm²	LOT	1	1	1	3		
24.1.6	4 CX 6 mm²	LOT	1	1	1	3		
24.1.7	2CX 6 mm²	LOT	1	1	1	3		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**							
24.2.1	2 CX 2.5 mm²	LOT	1	1	1	3		
24.2.2	4 CX 2.5 mm²	LOT	1	1	1	3		
24.2.3	5 CX 2.5 mm²	LOT	1	1	1	3		
24.2.4	7CX 2.5 mm²	LOT	1	1	1	3		
24.2.5	10 CX 2.5 mm²	LOT	1	1	1	3		

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1	2	3	4	5	6	7	8	9
24.2.6	12 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.7	16 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.8	19 CX 2.5 mm^2	LOT	1	1	1	3		
24.2.9	1CX 120 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	1	0	2		
25	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**							
25.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4	4	4	12		
25.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	2	6		
25.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000	1000	500	2500		
25.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1	1	0	2		

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1	2	3	4	5	6	7	8	9
25.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500	500	0	1000		
25.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	300	300	0	600		
25.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300	300	100	700		
25.8	4 WIRE TELEPHONE SET	NO	4	4	1	9		
25.9	2 WIRE TELEPHONE SET	NO	10	10	2	22		
26	FAX MACHINE	NO	1	1	0	2		
27	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1	1	0	2		
28	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1	1	0	2		
29	48 V DCDB	SET	1	1	0	2		

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1	2	3	4	5	6	7	8	9
30	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION**							
30.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2	2	0	4		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
30.2	33 KV AB SWITCH IN 33 KV SIDE(400AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	LOT	1	1	0	2		
31	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard,Colony street and other street area)**							

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1	2	3	4	5	6	7	8	9
31.1	***ERECTION OF SUB-STATION SWITCH YARD LIGHTING: It includes supply of materials for fixing of FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear like GI Conduit etc. (Lighting fixtures are to be fixed rigidly on the Column at a suitable height so that the required lux can be maintained).***	LOT	1	1	1	3		
31.2	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).	LOT	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
31.3	**ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS**;- > 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. **(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.)** > 1 NO. OUTDOOR KIOSK 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. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)** > 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. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS. **(* REMARKS : FOR ERECTION OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS AS INDICATED ABOVE AT 31.1)**	LOT	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
32	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 AT 24.1)**	LOT	1	1	0	2		
33	**FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-Vol-IIA-SCPE OF WORK AT-SL NO 15-ANNEXURE – I-Portable Fire Extingusher)**							
33.1	FOAM TYPE-9 LTRS	NOS	2	2	0	4		
33.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2	2	0	4		
33.3	DRY POWDER TYPE - 5 KGS	NOS	2	2	0	4		
33.4	CO_2 - 4.5 KGS	NOS	5	5	0	10		
33.5	CO_2 - 9 KGS	NOS	5	5	0	10		
33.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2	2	0	4		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
33.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	3	3	0	6		
34	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**							
34.1	**132 KV SIDE**							
34.1.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2	2	2	6		
34.1.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr + 2 for 132 KV side of 132/33 KV Power Tfr)	NOS	2	2	0	4		
34.1.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1	1	0	2		
34.1.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2	2	2	6		
34.1.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE AND 02 NOS FOR 132/33 KV OTHER TRANSFORMERS	NOS	2	2	0	4		
34.1.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1	1	0	2		
34.1.7	COMMON PANEL (KP-1)	NOS	1	1	0	2		
34.1.8	SYNCHRONOUS TROLLY	NO	1	1	0	2		
34.2	**33 KV SIDE**							

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
34.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5	5	0	10		
34.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2	2	0	4		
34.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1	1	0	2		
35	**AC & DC SYSTEM**							
35.1	**AC SYSTEM**							
35.1.1	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	1	0	2		
35.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	1	0	2		
35.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
35.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	1	0	2		
35.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	1	0	2		
35.1.6	INDOOR RECEPTACLE BOARD	SET	1	1	0	2		
35.2	**DC SYSTEM**							
35.2.1	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	1	0	2		
35.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	1	0	2		
35.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1	1	0	2		
35.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1	1	0	2		
35.2.5	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1	1	0	2		
36	WALKIE TALKIE SET	SET /PAIR	2	2	0	4		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
37	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 19)	NOS	1	1	0	2		
38	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORK AT SL NO. 20)	SET	1	1	0	2		
39	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	1	0	2		
40	*WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM*	NOS	1	1	0	2		
41	MAINTENANCE TESTING EQUIPMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 16 **ANNEXURE - II** ,INDICATED IN -SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
42	OFFICE FURNITURE (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 18 **ANNEXURE - IV** ,INDICATED IN SCHEDULE OF REQUIREMENTS OFFICE FURNITURE) & PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1	1	0	2		
43	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1	1	1	3		
44	ERECTION OF PLCC EQUIPMENT SUPPLIED BY OWNER INCLUDING DISMANTLING FROM EXISTING SUBSTATION (AS PER THE DETAILS SLD GIVEN IN TS) AND TRANSPORTATION AS REQUIRED	LOT	1	1	1	3		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
45	RECEIVING THE TRANSFORMERS AND ITS ACCESSORIES FROM NEAREST OPTCL STORES,DRAGGING AND INSTALLING ON THE PLINTH AND PLACING IN POSITION, ERECTION OF ACCESSORIES OF THE TRANSFORMERS, EART-HING AS PER STANDARD(INCLUDING SUPPLY OF MATERIALS),VACUUM TREATMENT OF THE TANK AND WINDING,OIL FILTRATION(INCLUDING SUPPLY OF VACUUM CUM OIL FILTER MACHINE),SUPPLY & LAYING OF ALL TYPES OF CONTROL & POWER CABLES PERTAINING TO TRANSFORMERS ,TESTING AND COMMISSIONING INCLUDING ALL TESTS OF THE OILS AS PER STIPULATION IN THE STANDARD APPROVED TESTING LABORATORY AND AS PER THE INSTRUCTION OF THE ENGINEER IN CHARGE.THIS INCLUDE ALL RELATED WORKS FOR ERECTION(Transformer and its accessories,RTCC Panel etc),TESTING AND COMMISSIONING OF THE POWER TRANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTTION INCLUDING T&P's.**(132/33 KV, 40 / 20 MVA)**	NOS	2	2	0	4		
	TOTAL OF SUBSTATION (Electrical Work) (PART-I)							
	CIVIL WORKS							

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
1	***Foundations :*** ***Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod(FE-500), coarse and fine aggregates(Sand and Metal Chips) etc) for construction of RCC (1:1.5:3) & PCC (1:3:6), RCC footings of any depth, pedestal and piling as per requirement including soil investigation, excavation,concreting, shuttering, grouting, underpinning and back filling of foundations etc complete for the following switch yard gantry/ portal structures and equipment support & others as per the technical specification and approved drawings.(RCC RATIO 1:1.5:3). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.***							
1.1	**Switch yard gantry/portal structure foundations.**							
1.1.1	**T1S (Column)**	Nos	16	16	0	32		
1.1.2	**T4S(Column)**	Nos	5	5	0	10		
1.1.3	**T8S(Column)**	Nos	9	9	0	18		
1.1.4	**T9S(Column)**	Nos	11	11	0	22		
1.2	**EQUIPMENT FOUNDATIONS :**							

