Date: 02.01.2012

Orissa Power Transmission Corporation Ltd. Bhubaneshwar
Construction of Sub-Station at Ganjam (66-01) & Kesinga (66-02) along with associated Transmission Line for OPTCL against
Bid Document No. : Sr.GM-CPC-Tender-Pkg-66-01 & 66-02
Revised Bid document (Annexure-I) & Attached the Revised BPS Schedule2A,2B,2C & 3

Sl No	Bid Document	Clause / Chapter No	Item No	Existing	Read as
1	Vol-II	E-5, Page 8 of 8	-	A separate set of earth electrodes (at least two), GI pipe, perforated, **40mm** dia. 3000mm long in a treated earth pit, shall be provided for the earthing for high frequency coupling equipment (CVT etc), surge arresters, each neutral of the transformers and reactors at a position immediately adjacent to the equipment being earthed in addition to the normal earth connection. .	A separate set of earth electrodes (at least two), GI pipe, perforated, **50mm** dia. 3000mm long **(heavy duty)** in a treated earth pit, shall be provided for the earthing for high frequency coupling equipment (**CVT**/**PT**), surge arresters, each neutral of the transformers, reactors (at a position immediately adjacent to the equipment being earthed in addition to the normal earth connection) **and for the tower where earthing spikes are provided.**
2	Vol-II	E-6, Page 33 of 35	'15.15 (Table 15.15.1)	Grade of Concrete Minimum Cement : M10,M15,M20,M25 content per cum of finished concrete: 236 kg,310 kg,360 kg & 410 kg.	Grade of Concrete Minimum Cement : M10,M15,M20,M25 content per cum of finished concrete: 236 kg,323 kg, 410 kg & 530 kg.
3	Vol-II	E-11, Page 46 of 55	1.13 (Terminal Connectors)	Technical connectors suitable for all Aluminum Alloy Conductor Zebra Shall be provided, Suitable terminal earth connector for earthling connections shall also be supplied.	Terminal connectors suitable for all ACSR Moose (as per the provision laid down) shall be provided, Suitable terminal earth connector for earthling connections shall also be supplied.
4	Vol-II	E-26, Page 59 of 91	5.1.27	d) Concrete Mixture i) pad **1:4:8**	d) Concrete Mixture i) pad **1:3:6**

Sl No	Bid Document	Clause / Chapter No	Item No	Existing	Read as
5	Vol-II	E-26, Page 63, 64 of 91	1.1.5	CEMENT CONCRETE (PLAIN OR REI NFORCED), STUB SETTING GROUNDING AND BACK FILLING **A)** Materials: All materials whether to be consumed in ….. **B)** Cement: Cement to be used in the work under the contract shall generally conform …. **C)** Coarse Aggregates Stone chips or stone ballast.	CEMENT CONCRETE (PLAIN **AND** REINFORCED), STUB SETTING GROUNDING AND BACK FILLING. **A)** As indicated in the spec. **B)** As indicated in the spec. **C)**Coarse Aggregates Stone chips or stone ballast & Fine aggregates best quality river bed sand. **D) Steel of different size as per design for R.C.C work.**
6	**VOL-IB**	**Schedule-2A,2B,2C & 3 (Sub-station and Line)**	**Bidders are requested to go through attached ANNEXURE-I (REVISED BIDDING PROPOSAL SHEET-Vol-IB)** and quote the **rates in the revised bidding proposal sheet of the respected package. The earlier Bidding proposal sheet Vol-IB attached along with the Tender document may be ignored.**		

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ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X12.5MVA 132/33KV Sub-Stations Renovation work at GANJAM with associated works.

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 66-01 /2011

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE GANJAM)

Bidder's Name & Address:

To,

Orissa Power Transmission Corporation Ltd.,Bhubneshwar

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			**PRICE IN INDIAN RUPEES**					
SL NO	**SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).**	**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=4X5**	**7**	**8**	**9**	**10**
1	145 KV,800-400-200/1-1-1-1 A,40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	9						
2	**145 KV,1200A,40 KA,ISOLATORS**								
2.1	S/I WITH OUT EARTH SWITCH	NOS	6						
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	1						
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	3						
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	9						
6	132 KV Bus Post Insulators	NOS	5						
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3						
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15						
9	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	2						
10	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 33 KV SIDE 1 No.)	NOS	2						
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	6						
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3						
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2						
14	33 KV Bus Post Insulators	NOS	6						
15	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "LONG ROD " Type**								
15.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Moose)-132 KV	SET	18						
15.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Moose)-33 KV	SET	9						
15.3	120 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	12						
15.4	120 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	SET	9						
16	ACSR MOOSE CONDUCTOR	KM	**0.5**						
17	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1						
18	**SUBSTATION SYSTEMS**								
18.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	LOT	**1**						
18.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	LOT	1						