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.2.1	145 KV,(800-400-200/1-1-1-1 A),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15	15	6	36		
'1.2.2	**145 KV,1250A,40 KA,ISOLATORS**							
'1.2.2.1	S/I WITH OUT EARTH SWITCH	NOS	8	8	2	18		
'1.2.2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2	2	2	6		
'1.2.2.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		
'1.2.3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	6	18		
'1.2.4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12	12	6	30		
'1.2.5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		
'1.2.6	132 KV Bus Post Insulators	NOS	16	16	4	36		
'1.2.7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5	5	2	12		
'1.2.8	36KV(800-400-200/1-1-1A), 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	18	0	36		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.2.9	36 KV,(800-400-200/1-1-1-1 A,(3- PS CL & 1-0.2),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	6	0	12		
'1.2.10	**36 KV,800A,25KA,ISOLATORS**							
'1.2.10.1	S/I WITH OUT EARTH SWITCH	NOS	9	9	0	18		
'1.2.10.2	D/I WITH SINGLE EARTH SWITCH	NOS	5	5	0	10		
'1.2.10.3	D/I WITHOUT EARTH SWITCH	NOS	2	2	0	4		
'1.2.11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	21	21	0	42		
'1.2.12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3	3	0	6		
'1.2.13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8	8	0	16		
'1.2.14	33 KV Bus Post Insulators	NOS	14	14	0	28		
'1.2.15	NCT for Power Transformer	Nos	4	4	0	8		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.3	Supply of all materials like cement, steel (MS Rod:FE500), all coarse aggregates, fine aggregates and making **pile** foundations with boring of piles **(pile bore as per required depth, basing on design),preparation of cage,lowering and positioning(cutting,bending,binding of M.S.Rod including supply of binding wire) for** Switch yard column foundation, Equipment foundation, Marshaling boxes foundation as indicated above and as per requirement, including supply of all materials,labours, de-watering,proper curing of the foundations and T&P as per specification in the RCC :1:1.5:3 (Grade M-20.) including stabilization of bore :- Pile diameter (450 MM) and approximate length of the bore is 10 Mtrs.	Mtr.	850	720	0	1570		
'1.4	-DO - Required diameter of the pile boring (375 mm) bore holes for piles (approximate length of the bore is 10 Mtrs)	Mtr.	1020	900	0	1920		
'1.5	-DO- Required diameter of the pile boring (300 mm) bore holes for piles (approximate length of the bore is 10 Mtrs)	Mtr.	200	100	0	300		
'1.6	-DO- Required diameter of the pile boring (250 mm) bore holes for piles (approximate length of the bore is 10 Mtrs)	Mtr.	2500	2130	0	4630		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.7	Pile riser,cap,tie-beam with RCC: 1:1.5:3 (Grade M-20), including supply of all materials like MS Rod, Cement, coarse and fine aggregates, shuttering, **cutting, bending, binding of M.S. Rod including supply of binding wire** and supply of labours, de-watering, proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.	Cum	500	500	0	**1000**		
'1.8	**Switch yard Column & Equipment foundations :(For PATTAMUNDAI Sub-Station Bay Extn)**							
'1.7.1	145kV circuit breaker	Nos.	0	0	2	2		
'1.7.2	(a) 145 KV Isolators (S/I)	Nos.	0	0	2	2		
'1.7.3	(b) 145kV isolators (D/I)(W E/S & W/O E/S)	Nos.	0	0	2	2		
'1.7.4	145kV current transformers	Nos.	0	0	6	6		
'1.7.5	a)145kV capacitor voltage transformers	Nos.	0	0	2	2		
'1.7.6	120kV surge arrestors	Nos.	0	0	6	6		
'1.7.7	145kV bus post Insulators	Nos.	0	0	4	4		
'1.7.8	145kV line traps (pedestal mounted)	Nos.	0	0	4	4		
'1.7.9	Marshalling boxes (Bay Marshalling boxes etc)	Nos.	0	0	1	1		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.7.10	Junction boxes (Receptacle panels for welding and other emergency works etc)	Nos.	0	0	0	0		
'1.7.11	Junction boxes (AC console box nerar Transformer for oil filteration work)	Nos.	0	0	0	0		
'1.7.12	Junction boxes (switch yard lighting panels)	Nos.	0	0	1	1		
'1.7.13	**T1S (Column)**	Nos	0	0	4	**4**		
'1.7.14	**T4S(Column)**	Nos	0	0	1	**1**		
'1.7.15	**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/murrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.(For open cast foundation,tie beam etc)**	Cum	350	350	350	**1050**		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
'1.7.16	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.	Cum	45	45	30	120		
'1.7.17	Open cast foundation for the above equipment foundations with RCC: 1:1.5:3 (Grade M-20),including supply of Labour all materials like MS Rod,Cement, coarse and fine agregates,shuttering, **cutting, bending, binding of M.S.Rod including supply of binding wire p**roper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.	Cum	55	55	300	410		

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1	2	3	4	5	6	7	8	9
2	Cable Trenches: Design, engineering, and construction of RCC cable trenches and all associated works for cable trench and cable trench crossings as per technical specifications and approved drawings and as per direction of the Engineer in Charge. (1) This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. (2) Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in cable trench as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge. (3) Open cast foundation for the cable trench with RCC: 1:1.5:3 (Grade M-20 Nominal mixing),including supply of Labour all materials like MS Rod,Cement,coarseandfine aggregates,shuttering,cutting,bending,binding of M.S.Rod including supply of binding wire proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge. (4) Brickwork with KB brick ,plastering (!:6 Ratio) & curing, wherever required including the supply of labour,material, cement, etc. (5)Supply,fabrication & Fixing of MS Angle(G.I) for cable tray support (as per specification). The cable tray support frame shall be pre fabricated GI angle as per requirement and to be welded with the plate fixed on the trench wall for better rigidity. The plate (6mm) fixed on the wall are also to be welded with the MS rods provided for the trench wall before concreting. (6) Precast of RCC covers (1:1.5:3) and its fixing on the cable trench as per spec and instruction of Engg. In Charge. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Engg in charge) INCLUDING STANDARD SUPPORT STAND {HD Galvanised (M.S JOIST ,CHANNEL,ANGLE)}.							
2.1	Cable trench with covers							

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1	2	3	4	5	6	7	8	9
2.1.1	Section 1-1	Mtrs	300	300	50	650		
2.1.2	Section 2- 2	Mtrs	200	200	20	420		
2.1.3	Section 3-3	Mtrs	200	200	50	450		
2.1.4	Section 4-4	Mtrs	500	500	75	1075		
2.2	**Rain water harvesting** system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	LOT	1	1	0	2		
2.3	**Cable trench crossing**: Design, engineering, onstruction including supply of labour, materials, cement, reinforcement steel, formwork etc, and all associated works for construction of trench crossing as per technical specification and approved drawing.							
2.3.1	Road crossing for							
2.3.1.1	Section 1-1	Lot	1	1	1	3		
2.3.1.2	Section 2- 2	Lot	1	1	0	2		
2.3.1.3	Section 3-3	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
3	**Switchyard buildings:** Design, engineering and construction of switch-yard buildings including the piling where required, the cost of material, supply of labour, cement, reinforcement- steel, form work and excavation as per the approved drawing and technical specification (The RCC structure frame should be in the ratio 1:1.5:3).This also includes excavation in all types of soil or rocks ,back-filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawings and specification. Since the soil is sandy, piling foundation is required. 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 , and a ramp at the backside for easy transportation of panels to the control room. The details of rooms to be provided are as per the Tech spec. B) Area of the first floor. The details of rooms to be provided are as per the Tech spec. Nos./ area of ground floor/area of first floor : Size of Ground floor 33mtrsX12mtrs(396sq mtrs) & Size of first floor 18mtrsX11mtrs(198 sq mtrs)							
3.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
3.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	Lot	1	1	0	2		
3.3	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	1	0	2		
3.4	External and internal wall and ceiling paintings as per technical spec mentioned in the civil section. The left over portion of walls and ceiling of Battery room shall be acid proof paints as per specification & approved drawings.	Lot	1	1	0	2		
3.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
3.6	Doors and windows shall be of sliding type with locking facility and shall be of aluminium with glaze of 6mm & windows shall have aluminium grills. As per technical spec & approved drawing.	Lot	1	1	0	2		
3.7	Provision of PHD and other fittings of reputed make,provision of rain water discharge pipes at different locations and etc as per requirement and approved drawing. There shall be septic tank and soak pit of required capacity including complete sewage system as per approved drawing & technical specification & as per instruction of Engg- in-Charge. It includes supply of all types of materials of reputed make, labour etc to complete the work.	Lot	1	1	0	2		
3.8	Internal concealed wiring,fixing of lighting fixtures ,fans and regulators ,exhaust fan,D.C emergency lighting as per spec & approved drawing.	Lot	1	1	0	2		
3.9	Provision of smoke and fire detection system of the building.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
4	**Roads: Design, construction of roads (Internal and approach road) 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,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.**							
4.1	3.75 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.	Lots	1	1	0	2		
4.2	7.0 mtrs width Concrete road with shoulder at both sides of the road in front of the Transformers and connecting to the main road.As per technical specification indicated in Civil Section and also as per the direction of Engineer in Charge.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
4.3	3.75 mtrs Bituminus road with soulder 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)	Lots	1	1	1	3		
4.4	7 mtrs wide Bituminus roads with shoulder as per specification indicated in the civil section. **(for main roads)**.Shall have drain on both side of the road. and as per Sl No.4	Lots	1	1	0	2		
4.5	7 mtrs wide Bituminus roads with shoulder as per specification indicated in the civil section. **(for approach roads)**.Shall have drain on both side of the road and as per Sl No.4.	MTRS	500	500	0	1000		