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	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=4X5	7	8	9	10
18.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	LOT	1						
18.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	LOT	1						
18.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 01 Nos 33 kv Bay	NOS	2						
18.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2						
18.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1						
18.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	11						
18.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	1						
19	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**								
20	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**								
20.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	5						
20.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	4						
21	**DIFFERENT TYPE OF BEAMS WITH DETAILS**								
21.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	3						
21.2	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2						
21.3	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**15.00**						
22	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**								
22.1	**ISOLATORS-132KV**								
22.1.1	D.I with E/S	SET	1						
22.1.2	S.I W/O E/S	SET	6						
22.2	CT-132 KV	SET	9						
22.3	CT-33 KV	SET	15						
22.4	CVT-132 KV	SET	3						
22.5	IVT-33 KV	SET	3						
22.6	Surge Arrester-132 kV	SET	9						
22.7	Wave Trap-132 KV	SET	2						
22.8	BPI-132 KV	SET	5						
22.9	BPI-33 KV	SET	6						
22.10	NCTS (36 KV Class)	SET	4						
22.11	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**15.00**						
22.12	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**30.00**						
22.13	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**						
22.14	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1						

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	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=4X5	7	8	9	10
23	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**								
23.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**								
23.1.1	3.5 CX185 mm^2	LOT	1						
23.1.2	3.5 CX120 mm^2	LOT	1						
23.1.3	3.5 CX70 mm^2	LOT	1						
23.1.4	3.5 CX35 mm^2	LOT	1						
23.1.5	4 CX 16 mm^2	LOT	1						
23.1.6	4 CX 6 mm^2	LOT	1						
23.1.7	2CX 6 mm^2	LOT	1						
23.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**								
23.2.1	4 CX 2.5 mm^2	LOT	1						
23.2.2	5 CX 2.5 mm^2	LOT	1						
23.2.3	7CX 2.5 mm^2	LOT	1						
23.2.4	10 CX 2.5 mm^2	LOT	1						
23.2.5	12 CX 2.5 mm^2	LOT	1						
23.2.6	16 CX 2.5 mm^2	LOT	1						
23.2.7	19 CX 2.5 mm^2	LOT	1						
23.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1						
23.3	Perforated G.I. Cable trays of different size for laying of Power & control cables in cable trenches ,section 1-1 , section 2-2, section3-3, section 4-4	LOT	1						
24	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**								
24.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=31.5kA compatible to IEC 353 specifications	NOS	2						
24.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1						
24.3	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	200						
24.4	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						
24.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500						
24.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	250						
24.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	100						
24.8	4 WIRE TELEPHONE SET	NO	4						
24.9	2 WIRE TELEPHONE SET	NO	16						
24.10	FAX MACHINE	NO	1						
24.11	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1						
24.12	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1						

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	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=4X5	7	8	9	10
24.13	48 V DCDB	SET	1						
25	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(LED Type lamps & fixtures shall be used for all purpose of Lighting).The quantity of such fixtures are to be evaluated after designing as per the required LUX level indicated in TS-Vol-II. Design for different locations , where illumination to be provided is to be furnished to the owner for approval.**								
25.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES AND LAMPS(LED)	LOT	1						
26	**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 Extinguisher)**								
'26.1	FOAM TYPE-9 LTRS	NOS	1						
'26.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2						
'26.3	DRY POWDER TYPE - 5 KGS	NOS	2						
'26.4	CO_2 - 4.5 KGS	NOS	5						
'26.5	CO_2 - 9 KGS	NOS	2						
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	1						
'26.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	2						
27	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**								
27.1	**132 KV SIDE**								
'27.1.1	TRANSFORMER PROTN RELAY: 02 NOS DIFFERENTIAL NUMERICAL RELAY,IEC 61850 Protocol Compliant FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2						
28	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1						
29	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1						
30	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1						
31	WALKIE TALKIE SET	SET /PAIR	2						
32	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						
33	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						

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	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=4X5	7	8	9	10
34	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						
35	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						
36	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1						
	TOTAL OF SUBSTATION (PART-I)-2A								

NOTE

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

1

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

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)

3

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

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)

5

(Signature) .....
(Name) .....

Date :

(Designation) .....

Place :

(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X12.5MVA 132/33KV Sub-Stations Renovation work at GANJAM with associated works.

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 66-01 /2011

(Equipment/Materials F&I Price Break-up of Ex-works Prices against PACKAGE GANJAM)

Bidder's Name & Address:

To,
Orissa Power Transmission Corporation Ltd.,Bhubneshwar

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			**PRICE IN INDIAN RUPEES**	
SL NO	**F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6=4X5**
1	145 KV,800-400-200/1-1-1-1 A,40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	9		
2	**145 KV,1200A,40 KA,ISOLATORS**				
2.1	S/I WITH OUT EARTH SWITCH	NOS	6		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	1		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	3		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	9		
6	132 KV Bus Post Insulators	NOS	5		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3		
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
9	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	2		
10	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 33 KV SIDE 1 No.)	NOS	2		
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	6		
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		
14	33 KV Bus Post Insulators	NOS	6		

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	**F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6=4X5**
15	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "LONG ROD " Type**				
15.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Moose)-132 KV	SET	18		
15.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Moose)-33 KV	SET	9		
15.3	120 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	12		
15.4	120 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	SET	9		
16	ACSR MOOSE CONDUCTOR	KM	**0.5**		
17	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
18	**SUBSTATION SYSTEMS**				
18.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	LOT	**1**		
18.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	LOT	1		
18.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	LOT	1		
18.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	LOT	1		
18.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 01 Nos 33 kv Bay	NOS	2		
18.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
18.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1		
18.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	11		
18.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	1		
19	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**				
20	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
20.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	5		
20.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	4		
21	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=4X5
21.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	3		
21.2	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2		
21.3	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**15.00**		
22	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**				
22.1	**ISOLATORS-132KV**				
22.1.1	D.I with E/S	SET	1		
22.1.2	S.I W/O E/S	SET	6		
22.2	CT-132 KV	SET	9		
22.3	CT-33 KV	SET	15		
22.4	CVT-132 KV	SET	3		
22.5	IVT-33 KV	SET	3		
22.6	Surge Arrester-132 kV	SET	9		
22.7	Wave Trap-132 KV	SET	2		
22.8	BPI-132 KV	SET	5		
22.9	BPI-33 KV	SET	6		
22.10	NCTS (36 KV Class)	SET	4		
22.11	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**15.00**		
22.12	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**30.00**		
22.13	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**		
22.14	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1		
23	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
23.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
23.1.1	3.5 CX185 mm^2	LOT	1		
23.1.2	3.5 CX120 mm^2	LOT	1		
23.1.3	3.5 CX70 mm^2	LOT	1		

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	**F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).**	**Unit F&I Price**	**Total F&I Price**
1	**2**	**3**	**4**	**5**	**6=4X5**
23.1.4	3.5 CX35 mm^2	LOT	1		
23.1.5	4 CX 16 mm^2	LOT	1		
23.1.6	4 CX 6 mm^2	LOT	1		
23.1.7	2CX 6 mm^2	LOT	1		
23.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**				
23.2.1	4 CX 2.5 mm^2	LOT	1		
23.2.2	5 CX 2.5 mm^2	LOT	1		
23.2.3	7CX 2.5 mm^2	LOT	1		
23.2.4	10 CX 2.5 mm^2	LOT	1		
23.2.5	12 CX 2.5 mm^2	LOT	1		
23.2.6	16 CX 2.5 mm^2	LOT	1		
23.2.7	19 CX 2.5 mm^2	LOT	1		
23.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		
23.3	Perforated G.I. Cable trays of different size for laying of Power & control cables in cable trenches ,section 1-1 , section 2-2, section3-3, section 4-4	LOT	1		
24	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**				
24.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=31.5kA compatible to IEC 353 specifications	NOS	2		
24.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1		
24.3	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	200		
24.4	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		
24.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500		
24.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	250		
24.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	100		

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=4X5
24.8	4 WIRE TELEPHONE SET	NO	4		
24.9	2 WIRE TELEPHONE SET	NO	16		
24.10	FAX MACHINE	NO	1		
24.11	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1		
24.12	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1		
24.13	48 V DCDB	SET	1		
25	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(LED Type lamps & fixtures shall be used for all purpose of Lighting).The quantity of such fixtures are to be evaluated after designing as per the required LUX level indicated in TS-Vol-II. Design for different locations , where illumination to be provided is to be furnished to the owner for approval.**				
25.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES AND LAMPS(LED)	LOT	1		
26	**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 Extinguisher)**				
'26.1	FOAM TYPE-9 LTRS	NOS	1		
'26.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2		
'26.3	DRY POWDER TYPE - 5 KGS	NOS	2		
'26.4	CO_2 - 4.5 KGS	NOS	5		
'26.5	CO_2 - 9 KGS	NOS	2		
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	1		
'26.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	2		
27	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**				
27.1	**132 KV SIDE**				

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=4X5
'27.1.1	TRANSFORMER PROTN RELAY: 02 NOS DIFFERENTIAL NUMERICAL RELAY,IEC 61850 Protocol Compliant FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2		
28	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
29	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
30	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		
31	WALKIE TALKIE SET	SET /PAIR	2		
32	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		
33	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		
34	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		
35	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		
36	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
	TOTAL OF SUBSTATION (PART-I)-2B				

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.

	PART-I, SCHEDULE-2B (FOR SUBSTATION)			PRICE IN INDIAN RUPEES	
SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam. (132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=4X5

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 2X12.5MVA 132/33KV Sub-Stations Renovation work at GANJAM with associated works.