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1	2	3	4	5	6	7	8	9
5	**Drainage system:Collection of rainfall data, Design, construction of storm water drainage scheme, road-culverts,Shall have drain on both side of the road and drains crossing cable trenches 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 direction of Engineer In charge. All the switch yard bays , roads water drainage shall be connected to the main surface drain. As per approved drawing and specification.**							
5.1	Storm water drain	Lots	1	1	1	3		
5.2	Road-culverts, (including one no for approach raod) drain crossings	Lots	1	1	0	2		
5.3	Cable trench crossing	Lots	1	1	0	2		

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1	2	3	4	5	6	7	8	9
6	Foundations for transformers :Design, engineering, supply of labour, material, equipments and construction of Auto-transformer/Transformer foundation including piling if any, all associated works, rail tracks, jacking pads,anchor block RCC and PCC, miscellaneous structural steel including oil collection pits, MS grating(if required), gravel filling, and other items etc. not mentioned herein, but specifically required for the completion of the work as per technical specification and approved drawing. (Rate shall be inclusive of cement, reinforcement steel, angles,flats and form work etc.)(all cement concrete shall have RCC ratio 1:1.5:3). Transformer RCC foundation and Rail Track should be extended upto the approaching road (However,the height of RCC foundation beyond transformer main plinth area should be same as height of concrete road as per item under 4.2). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. **1.** **132/33 KV, 40 MVA Transformer (2 Nos)**							

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1	2	3	4	5	6	7	8	9
6.1	12.5/ 20 /40 MVA, 132/ 33kV transformers a) Overall dimension of transformer(appox) Length:7200 mmX Width 6000 mmX Height 6200 mm b) Total weight with oil and tank: 97.5 MT (appox)	Nos	2	2	0	4		
7	**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 ltrs appox. **20/40 MVA,132/33 KV: 26500 ltrs.**	Nos	1	1	0	2		

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1	2	3	4	5	6	7	8	9
8	**Substation earth mat** Design, engineering, supply(except the GI Flats, only erection) inclusive of corrosion protection measures if any,laying of earth mat conductors of Hot dip galvanised flats of size 75X10mm to the approval of Engineer in charge, excavation, welding/jointing of ground conductors along with risers (a) upto Finished level from the mat size 75X10 mm GI flats & b) from the finished ground level to the top of the structure and equipment shall be with 50X6 mm GI Flats, with back filling and good compaction,grounding driven rods(40 mm MS solid rod for untreated earth pit ,perforated 50 mm Heavy duty GI pipes for treated earth pits(with details of treatment as per IS). The spacing between the earth conductor not more than 5 mtrs(both way) and to be buried at depth of 700mm from the finished ground level. For provision of treated earth pit and untreated earth pit, refer the specification for designing. Provision of water taps inside the switch yard areas and peripheral treated and un-treated earth pit are required to be provided for watering the treated earth pits. The no. of treated and un treated earth pits are to be done as per the practice and as indicated in the drawing for different equipments. This is as per approved drawing and specification.	Lots	1	1	1	3		

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1	2	3	4	5	6	7	8	9
9	**PCC before site surfacing :**Providing and supplying all labour, material, equipments etc. required for proper leveling of earth after erection of structures and equipments and proper compaction by using roller of adequate capacity(minimum 3 Ton capacity) with water sprinkling of switch yard area. After proper leveling of the switch yard area (after anti-weed treatment), spreading of plain cement concrete with mixing ratio 1:4:8 (M10) and maintaining proper sloping for easy discharge of storm water having concrete thickness of 75 mm. including rolling , dressing, compacting,the area. As per technical specification and approved drawing, and as per the instruction of the Engg-in-Charge. This also includes excavation in all types of soil or rocks,back-filling,and disposal of excess earth as per the direction of Engineer in charge and approved drawing. (Switch yard area)	Lots	1	1	1	3		
10	**Metal Spreading:**Providing supplying and laying two layers of machine crushedmetals (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.	Lots	1	1	1	3		

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1	2	3	4	5	6	7	8	9
11	**Boundary wall :** Soil investigation,Design, engineerimg,procurement of material,labour including all associated works for construction of boundary-wall along the property line of the sub-station as per technical specification and instruction of the Engineer in Charge.(the size of the bricks shall be 250mm having 1st class kiln burn having compressive strength with 75kg/cm2). This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Enginer In charge. (**APPROXIMATE LENGHTH OF THE BOUNDARY WALL) and approved drawing. Appox. **(1) Area of the sub-station land = 6 Acres**							
11.1	**Approximate length of the boundary walls in mtrs(Brick masonry work including plastering,painting and fixing of Y -post and barbed wires etc as per specification)**	RM	1000	1000	0	2000		

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1	2	3	4	5	6	7	8	9
11.2	Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making **pile** foundations with boring of piles **(pile bore as per required depth, basing on design),preparation of cage,lowering and positioning(cutting,bending,binding of M.S.Rod including supply of binding wire) for** Boundary wall and as per requirement, including supply of all materials,labours, de-watering,proper curing of the foundations and T&P as per specification in the RCC :1:1.5:3 (Grade M-20.) including stabilization of bore :- Pile diameter **(250 MM)** and approximate length of the bore is 10 Mtrs.	Mtrs	680	680	0	1360		
11.3	**Grade Beam Concreting :** Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod, coarse and fine aggregates and construction of PCC (1:3:6) & RCC RATIO 1:1.5:3 as per requirement including excavation, concreting, shuttering, **cutting,bending,binding of M.S.Rod including supply of binding wire g**routing, underpinning and back filling of open cast grade beam concreting etc complete for the boundary walls, as per the technical specification and approved drawings. 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.							