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 66-01 /2011

(Equipment/Materials Price Break-up of ERECTION Prices against PACKAGE GANJAM)

Bidder's Name & Address:

To,
Orissa Power Transmission Corporation Ltd.,Bhubneshwar

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			**Erection charges (PRICE IN INDIAN RUPEES)**	
	DESCRIPTION OF ITEMS				
SL NO	**ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)**	**Unit**	**Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).**	**Unit Rate**	**Total Price**
1	**2**	**3**	**4**	**5**	**6=4X5**
A	**ELECTRICAL WORKS**				
1	145 KV,800-400-200/1-1-1-1 A,40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	9		
2	**145 KV,1200A,40 KA,ISOLATORS**				
2.1	S/I WITH OUT EARTH SWITCH	NOS	6		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	1		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	3		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	9		
6	132 KV Bus Post Insulators	NOS	5		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3		
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
9	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 132 KV SIDE-1 NO)	NOS	2		
10	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING (800-400-200/1-1 A)(IN EACH POWER TRANSFORMER 33 KV SIDE 1 No.)	NOS	2		
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	6		
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
14	33 KV Bus Post Insulators	NOS	6		
15	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "LONG ROD " Type**				
15.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Moose)-132 KV	SET	18		
15.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Moose)-33 KV	SET	9		
15.3	120 KN INSULATOR STRINGS (SUSPENSION for single ACSR Moose)-132 KV	SET	12		
15.4	120 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Moose)-33 KV	SET	9		
16	ACSR MOOSE CONDUCTOR	KM	**0.5**		
17	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
18	**SUBSTATION SYSTEMS**				
18.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	LOT	**1**		
18.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	LOT	1		
18.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	LOT	1		
18.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	LOT	1		
18.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 01 Nos 33 kv Bay	NOS	2		
18.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
18.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1		
18.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	11		
18.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	1		
19	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**				
20	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
20.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	5		
20.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	4		
21	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
21.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	3		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
21.2	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2		
21.3	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**15.00**		
22	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**				
22.1	**ISOLATORS-132KV**				
22.1.1	D.I with E/S	SET	1		
22.1.2	S.I W/O E/S	SET	6		
22.2	CT-132 KV	SET	9		
22.3	CT-33 KV	SET	15		
22.4	CVT-132 KV	SET	3		
22.5	IVT-33 KV	SET	3		
22.6	Surge Arrester-132 kV	SET	9		
22.7	Wave Trap-132 KV	SET	2		
22.8	BPI-132 KV	SET	5		
22.9	BPI-33 KV	SET	6		
22.10	NCTS (36 KV Class)	SET	4		
22.11	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**15.00**		
22.12	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**30.00**		
22.13	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**		
22.14	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1		
23	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
23.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
23.1.1	3.5 CX185 mm^2	LOT	1		
23.1.2	3.5 CX120 mm^2	LOT	1		
23.1.3	3.5 CX70 mm^2	LOT	1		
23.1.4	3.5 CX35 mm^2	LOT	1		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
23.1.5	4 CX 16 mm^2	LOT	1		
23.1.6	4 CX 6 mm^2	LOT	1		
23.1.7	2CX 6 mm^2	LOT	1		
23.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**				
23.2.1	4 CX 2.5 mm^2	LOT	1		
23.2.2	5 CX 2.5 mm^2	LOT	1		
23.2.3	7CX 2.5 mm^2	LOT	1		
23.2.4	10 CX 2.5 mm^2	LOT	1		
23.2.5	12 CX 2.5 mm^2	LOT	1		
23.2.6	16 CX 2.5 mm^2	LOT	1		
23.2.7	19 CX 2.5 mm^2	LOT	1		
23.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		
23.3	Perforated G.I. Cable trays of different size for laying of Power & control cables in cable trenches ,section 1-1 , section 2-2, section3-3, section 4-4	LOT	1		
24	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**				
24.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=31.5kA compatible to IEC 353 specifications	NOS	2		
24.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1		
24.3	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	200		
24.4	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		
24.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	500		
24.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	250		
24.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	100		
24.8	4 WIRE TELEPHONE SET	NO	4		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
24.9	2 WIRE TELEPHONE SET	NO	16		
24.10	FAX MACHINE	NO	1		
24.11	PLANTE TYPE BATTERY350 AH(FOR 48 V)	SET	1		
24.12	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	1		
24.13	48 V DCDB	SET	1		
25	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(LED Type lamps & fixtures shall be used for all purpose of Lighting).The quantity of such fixtures are to be evaluated after designing as per the required LUX level indicated in TS-Vol-II. Design for different locations , where illumination to be provided is to be furnished to the owner for approval.**				
25.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES AND LAMPS(LED)	LOT	1		
26	**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 Extinguisher)**				
'26.1	FOAM TYPE-9 LTRS	NOS	1		
'26.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2		
'26.3	DRY POWDER TYPE - 5 KGS	NOS	2		
'26.4	CO_2 - 4.5 KGS	NOS	5		
'26.5	CO_2 - 9 KGS	NOS	2		
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	1		
'26.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	2		
27	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**				
27.1	**132 KV SIDE**				
'27.1.1	TRANSFORMER PROTN RELAY: 02 NOS DIFFERENTIAL NUMERICAL RELAY,IEC 61850 Protocol Compliant FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
28	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
29	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
30	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		
31	WALKIE TALKIE SET	SET /PAIR	2		
32	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		
33	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
34	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		
	TOTAL of Part-I (A)				
B	**CIVIL WORKS**				
1	***Foundations : Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod, coarse and fine aggregates(Sand and Metal Chips) etc) for construction of RCC (1:1.5:3) & PCC (1:3:6), RCC footings of any depth, pedestal and piling as per requirement including soil investigation, excavation,concreting, shuttering, grouting, underpinning and back filling of foundations etc complete for the following switch yard gantry/ portal structures and equipment support & others as per the technical specification and approved drawings.(RCC RATIO 1:1.5:3). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.***				