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1	2	3	4	5	6	7	8	9
11.3.1	**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/murrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.**	Cum	500	500	0	**1000**		
11.3.2	**P.C.C (1:3:6): Lean Concrete Grade M-10 (For blind layer)**	Cum	15	15	0	**30**		
11.3.3	**R.C.C(1:1.5:3): Reinforced Cement Concrete (For grade beam etc)**	Cum	120	120	0	**240**		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
12	**Leveling of sub-station and other area, provision of garden, plantation, vehicle parking shed and stone pitching works to protect from soil erosion.** **LEVELLING OF S/S AREA**:Providing, neatly dressing up and leveling of substation area including and filling by borrowed earth in switch-yard area to a required level as decided by the Engineer in Charge, the work includes removal, clearing of the entire area from vegetation, trees, bushes, uprooting of plants and disposal of surplus earth and unusable material from the site by means of any mechanical transport, 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.							
12.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	SQM	10000	10000	1000	**21000**		
12.2	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	CUM	2000	2000	250	**4250**		
12.3	***Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.***	CUM	5000	5000	750	**10750**		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
13	**PROVISION OF PLANTATIONS**:Provision of plantation of 100 nos fruit bearing plants and 100 nos decorative plants at different locations, a garden in front of the control room including supply of plants,soil treatment and its plantation including materials,labour and T&P.As per the instruction of Engineer in Charge and specification.	Lot	1	1	0	2		
14	**STONE PITCHING & TOE WALL**:Stone pitching including making of toe walls both at top and bottom, including surface drain both at top and bottom and partition wall in every 10 mtrs by using boulders and RR masonry walls respectively. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth and supply of materials and labour as per the direction of Engineer In charge and as per approved drawing and specification.	Lot	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
15	**Switch yard fencing:** Providing and fixing of G.I Goat mesh (2.5 mm dia) fencing(the posts and links shall be of HD Galvanized) in switch yard and other areas of the substation with a total fence height complete as per specification and approved drawings, and as required under the safety regulation of local, State and Central Government bodies and as per instruction of the Engineer-in-Charge. (The PCC work for grouting the post shall be 1:2:4 and a continuous **Brick Masonry** work with ratio **mortar (cement and sand)**1:5 and cement pointing of the joints, for the fencing upto a height of 350 mm from the finished ground level) .This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. The earthing of the fencing as per specification.	LOT	1	1	0	2		
16	**Fire wall:** Design, engineering, procurement of labour, material including all associated works for construction of fire-walls as per technical specification and approved drawings(column shall be RCC ratio1:1.5:3 and the walls are of fire resistant bricks).This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawing and specification. Painting of the walls as per direction of the Site In charge	Nos	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
17	**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.)							
17'.1	Excavation.This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Enginer In charge.	Cu.m.	1	1	1	3		
17'.2	PCC 1: 3 : 6	Cu.m.	1	1	1	3		
17'.3	RCC M 15	Cu.m.	1	1	1	3		
17'.4	RCC M 20	Cu.m.	1	1	1	3		
17'.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1	1	1	3		
17'.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1	1	1	3		
17'.7	Cutting,bending and fixing of MS Rod(FE500) including supply of MS Rod,binding wire.	M.T.	1	1	1	3		

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1	2	3	4	5	6	7	8	9
16	Construction of township/colony (residential quarters) for staff and employees of the employer. Layout, design, survey, leveling, site dressing and clearing of the area, soil investigation, excavation, PCC, RCC, brick work, plastering ,flooring(flooring shall be with vitrified tiles of reputed make with a dado of minimum6 inches),fixing of doors windows and window grills, including all labour material like cement ,sand aggregate, bricks, reinforcements etc with all bought items required for completion of the quarters as per approved construction drawings with all facilities for supply of drinking water. The outer paint shall be applied with weather coat synthetic enamel paint as per the standard practice of application and the inner paint shall be applied with distemper of approved quality as per the instruction and approval of the same by OPTCL. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrical wiring with fixing of light fixtures and fans with electronic regulators and exhaust fans as per technical specification and approved drawing. Construction of over head RCC tank(1000 ltrs capacity one for each quarters), sewerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage, culverts, roads, with suitable radius on the curves and its connection with main road the substation, street lighting, internal lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town ship.							
16.1	**"D" type Quarter As per technical specification**	Nos.	1	1	0	2		

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1	2	3	4	5	6	7	8	9
16.2	**"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).**	Nos.	4	4	0	8		
17	**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,315 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 cables 3.5 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.* ***(* REMARKS : FOR SUPPLY OF ALL THE CABLES ,AB Switch etc AS INDICATED ARE COVERED IN THE supply)}***	Lots	1	1	0	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9
18	MAIN & SWITCH YARD GATES:Design, engineering, procurement of labour, material including all associated works for construction and fixing of of a main gate and one no. switch yard gates with men gates as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of gate lights (Post top lantern type) on each pillar of the gate. It includes supply & fixing of light fixtures including LED Gate lamp, LV XLPE cables, switchgear etc required to complete works as per specification and approved drawings.	Lot	1	1	0	2		
19	SECURITY SHED & CUM VISITOR ROOM: Design, engineering, procurement of labour, material including all associated works for construction of Security shed near main gate,watch tower shed at the corners of switch yard as per the approved drawing and instruction of Engineer in charge. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrification including supply of lighting fixtures,fan with regulators and provision of incoming AC supply from the main ACDB/outdoor kiosks installed for street light or colony quarters. Also includes painting of the building (in side and out side) as per recommended for colony building in the specification.							

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1	2	3	4	5	6	7	8	9
20.1	**SECURITY SHED**:The size of the security shed shall be 3.5 mtrsX5mtrs and height of 3.5mtrs RCC roof,brick masonary works,plastering and painting and fixing of MS doors and windows as per TS.	Nos	1	1	0	2		

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1	2	3	4	5	6	7	8	9
22	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 3.5CX35 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.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
23	COLOUR CODING, BAY MARKING Etc:Design, engineering, procurement of labour, material including all associated works for the followings. This should be as per direction of site In charge. a)Color coding (red,Yellow & Blue) for equipments,Bus gantry &column of entire switch yard. Good quality weather proof sticker may be used for identification. b)Each bay should be identified with the help of bay marker sign board, suitably grouted. MS sign board with stand to be installed. Proper painting and lettering to be done of the entire switch yard area.	Lot	1	1	1	3		
24	STORE SHED:Design, engineering, procurement of labour, material including all associated works for construction of store shed as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no store shed of floor size 10X10 mtr having brick walls and plastering with RCC roof. The flooring shall be of 75 mm thickness PCC (mix ratio1:2:4) over RR masonry works (as per standard practice of flooring). Provision of adequate nos of MS racks (proper paintings also to be done as per the direction of site in charge) for keeping the spare materials. The height of the shed shall be 4mtrs above the plinth.	Lot	1	1	0	2		

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1	2	3	4	5	6	7	8	9
25	PLATFORM FOR STORING EQUIMENTS:Design, engineering, procurement of labour, material including all associated works for construction of a platform for storing of bushings,Instrument transformers etc, as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no platform outside the store shed RR masonry (compacted) with PCC at the top for storing the transformer bushings, Instrument transformers, transformer oil drums etc. The floor size of the platform shall be 15mtrX10 mtr with Galvanised Corrugated Sheet (Tata Make) top cover and associated MS supporting structure duly painted.	Lot	1	1	0	2		
26	**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	1	0	2		
	TOTAL OF SUBSTATION (Civil Work) (PART-I)							
	TOTAL OF ERECTION SUBSTATION (Electrical Work) (PART-I) & (Civil Work) (PART-I)-2C (ERECTION)							

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 6 Nos(3 Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 2 NOS 132 KV FEEDER BAY EXTENSION AT PATTAMUNDAI S/S for OLAVARA s/s	TOTAL	Unit Rate	Total Price
1	2	3	4	5	6	7	8	9

NOTE:

1. **Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.**
2. **Bidders are required to fill up amount in all column except shaded portion.**
3. **Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). No rate shall be furnished/obtained after bid opening (Ref clause no 33.4.1 of INB vol-I) .**
4. **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**
5. **Bidder has to quote rates excluding service tax (if any), service tax shall be paid/reimbursed as per conditions of Bid Document.**

(Signature) ……

Date :

(Name) ……

Place :

(Designation) ……..