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
1.1	Excavation:This also Includes excavation in all types of soil or rocks,back filling and disposal of excess earth as per the direction of Engineer In Charge	CUM	4000		
1.2	***Open cast foundation for the above column/equipment/marshalling box foundations { Sl No. 1.6 & 1.7} with RCC: 1:1.5:3 (Grade M-20),including supply of Labour all materials like Steel (Supply,Cutting,Bending,Binding (including supply of binding wire) and placing in position of steel rods of different size as per design in the foundation pit as required for the above foundations),Cement, coarse and fine aggregates,shuttering,proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.***	CUM	900		
1.3	***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	80		
1.4	Brick Masonary work in cement and sand mortar 1:6 with bricks of class designation 75 as per technical specification and as directed by Engineer In Charge.	CUM	100		
1.5	12 mm thick plaster in cement sand mortar (1: 6) as per technical specification and as directed by Engineer In Charge.	Sq.Mtr	800		
1.6	**Switchyard gantry/portal structure foundations.**				
'1.6.1	**T1S**	Nos	5		
'1.6.2	**T4S**	Nos	4		
1.7	**Switch yard Equipment /Marshaling Boxes foundations**				

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
'1.7.1	145kV circuit breaker	Nos	3		
'1.7.2	(a) 145 KV Isolators (S/I)	Nos	6		
'1.7.3	(b) 145kV isolators (D/I)(W E/S)	Nos	1		
'1.7.4	145kV current transformers	Nos	9		
'1.7.5	120kV surge arrestors	Nos	9		
'1.7.6	145kV bus post Insulators	Nos	5		
'1.7.7	145 KV Line /Wave Trap	NOS	2		
'1.7.8	36kV voltage transformers	Nos	3		
'1.7.9	36kV bus post insulators	Nos	6		
'1.7.10	Marshaling boxes (Bay Marshaling boxes etc)	Nos	2		
'1.7.11	Junction boxes (Receptacle panels for welding and other emergency works etc)	Nos	1		
'1.7.12	Junction boxes (AC console box near Transformer for oil filtration work)	Nos	1		
'1.7.13	Junction boxes (switch yard lighting panels)	Nos	2		
'1.7.14	NCT for Power Transformer	Nos	4		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
2	**Cable Trenches:** Design, engineering, and construction of RCC(1:1.5:3) cable trenches and all associated works for cable trench crossings to the required depths, precast RCC covers(1:1.5:3), water stops, brickwork with plastering wherever required including the supply of labour,material, cement, reinforcement steel, form work, steel angles(G.I), flats(G.I) and providing PCC(1:3:6) below cable trenches as per technical specifications and approved drawings and as per direction of the Project Manager. 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 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. *CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE INCLUDING STANDARD SUPPORT.				
2.1	Cable trench with covers				
2.1.1	Section 1-1	Mtrs	100		
2.1.2	Section 2- 2	Mtrs	50		
2.1.3	Section 3-3	Mtrs	50		
2.1.4	Section 4-4	Mtrs	100		
2.2	**Cable trench crossing**:Design,engineering,construction including supply of labour,materials,cement,reinforcement steel,form work etc,and all associated works for construction of trench crossing as per technical specification and approved drawing.				
2.2.1	Road crossing for				
2.2.1.1	Section 1-1	Lot	1		
2.2.1.2	Section 2- 2	Lot	1		
2.2.1.3	Section 3-3	Lot	1		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
3	**Drainage system:Collection of rainfall data,** Design, construction of storm water drainage scheme, road-culverts, and drains crossing cable trenches etc. as per specification and approved drawing. This also includes excavation in all types of soil or rocks,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.				
3.1	Storm water drain as per technical specification	Lot	1		
3.2	Road-culverts, (including one no for approach raod) drain crossings	Lot	1		
3.3	Cable trench crossing	Lot	1		
4	Substation earth mat Design, engineering, supply{(except the GI Flats,GI Pipe,M.S Rod)(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 Project Manager, 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 Mid 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 nu-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.				
4.1	EARTHING CONDUCTOR (75x10mm for laying (spacing maximum 5m) (GI FLAT)(Excavation of trench as per technical spec and as directed by Engineer in Charge)	LOT	1		
4.2	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit) (Excavation and construction of earth pit as per technical spec and as directed by Engineer in Charge)	LOT	1		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5
5	Leveling the switch yard area 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), and maintaining proper sloping for easy discharge of storm water . 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 with borrowed earth/good quality river bed sand if required beyond 30 mtrs lead ,and disposal of excess earth as per the direction of Engineer In charge and approved drawing.				
5.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	5000		
5.2	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	***Cum***	250		
5.3	***Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.***	***Cum***	750		
6	**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 .Proper leveling of the switch yard area, 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 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 and approved drawing.	LOT	1		

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
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1	2	3	4	5	6=4X5
7	**Metal Spreading:**Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 50 mm thickness 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 compacted good quality sand.The total compacted thickness of the metals(20 mm Nominal) 100 mm above the sand compaction.	LOT	1		
8	**Switch yard fencing:** Providing and fixing of G.I Goat mesh (2.5 mm dia) fencing(the posts and links shall be of HD Galvanized) in switch yard and other areas of the substation with a total fence height complete as per specification and approved drawings, and as required under the safety regulation of local, state and central government bodies and as per instruction of the Engineer-in-Charge.(The PCC work for grouting the post shall be 1:2:4 and a continuous Brick masonry work with ratio 1:5 and cement pointing of the joints, for the fencing up to a height from the finished ground level) .This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. The earthing of the fencing as per specification.	LOT	1		
9	**Fire wall:** Design, engineering, procurement of labour, material including all associated works for construction of fire-walls as per technical specification and approved drawings(column shall be RCC 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		
10	**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.)				
10.1	Excavation of soil. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.	Cu.m.	1		
10.2	PCC: M10(1: 3 : 6)	Cu.m.	1		
10.3	RCC M 15(1:2:4)	Cu.m.	1		

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	DESCRIPTION OF ITEMS				
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1	2	3	4	5	6=4X5
10.4	RCC: M 20(1:1.5:3)	Cu.m.	1		
10.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1		
10.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		
10.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1		
11	**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 snickering 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		
12	Dismantling of existing switchyard structure and proper stacking,storing and handing over to OPTCL as per the direction of Engineer In Charge.	MT	20		
13	Dismantling of existing foundation and removal of the debris es and disposal of the same as per the direction of Engineer In Charge	CUM	300		
	TOTAL OF CIVIL WORKS (B)				
	GRAND TOTAL (ELECTRICAL WORKS + CIVIL WORKS) (A+B)-PART-I-2C				

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) .**

	PART-I, SCHEDULE-2C (FOR SUBSTATION)			Erection charges (PRICE IN INDIAN RUPEES)	
	DESCRIPTION OF ITEMS				
SL NO	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X12.5 MVA 132/33kV Substation Renovation works at Ganjam.(132 KV Feeder Bay:01 No.,132 KV Transformer Bay:02 Nos,33 KV Transformer Bay: 02 Nos, 33 KV Feeder Bay:03 Nos, 33 KV Bus Coupler Bay:01 No.).	Unit Rate	Total Price
1	2	3	4	5	6=4X5

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 220/132 KV Sub-Station at KESINGA alongwith 220 KV Transmission Line and Associated System

BID DOCUMENT No.: Sr.G.M-CPC-Tender-220/132 KV S/S at KESINGA- 66-02/2011

TENDER NOTICE No.-NIT-56/2011

(Item wise Price of Mandatory Spares for Package)

				TO BE QUOTED IN INR							
Sl. No.	**SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)**	**Unit**	**TOTAL QUANTITY**	**Unit Ex-works (Rs.)**	**Total Ex-works (Rs.)**	**Mode of Transaction/ (Bought out/Direct)**	**Excise Duty (Rs.)**	**Sales Tax/VAT (Rs.)**	**Other levies (if any)**	**Unit (F&I)**	**Total (F&I)**
1	**2**	**3**	**4**	**5**	**6=4X5**	**7**	**8**	**9**	**10**	**11**	**12**
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
2	**245 KV,1600A,40KA,ISOLATORS**										
2.1	MALE & FEMALE CONTACTS	SET	1								
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
2.3	LIMIT SWITCH	SET	2								
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
2.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
2.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
4	**245KV,3150A,40KA,SF6,CIRCUIT BREAKER**										
4.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1								
4.2	SPRING CHARGING/PNEUMATIC MOTOR	NOS	1								
4.3	BREKER AUXILIARY CONTACTS	SET	1								
4.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
4.5	DENSITY MONITORING SYSTEM	SET	1								
4.6	CLOSING COIL	NOS	4								
4.7	TRIPPING COIL	NOS	4								
4.8	SF6 GAS FILLING DEVICE	NOS	1								
4.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1								