(Common Seal) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations alongwith 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Ex-works Prices against Package-MARSHAGHAI-OLAVARA)

PART-II SCHEDULE-2A (FOR LINE)

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)	Total Quantity	TO BE QUOTED IN INR					
							Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
										Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9=7X8	10	11	12	13
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 above type 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 laid there in the Tender Specification.**											
1.1	PA TYPE (SUSPENSION) TOWERS (Nominal unit weight 3.430 MT)	Nos.	2	87	42	131						
1.1.1	+3 EXTENSION (Nominal unit weight 0.537 MT)	Nos.	1	15	5	21						
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT)	Nos.	0	0	1	1						
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	0	18	11	29						
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	0	1	2	3						
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	0	0	0	0						
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6	9	5	20						
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	2	2	0	4						
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	0	0	0	0						
1.4	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 9.839 MT)	Nos.	0	0	0	0						
1.4.1	UR +6 TYPE TOWER(Nominal unit weight 17.35 MT)	Nos.	0	4	0	4						
1.5	TEMPLATES											
1.5.1	a) PA (Nominal unit weight 0.665 MT)	Nos.	1	5	5	11						
1.5.2	b) PB (Nominal unit weight 0.602 MT)	Nos.	0	2	2	4						
1.5.3	c) PC (Nominal unit weight 0.904 MT)	Nos.	1	1	2	4						
1.5.4	f) UR+6 (Nominal unit weight 1.48 MT)	Nos.	0	1	0	1						
1.6	**TOTAL** Weight **of the Tower Material as per WEIGHT OF THE STRUCTURE(including stubs, foundation bolts &Templates)**	MT	**48**	**536**	**225**	809						
1.7	**Weight of G.I Nuts and bolts with washers**	MT	**4.8**	**54**	**15**	73.8						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
										Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9=7X8	10	11	12	13
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.	8	118	57	183						
2.2	DANGER BOARD	Nos.	8	118	57	183						
2.3	NUMBER PLATE	Nos.	8	118	57	183						
2.4	PHASE PLATE	Nos.	48	708	342	1098						
2.5	BIRD GUARD	Nos.	12	261	252	525						
2.6	ANTICLIMBING DEVICE	Nos.	8	118	57	183						
2.7	CIRCUIT PLATE	Nos.	16	236	114	366						
3.0	**Supply of POWER CONDUCTORS in the proposed 132 KV /220kV lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.**											
3.1	ACSR Panther (30/7/3.00mm)	Kms.	9.14	176.88	41.58	227.6						
4.0	**POWER CONDUCTOR ACESSORIES**											
4.1	For ACSR PANTHER											
4.1.1	VIBRATION DAMPER	Nos.	102	1450	1392	2944						
4.1.2	MID SPAN JOINT	Nos.	10	181	92	283						
4.1.3	PA ROD	Nos.	12	522	152	686						
4.1.4	HANGER	Nos.	12	522	0	534						
4.1.4	U BOLT	Nos.	72	87	0	159						
4.1.5	REPAIR SLEEVE	Nos.	10	181	92	283						
5.0	**Supply of the GI earth wire of size 7/3.15 mm as per the technical specification, with 1.5% provision for Sag & Wastage and as per the direction of Engineer in charge.**	Kms.	1.60	29.48	17.3	48.38						
6.0	**EARTH CONDUCTOR ACESSORIES**											
6.1	VIBRATION DAMPER	Nos.	16	250	116	382						
6.2	FLEXIBLE EARTH BOND	Nos.	14	149	15	178						
6.3	SUSPENSION CLAMP	Nos.	2	95	50	147						
6.4	TENSION CLAMP	Nos.	6	70	32	108						
6.5	MID SPAN JOINT	Nos.	2	30	16	48						
6.6	U ' BOLT	Nos.	2	170	80	252						
7.0	**Supplyof the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**											

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR					
							Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
										Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8	9=7X8	10	11	12	13
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	115	5750	2778	8643						
7.2	120 KN Insulator (taking 5% extra towards wastage)	Nos.	825	4500	1512	6837						
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.	0	0	882	882						
8.0	**Supply,Erection, testing and commissioning of the following hard ware fittings suitable for following conductors as per the technical specification.**											
8.1	For ACSR PANTHER											
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	12	458	252	722						
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	0	90	45	135						
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	84	330	144	558						
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	12	60	42	114						
	TOTAL OF LINE (PART-II)-2A (SUPPLY)											

Note:

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

2 Bidders are required to fill up amount in all column except shaded portion.

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

4 Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.

5 In mode of transaction column please indicate Direct/Bought-Out. For Taxes & Duties on Direct/Bought-out items ref clause 6.0 of SCC (Vol-IA)

Date :

Place :

(Name) .....

(Designation) .....

(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations alongwith 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Ex-works Prices against Package-MARSHAGHAI-OLAVARA)

PART-II SCHEDULE-2B (FOR LINE)

							TO BE QUOTED IN INR	
S. No.	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**UNITS**	**Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):**	**Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)**		**Total Quantity**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9=7X8**
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 above type 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 laid there in the Tender Specification.**							
1.1	PA TYPE (SUSPENSION) TOWERS (Nominal unit weight 3.430 MT)	Nos.	2	87	42	131		
1.1.1	+3 EXTENSION (Nominal unit weight 0.537 MT)	Nos.	1	15	5	21		
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT)	Nos.	0	0	1	1		
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	0	18	11	29		
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	0	1	2	3		
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	0	0	0	0		
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6	9	5	20		
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	2	2	0	4		

							TO BE QUOTED IN INR	
S. No.	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**UNITS**	**Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):**	**Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)**		**Total Quantity**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9=7X8**
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	0	0	0	0		
1.4	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 9.839 MT)	Nos.	0	0	0	0		
1.4.1	UR +6 TYPE TOWER(Nominal unit weight 17.35 MT)	Nos.	0	4	0	4		
1.5	TEMPLATES							
1.5.1	a) PA (Nominal unit weight 0.665 MT)	Nos.	1	5	5	11		
1.5.2	b) PB (Nominal unit weight 0.602 MT)	Nos.	0	2	2	4		
1.5.3	c) PC (Nominal unit weight 0.904 MT)	Nos.	1	1	2	4		
1.5.4	f) UR+6 (Nominal unit weight 1.48 MT)	Nos.	0	1	0	1		
1.6	**TOTAL Weight of the Tower Material as per WEIGHT OF THE STRUCTURE(including stubs,&Templates)**	MT	**48**	**536**	**225**	809		
1.7	**Weight of G.I Nuts and bolts with washers**	MT	**4.8**	**54**	**15**	73.8		
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.	8	118	57	183		
2.2	DANGER BOARD	Nos.	8	118	57	183		
2.3	NUMBER PLATE	Nos.	8	118	57	183		
2.4	PHASE PLATE	Nos.	48	708	342	1098		
2.5	BIRD GUARD	Nos.	12	261	252	525		
2.6	ANTICLIMBING DEVICE	Nos.	8	118	57	183		
2.7	CIRCUIT PLATE	Nos.	16	236	114	366		

							TO BE QUOTED IN INR	
S. No.	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**UNITS**	**Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):**	**Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)**		**Total Quantity**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9=7X8**
3.0	**Supply of POWER CONDUCTORS in the proposed 132 KV / 220kV lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.**							
3.1	ACSR Panther (30/7/3.00mm)	Kms.	9.14	176.88	41.58	227.6		
4.0	**POWER CONDUCTOR ACESSORIES**							
4.1	For ACSR PANTHER							
4.1.1	VIBRATION DAMPER	Nos.	102	1450	1392	2944		
4.1.2	MID SPAN JOINT	Nos.	10	181	92	283		
*4.1.3	PA ROD	Nos.	12	522	152	686		
*4.1.4	HANGER	Nos.	12	522	0	534		
*4.1.4	U BOLT	Nos.	72	87	0	159		
*4.1.5	REPAIR SLEEVE	Nos.	10	181	92	283		
5.0	**Supply of the GI earth wire of size 7/3.15 mm as per the technical specification, with 1.5% provision for Sag & Wastage and as per the direction of Engineer in charge.**	Kms.	1.60	29.48	17.3	48.38		
6.0	**EARTH CONDUCTOR ACESSORIES**							
6.1	VIBRATION DAMPER	Nos.	16	250	116	382		
6.2	FLEXIBLE EARTH BOND	Nos.	14	149	15	178		
6.3	SUSPENSION CLAMP	Nos.	2	95	50	147		
6.4	TENSION CLAMP	Nos.	6	70	32	108		
6.5	MID SPAN JOINT	Nos.	2	30	16	48		
6.6	U ' BOLT	Nos.	2	170	80	252		