				TO BE QUOTED IN INR							
Sl. No.	**SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)**	**Unit**	**TOTAL QUANTITY**	**Unit Ex-works (Rs.)**	**Total Ex-works (Rs.)**	**Mode of Transaction/ (Bought out/Direct)**	**Excise Duty (Rs.)**	**Sales Tax/VAT (Rs.)**	**Other levies (if any)**	**Unit (F&I)**	**Total (F&I)**
1	**2**	**3**	**4**	**5**	**6=4X5**	**7**	**8**	**9**	**10**	**11**	**12**
5	216 KV,METAL OXIDE, 10 KA, CLASS III SURGE ARRESTOR COMPLETE WITH INSULATING BASE & SURGE MONITOR	NOS	2								
6	245 KV, 2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1								
7	220 KV Bus Post Insulators	NOS	2								
8	145 KV,(800-400-200/1-1-1-1 A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
9	**145 KV,1200A,40 KA,ISOLATORS**										
9.1	MALE & FEMALE CONTACTS	SET	1								
9.2	POWER CONTACTOR,RELAYS,MCBs,SWITCHES,FUSES, PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
9.3	LIMIT SWITCH	SET	2								
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
9.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
9.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
10	120 KV,METAL OXIDE, 10 KA CLASS III SURGE ARRESTOR COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	1								
11	132 KV Bus Post Insulators	NOS	1								
12	**145KV,3150A,40 KA,SF6,CIRCUIT BREAKER**										
12.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1								
12.2	SPRING CHARGING MOTOR	NOS	1								
12.3	BREKER AUXILIARY CONTACTS	SET	1								
12.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
12.5	DENSITY MONITORING SYSTEM	SET	1								
12.6	CLOSING COIL	NOS	4								
12.7	TRIPPING COIL	NOS	4								
12.8	SF6 GAS FILLING DEVICE	NOS	1								
12.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1								
13	**BUS BAR & CIRCUIT MATERIALS**										

				TO BE QUOTED IN INR							
Sl. No.	**SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)**	**Unit**	**TOTAL QUANTITY**	**Unit Ex-works (Rs.)**	**Total Ex-works (Rs.)**	**Mode of Transaction/ (Bought out/Direct)**	**Excise Duty (Rs.)**	**Sales Tax/VAT (Rs.)**	**Other levies (if any)**	**Unit (F&I)**	**Total (F&I)**
1	**2**	**3**	**4**	**5**	**6=4X5**	**7**	**8**	**9**	**10**	**11**	**12**
13.1	160 kN INSULATOR STRINGS for twin Moose cond (Double TENSION)-220 KV	SET	2								
13.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (Single TENSION)-220 KV	SET	2								
13.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	1								
13.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	1								
13.5	90 kN INSULATOR STRINGS ***for Double Moose cond*** (SUSPENSION)-220 KV	SET	2								
13.6	90 kN INSULATOR STRINGS ***for Single Moose cond*** (SUSPENSION)-220 KV	SET	2								
13.7	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132KV	SET	1								
14	ACSR MOOSE CONDUCTOR	MTRS	500								
15	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	SET (EACH TYPE THREE NOS.)	1								
16	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**										
16.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)**										
16.1.1	3.5 CX300 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
16.1.2	3.5 CX185 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
16.1.3	3.5 CX120 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
16.1.4	3.5 CX70 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
16.1.5	3.5 CX35 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
16.1.6	4 CX 16 mm^2	MTRS	250								
16.1.7	4 CX 6 mm^2	MTRS	250								
16.1.8	2CX 6 mm^2	MTRS	250								
16.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**										
16.2.1	4 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
16.2.2	5 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
16.2.3	7 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
16.2.4	10 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
16.2.5	12 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								

				TO BE QUOTED IN INR							
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1	**2**	**3**	**4**	**5**	**6=4X5**	**7**	**8**	**9**	**10**	**11**	**12**
16.2.6	16 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
16.2.7	19 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
16.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	50								
16.3	**CARRIER COMMUNICATION & OTHER MATERIALS**										
16.3.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	1								
16.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1								
16.3.3	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE ASSEMBLY OF BATTERY(FOR 220 V)	NO	1								
16.3.4	BATTERY CHARGER FOR 350 AH (220V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1								
17	**PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM**										
17.1	**220 KV SIDE**										
17.1.1	DISTANCE PROTECTION RELAY	NOS	1								
17.1.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1								
17.1.3	MASTER TRIP RELAY	NOS	2								
17.1.4	DIFFERENTIAL PROTECTION RELAY	NOS	1								
17.1.5	TRIP SUPERVISION RELAY	NOS	4								
17.1.6	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1								
17.1.7	ANNUNCIATOR	NOS	2								
17.1.8	DISCREPANCY CONTROL SWITCH										
	a) FOR CIRCUIT BREAKER	NOS	4								
	b) FOR ISOLATOR	NOS	4								
17.1.9	PROTECTION TRANSFER SWITCH	NOS	1								
17.1.10	AMMETER SELECTOR SWITCH	NOS	4								
17.1.11	VOLTMETER SELECTOR SWITCH	NOS	4								
17.1.12	AMMETER ALONG WITH TRANSDUCER	SET	2								
17.1.13	VOLTMETER ALONG WITH TRANSDUCER	SET	2								
17.1.14	MW METER ALONG WITH TRANSDUCER	SET	2								
17.1.15	MVAR METER ALONG WITH TRANSDUCER	SET	2								
17.1.16	BUS BAR PROTECTION BAY MODULE	No.	1								
17.2	**132 KV SIDE**										
17.2.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1								
17.2.2	MASTER TRIP RELAY	NOS	1								
17.2.3	TRIP SUPERVISION RELAY	NOS	1								