							TO BE QUOTED IN INR	
S. No.	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**UNITS**	**Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):**	**Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)**		**Total Quantity**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9=7X8**
7.0	**Supplyof the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**							
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	115	5750	2778	8643		
7.2	120 KN Insulator (taking 5% extra towards wastage)	Nos.	825	4500	1512	6837		
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.	0	0	882	882		
8.0	**Supply,Erection, testing and commissioning of the following hard ware fittings suitable for following conductors as per the technical specification.**							
8.1	For ACSR PANTHER							
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	12	458	252	722		
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	0	90	45	135		
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	84	330	144	558		
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	12	60	42	114		
	TOTAL OF LINE (PART-II)-2B (F&I)							

Note:

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

2 **Bidders are required to fill up amount in all column except shaded portion.**

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

4 **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**

5 **Bidder should be quoted including service tax, no service tax shall be paid/reimbursed.**

(Signature) .....

Date :

(Name) .....

							TO BE QUOTED IN INR	
S. No.	FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	Unit F&I Price	Total F&I Price
1	2	3	4	5	6	7	8	9=7X8

Place :

(Designation) .....

(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations alongwith 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Erection Prices against Package-MARSHAGHAI-OLAVARA)

PART-II,	SCHEDULE-2C (FOR LINE)							
S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	 Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
A	ELECTRICAL WORKS							

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1	**ERECTION,TESTING & COMMISSIONING of Following 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 above type towers ,hanger and all accessories, tower super structure complete with tightening, punching of bolts including step bolts. All other left out portion of the bolts above bottom cross arm shall be riveted by using suitable hammer. Painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping(legs & bracing members. All Erection should confirm to the Technical Specification laid there in the Tender Specification.**							
1.1	PA TYPE (SUSPENSION) TOWERS (Nominal unit weight 3.430 MT)	Nos.	2	87	42	131		
1.1.1	+3 EXTENSION (Nominal unit weight 0.537 MT)	Nos.	1	15	5	21		
1.1.2	+6 EXTENSION (Nominal unit weight 1.349 MT)	Nos.	0	0	1	1		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	0	18	11	29		
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	0	1	2	3		
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	0	0	0	0		
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6	9	5	20		
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	2	2	0	4		
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	0	0	0	0		
1.4	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 9.839MT)	Nos.	0	0	0	0		
1.4.1	UR +6 TYPE TOWER(Nominal unit weight 17.35 MT)	Nos.	0	4	0	4		
1.5	TEMPLATES							
1.5.1	a) PA (Nominal unit weight 0.665 MT)	Nos.	1	5	5	11		
1.5.2	b) PB (Nominal unit weight 0.602 MT)	Nos.	0	2	2	4		
1.5.3	c) PC (Nominal unit weight 0.904 MT)	Nos.	1	1	2	4		
1.5.4	f) UR+6 (Nominal unit weight 1.48 MT)	Nos.	0	1	0	1		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.6	**TOTAL** Weight **of the Tower Material as per WEIGHT OF THE STRUCTURE(including stubs,&Templates)**	MT	**48**	**536**	**225**	809		
1.7	**Weight of G.I Nuts and bolts with washers**	MT	**4.8**	**54**	**15**	73.8		
2.0	**Erection, Testing and Commissioning of the following tower accessories as per technical specification and as directed by the engineer in charge.**							
2.1	EARTHING DEVICE	Nos.	8	118	57	183		
2.2	DANGER BOARD	Nos.	8	118	57	183		
2.3	NUMBER PLATE	Nos.	8	118	57	183		
2.4	PHASE PLATE	Nos.	48	708	342	1098		
2.5	BIRD GUARD	Nos.	12	261	252	525		
2.6	ANTICLIMBING DEVICE	Nos.	8	118	57	183		
2.7	CIRCUIT PLATE	Nos.	16	236	114	366		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
3.0	**Stringing of following POWER CONDUCTORS in the proposed 132 KV DC lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.**							
3.1	ACSR Panther (30/7/3.00mm)	Kms.	9.14	176.88	41.58	227.6		
4.0	**POWER CONDUCTOR ACESSORIES**							
4.1	For ACSR PANTHER							
4.1.1	VIBRATION DAMPER	Nos.	102	1450	1392	2944		
4.1.2	MID SPAN JOINT	Nos.	10	181	92	283		
*4.1.3	PA ROD	Nos.	12	522	152	686		
*4.1.4	HANGER	Nos.	12	522	0	534		
*4.1.4	U BOLT	Nos.	72	87	0	159		
*4.1.5	REPAIR SLEEVE	Nos.	10	181	92	283		
5.0	**Stringing of the GI earth wire of size 7/3.15 mm as per the technical specification, with 1.5% provision for Sag & Wastage and as per the direction of Engineer in charge.**	Kms.	1.60	29.48	17.3	48.38		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
6.0	**EARTH CONDUCTOR ACESSORIES**							
6.1	VIBRATION DAMPER	Nos.	16	250	116	382		
6.2	FLEXIBLE EARTH BOND	Nos.	14	149	15	178		
6.3	SUSPENSION CLAMP	Nos.	2	95	50	147		
6.4	TENSION CLAMP	Nos.	6	70	32	108		
6.5	MID SPAN JOINT	Nos.	2	30	16	48		
6.6	U ' BOLT	Nos.	2	170	80	252		
7.0	**Erection, testing and commissioning of the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**							
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	115	5750	2778	8643		
7.2	120 KN Insulator (taking 5% extra towards wastage)	Nos.	825	4500	1512	6837		
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.	0	0	882	882		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
8.0	**Erection, testing and commissioning of the following hard ware fittings suitable for following conductors as per the technical specification.**							
8.1	For ACSR PANTHER							
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	12	458	252	722		
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	0	90	45	135		
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	84	330	144	558		
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	12	60	42	114		
	TOTAL OF Electrical Works (PART-II)							
B	**CIVIL WORKS**							

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.0	**FOUNDATION MATERIALS: Supply of all materials like cement,steel(MS ROD FE 500),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.**							
1.1	**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/murrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.**							
1.1.1	Soft and loose soil	CUM	160	3550	722	4432		
1.1.2	Wet and submerged soil	CUM	1275	2440	1683	5398		
1.1.3	Dewatering by Pump	HP-Hr	0	4500	2750	7250		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	 Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.2	Design, Engineering and laying of reinforced cement concrete (RCC 1:1.5:3) of grade M20 for open cast foundation with supply of approved quality coarse aggregates(Nominal size 12mm to 20mm) ,fine aggregates, cement and steel of different size(as per design) with **cutting,bending,binding of M.S.Rod including supply of binding wire** in tower foundation and inclusive of labour charges for concrete mixing, supply and fixing of form boxes, curing,shoring, shuttering, testing of sample cement concrete cubes as per IS. The height of the coping shall be 350mm above the finished concrete level. The surrounding area shall be clear from materials. Damage of land if any by the contractor shall be repaired before measurement. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	CUM	145	1700	375	2220		
1.2.1	Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in tower foundation as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	CUM	15	130	10	155		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	 Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.3	Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making **pile** foundations with boring of piles (**pile bore as per required depth, basing on design) ,preparation of cage,lowering and positioning(cutting,bending,binding of M.S.Rod including supply of binding wire)** of the required above mentioned Tower foundation as indicated above and as per requirement, including supply of all materials,labours, de-watering,proper curing of the foundations and T&P as per specification in the RCC :1:1.5:3 (Grade M-20.) including stabilization of bore :- Pile diameter **(500 MM)** and approximate length of the bore is 10 Mtrs.	Mtr.	0	5200	3400	8600		
1.3.1	Pile riser,cap,tie-beam with RCC: 1:1.5:3 (Grade M-20) ,including supply of all materials like MS Rod,Cement, coarse and fine aggregates,shuttering and supply of labours, de-watering,proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.	Cum	0	4000	620	4620		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	TO BE QUOTED IN INR Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.3.2	Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making **pile** foundations with **DMC method (Motor Driven) boring of piles** (**pile bore as per required depth, basing on design),preparation of cage,lowering and positioning (cutting, bending, binding of M.S.Rod including supply of binding wire)** of the required above mentioned Tower foundation as indicated above and as per requirement, including supply of all materials,labours, de-watering,proper curing of the foundations and T&P as per specification in the RCC :1:1.5:3 (Grade M-20.) including stabilization of bore :- Pile diameter **(500 MM)**.	Mtrs	0	1	1	2		
1.4	REVETMENT:(including Benching)Supply of all materials like cement, random rubles stone (stone masonry) all type aggregates,labours,Mixture machine,fuel,lubricant & T&P for construction of revetment walls as per requirement to protect the towers, where felt unsafe and as per the direction of Engineer in charge							
1.4.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	CUM	0	150	150	300		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR	
							Unit Erection Rate	Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
1.4.2	PCC in the ratio1:3:6 including supply of sand 12-20 mm chips.	CUM	0	15	15	30		
1.4.3	RRMasonary work in the ratio 1:5.	CUM	0	400	400	800		
1.4.4	Back filling by borrowed earth beyond 30 mtrs lead.	CUM	0	1500	3000	4500		
1.4.5	Sand filling including supply of good quality river sand and as per instruction of Engineer in charge.	CUM	0	1000	700	1700		
1.5	Supply & painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping(both leg & bracing members).	Nos.	40	544		584		
1.6	Supply of all materials for continuous welding of bolts & nuts (around the bolts) up to top of tower without cross arm, including welding rods, welding generator machine (diesel engine optd.), application of required zinc rich paints around the welding portion (two coats),fuel,lubricants,T&P and labours.	Nos.	11250	78500	25949	115699		
2.0	**SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting**							

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR	
							Unit Erection Rate	Total Erection Price
1	2	3	4	5	6	7	8	9=7X8
2.1	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.	Kms.	1.5	28.21	15.04	44.75		
2.2	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	Kms.	1.5	28.21	15.04	44.75		
2.3	Preparation of land schedule on revenue (if required)maps indicating alignment therein duly authenticated by Revenue Inspector & Tahasildar, enumeration of trees with the help of Forest officer and other prominent features required for alignment of the proposed 132 KV line. Final route to be plotted on 1:50000 topo sheet for approval.	Lot	1	1	1	3		

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1	2	3	4	5	6	7	8	9=7X8
2.4	PTCC approval, railway crossing has to be obtained by submitting the required documents to the concerned department through OPTCL. Way-Leave blockade charges and any other charges are to be borne by the bidders. The documents for PTCC clearance & Railway clearance including required drawings etc has to be submitted by the contractor within 5 months of award of contract. Beyond the above period L.D as applicable & the amount shall be deducted as specified in the specification.	LS	1	1	1	3		
	TOTAL OF Civil Works (PART-Ii)							
	TOTAL OF LINE (Electrical Work) (PART-II) & (Civil Work) (PART-II)- 2C (ERECTION)							

Note:

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

2 **Bidders are required to fill up amount in all column except shaded portion.**

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

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for MARSHAGHAI Project:132Kv LILO ON CIRCUIT-I of Existing 132 KV Jajpur – Paradeep D/C LINE to MARSHAGHAI Sub-Station (LILO location : Near Marshaghai, Length of Line 1. 2 Kms, ACSR Panther Conductor & Tower to be used: 132 KV D/C Tower):	Quantity for OLAVARA Project: (1) 132kv DC line on DC Tower from 132/33kv, Pattamundai S/S to 132/33kv OLAVARA S/s(Line Length:29.04 kms,ACSR Panther conductor,D/C Tower). (2) 132kv DC line on DC Tower from proposed 220/132/33 KV Dhamara S/S to 132/33 kv OLAVARA S/s(Line Length:15.038 kms,ACSR Panther conductor,D/C Tower)		Total Quantity	TO BE QUOTED IN INR Unit Erection Rate	 Total Erection Price
1	2	3	4	5	6	7	8	9=7X8

4 Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.

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

Date :

Place :

(Signature) .....

(Name) .....

(Designation) .....

(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 132/33KV Sub-Stations alongwith 132KV Transmission Line and Associated System at MARSHAGHAI & OLAVAR

BID DOCUMENT No.: Sr.G.M-CPC-TENDER-MARSHAGHAI-OLAVARA-PACKAGE-19/2012-13

(Equipment/Materials Price Break-up of Ex-works Prices against Package- MARSHAGHAI-OLAVARA)

PART-I, SCHEDULE-3 (FOR SUBSTATION)

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
1.0	145 KV,800/400/200A,40KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER	NO	1	1	2						
2.0	**145 KV,1250A,40KA,ISOLATORS**										
2.1	MALE & FEMALE CONTACTS	SET	1	1	2						
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1	1	2						
2.3	LIMIT SWITCH	SET	2	2	4						
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1	1	2						
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	1	2						
2.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1	1	2						
2.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1	1	2						
2.8	**SUB TOTAL OF Sl. No. 2**										
3.0	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1	1	2						

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
4.0	120 KV,METAL OXIDE, 10 KA CLASS III SURGE ARRESTOR COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	2	2	**4**						
5.0	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1	1	**2**						
6.0	132 KV Bus Post Insulators	NOS	3	3	**6**						
7.0	**145KV,3150A,40K.A,SF6,CIRCUIT BREAKER**										
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1	1	**2**						
7.2	SPRING CHARGING MOTOR	NOS	1	1	**2**						
7.3	BREKER AUXILIARY CONTACTS	SET	1	1	**2**						
7.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1	1	**2**						
7.5	DENSITY MONITORING SYSTEM	SET	1	1	**2**						
7.6	CLOSING COIL	NOS	4	4	**8**						
7.7	TRIPPING COIL	NOS	4	4	**8**						
7.8	SF6 GAS FILLING DEVICE	NOS	1	1	**2**						
7.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1	1	**2**						
7.10	**SUB TOTAL OF Sl. No. 7**										
8.1	36KV(800-400-200/1-1-1A), 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	1	1	**2**						
8.2	36 KV,(800-400-200/1-1-1-1 A,(3- PS CL & 1-0.2),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	2	2	**4**						

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
9.0	**36 KV,800A,25KA,ISOLATORS**										
9.1	MALE & FEMALE CONTACTS	SET	1	1	**2**						
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1	1	**2**						
9.3	LIMIT SWITCH	SET	2	2	**4**						
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1	1	**2**						
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	1	**2**						
9.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1	1	**2**						
9.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1	1	**2**						
9.8	**SUB TOTAL OF Sl. No. 9**										
10.0	**30 KV,METAL OXIDE, 10 KA CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR**	NOS	3	3	**6**						
11.0	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1	1	**2**						
12.0	**36KV,1250A,25KA,VACUUM CIRCUIT BREAKER**										
12.1	ONE COMPLETE POLE ASSEMBLY OF CIRCUIT BREAKER	SET	1	1	**2**						
12.2	TRIPPING CIOLS	NOS	4	4	**8**						
12.3	CLOSING COIL	NOS	4	4	**8**						
12.4	SPRING CHARGING MOTOR	NOS	1	1	**2**						
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1	1	**2**						

						TO BE QUOTED IN INR					
Sl. No.	**SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)**	**Unit**	**Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays**	**Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays**	**TOTAL QTY**	**Unit Ex-Works Price**	**Total Ex-Works Price**	**Mode of Transaction (Direct or Bought-out item)**	**Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]**		
									Excise Duty	**VAT/Sales Tax**	**Other Levies (if any)**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8=6x7**	**9**	**10**	**11**	**12**
12.6	SET OF GASKET,"O" RINGS,SEALING PER CIRCUIT BREAKER	SET	1	1	**2**						
12.7	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1	1	**2**						
12.8	**SUB TOTAL OF Sl. No. 12**										
13.0	33 KV Bus Post Insulators	NOS	3	3	**6**						
14.0	**BUS BAR & CIRCUIT MATERIALS**										
14.1	120 KN INSULATOR STRINGS ***for Double tension Twin Moose conductor*** (TENSION)-132 KV	SET	2	2	**4**						
14.2	120 KN INSULATOR STRINGS ***for single tension Single Moose conductor*** (TENSION)-132 KV	SET	2	2	**4**						
14.3	120 KN INSULATOR STRINGS for Double Tension Twin Moose conductor (TENSION)-33 KV	SET	2	2	**4**						
14.4	120 KN INSULATOR STRINGS ***for Single tension Single Moose conductor*** (TENSION)-33 KV	SET	2	2	**4**						
14.5	90 KN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	2	2	**4**						
14.9	90 KN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-33 KV	SET	2	2	**4**						
14.10	**SUB TOTAL OF Sl. No. 14**										
15.0	ACSR MOOSE CONDUCTOR	MTRS	200	200	**400**						

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
16.0	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	SET (EACH TYPE THREE NOS.)	1	1	**2**						
17.0	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**										
17.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)**										
17.1.1	3.5 CX300 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1	1	**2**						
17.1.2	3.5 CX185 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1	1	**2**						
17.1.3	3.5 CX120 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1	1	**2**						
17.1.4	3.5 CX70 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1	1	**2**						
17.1.5	3.5 CX35 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1	1	**2**						
17.1.6	4 CX 16 mm^2	MTRS	250	250	**500**						
17.1.7	4 CX 6 mm^2	MTRS	250	250	**500**						
17.1.8	2CX 6 mm^2	MTRS	250	250	**500**						
17.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**										
17.2.1	4 CX 2.5 mm^2	KMS	1	1	**2**						
17.2.2	5 CX 2.5 mm^2	KMS	1	1	**2**						

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
17.2.3	7 CX 2.5 mm²	KMS	1	1	**2**						
17.2.4	10 CX 2.5 mm²	KMS	0.5	0.5	**1**						
17.2.5	12 CX 2.5 mm²	KMS	0.5	0.5	**1**						
17.2.6	16 CX 2.5 mm²	NOS.	0.5	0.5	**1**						
17.2.7	19 CX 2.5 mm²	NOS.	0.5	0.5	**1**						
17.2.8	1CX 120 mm² BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	50	50	**100**						
17.3	**SUB TOTAL OF Sl. No. 17**										
18.0	**CARRIER COMMUNICATION & OTHER MATERIALS**										
18.1	132 KV,800 A,0.5mH,Pedestal Mounting WAVE TRAP	NOS	1	1	**2**						
18.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1	1	**2**						
18.3	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE ASSEMBLY OF BATTERY(FOR 48 V)	NO	1	1	**2**						
18.4	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE ASSEMBLY OF BATTERY(FOR 220 V)	NO	1	1	**2**						
18.5	BATTERY CHARGER FOR 350 AH (48V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1	1	**2**						
18.6	BATTERY CHARGER FOR 350 AH (220V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1	1	**2**						
18.7	**SUB TOTAL OF Sl. No. 18**										

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
19.0	**PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM**										
19.1	**132 KV SIDE**										
19.1.1	DISTANCE PROTECTION RELAY	NOS	1	1	**2**						
19.1.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1	1	**2**						
19.1.3	MASTER TRIP RELAY	NOS	2	2	**4**						
19.1.4	DIFFERENTIAL PROTECTION RELAY	NOS	1	1	**2**						
19.1.5	TRIP SUPERVISION RELAY	NOS	2	2	**4**						
19.1.6	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1	1	**2**						
19.1.7	ANNUNCIATOR	NOS	2	2	**4**						
19.1.8	DISCREPANCY CONTROL SWITCH										
19.1.9	a) FOR CIRCUIT BREAKER	NOS	2	2	**4**						
19.1.10	b) FOR ISOLATOR	NOS	2	2	**4**						
19.1.11	PROTECTION TRANSFER SWITCH	NOS	1	1	**2**						
19.1.12	AMMETER SELECTOR SWITCH	NOS	2	2	**4**						
19.1.13	VOLTMETER SELECTOR SWITCH	NOS	2	2	**4**						
19.1.14	AMMETER ALONG WITH TRANSDUCER	SET	2	2	**4**						
19.1.15	VOLTMETER ALONG WITH TRANSDUCER	SET	2	2	**4**						
19.1.16	MW METER ALONG WITH TRANSDUCER	SET	2	2	**4**						
19.1.17	MVAR METER ALONG WITH TRANSDUCER	SET	2	2	**4**						
19.2	**33 KV SIDE**										
19.2.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1	1	**2**						

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12
19.2.2	MASTER TRIP RELAY	NOS	2	2	4						
19.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)	SET	1	1	2						
19.2.4	ANNUNCIATOR	NOS	1	1	2						
19.2.5	CONTROL SWITCHES FOR										
19.2.6	a) CIRCUIT BREAKER	NOS	1	1	2						
19.2.7	b) ISOLATOR	NOS	1	1	2						
19.2.8	PROTECTION TRANSFER SWITCH	NOS	1	1	2						
19.2.9	AMMETER SELECTOR SWITCH	NOS	2	2	4						
19.2.10	VOLTMETER SELECTOR SWITCH	NOS	2	2	4						
19.2.11	AMMETER ALONG WITH TRANSDUCER	SET	1	1	2						
19.2.12	VOLTMETER ALONG WITH TRANSDUCER	SET	1	1	2						
19.2.13	MW METER ALONG WITH TRANSDUCER	SET	1	1	2						
19.2.14	MVAR METER ALONG WITH TRANSDUCER	SET	1	1	2						
19.3	SUB TOTAL OF Sl. No. 19										
	TOTAL OF SUBSTATION (PART-I)--3 -MANDATORY SPARE										

Note:

1. **Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.**
2. **Bidders are required to fill up amount in all column except shaded portion.**
3. **Bidders are requested to not leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value).**
4. **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**
5. **In mode of transaction column please indicate Direct/Bought-Out. For Taxes & Duties on Direct/Bought-out items ref clause 6.0 of SCC (Vol-IA)**
6. **Bidder should quoted F&I including service tax, no service tax shall be paid/reimbursed on this account.**

Date :

Place: (Signature).....

						TO BE QUOTED IN INR					
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 132/33kV Substation at MARSHAGHAI (2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	Quantity for 132/33kV Substation at OLAVARA 5Nos(2Fdr+2Tfr+1B/C)132 KV Bays & 8 nos. (5fdr+2Tfr+1 B/c) 33kV bays	TOTAL QTY	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	Total Taxes & Duties applicable for transaction between bidder and OPTCL and not included in the price at Column(9) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(9)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8=6x7	9	10	11	12

(Printed Name)……..

(Designation)…….....

(Common Seal)…….