				TO BE QUOTED IN INR							
Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	TOTAL QUANTITY	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12
17.2.4	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1								
17.2.5	ANNUNCIATOR	NOS	1								
17.2.6	DISCREPANCY CONTROL SWITCH										
	a) FOR CIRCUIT BREAKER	NOS	1								
	b) FOR ISOLATOR	NOS	1								
17.2.7	AMMETER SELECTOR SWITCH	NOS	1								
17.2.8	VOLTMETER SELECTOR SWITCH	NOS	1								
17.2.9	AMMETER ALONG WITH TRANSDUCER	SET	1								
17.2.10	VOLTMETER ALONG WITH TRANSDUCER	SET	1								
17.2.11	MW METER ALONG WITH TRANSDUCER	SET	1								
17.2.12	MVAR METER ALONG WITH TRANSDUCER	SET	1								
	TOTAL OF SCHEDULE-3										

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)……..
(Printed Name)……..
(Designation)…….....
(Common Seal)……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220/132 KV Sub-Station at KESINGA alongwith 220 KV Transmission Line and Associated System

BID DOCUMENT No.: Sr.G.M-CPC-Tender-220/132 KV S/S at KESINGA- 66-02/2011

TENDER NOTICE No.-NIT-56/2011

(Equipment/Materials Supply Price Break-up of Ex-works Prices against KESINGA PACKAGE)

PART-I SCHEDULE-2A (FOR SUBSTATION)

Sl. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having 05 Nos (2Fdr+2AT+1 B/C) 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	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(8) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(8)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
1	245 KV,(1200-600-300/1-1-1-1-1-1A),40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	6	24						
2	**245 KV,1600A,40KA,ISOLATORS**										
2.1	WITH OUT EARTH SWITCH	NOS	14	2	16						
2.2	WITH SINGLE EARTH SWITCH	NOS	6	2	8						
2.3	SINGLE ISOLATOR WITH BEAM MOUNTED.	NOS	4	0	4						
2.4	TANDEM ISO WITH OUT EARTH SWITCH		0	4	4						
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	12						
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE	NOS	5	2	7						
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10KA , Class-III	NOS	12	6	18						
6	245 KV ,2 CORE,SINGLE PHASE,IVT	NOS	6	0	6						
7	220 KV Bus Post Insulators	NOS	42	20	62						
8	145 KV,(800-400-200/1-1-1-1A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	0	6						
9	**145 KV,1200A,31.5KA,ISOLATORS**										
9.1	S/I WITH OUT EARTH SWITCH	NOS	2	0	2						
9.2	D/I WITHOUT EARTH SWITCH	NOS	2	0	2						
10	120 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class III	NOS	6	0	6						
11	132 KV Bus Post Insulators	NOS	10	0	10						
12	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2	0	2						
13	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING AS DECIDED (RATINGS AS PER THE SUITABILITY) HAVING TWO CORE (IN EACH AUTO TRANSFORMER 1 No. NCT)	NOS	**2**	**0**	2						
14	**BUS BAR & CIRCUIT MATERIALS**										
14.1	160 kN INSULATOR STRINGS for twin Moose cond (Double TENSION)-220 KV	SET	36	12	48						
14.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (Single TENSION)-220 KV	SET	72	30	102						
14.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	12	0	12						
14.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	18	0	18						
14.5	90 kN INSULATOR STRINGS ***for Double Moose cond*** (SUSPENSION)-220 KV	SET	51	6	57						
14.6	90 kN INSULATOR STRINGS ***for Single Moose cond*** (SUSPENSION)-220 KV	SET	6	12	18						
14.7	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132KV	SET	6	0	6						
15	ACSR MOOSE CONDUCTOR	LOT	1	1	2						
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	2						
17	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1	1	2						
18	SUBSTATION SYSTEMS										
18.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m both way*)	LOT	1	1	2						

Sl. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having 05 Nos (2Fdr+2AT+1 B/C) 220 kV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	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(8) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(8)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
18.2	EARTHING CONDUCTOR: 50X6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1	1	2						
18.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1	1	2						
18.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1	1	2						
18.5	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	2						
19	BAY MARSHALLING KIOSK ***(05 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	6	2	8						
20	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2	1	3						
21	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr)***	NOS	1	0	1						
22	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay)***	NOS	1	1	2						
23	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR ALL 220 KV, 132 KV & 33 KV**										
23.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**										
23.1.1	P1S (NOMINAL UNIT WT- 4.5 MT)	NOS	24	5	29						
23.1.2	P2S (NOMINAL UNIT WT- 4.5 MT)	NOS	3	0	3						
23.1.3	T1S (NOMINAL UNIT WT- 1.2 MT)	NOS	8	0	8						
23.1.4	T4S (NOMINAL UNIT WT- 0.95 MT)	NOS	5	0	5						
23.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**										
23.2.1	Q1S (NOMINAL UNIT WT- 1.5 MT)	NOS	22	3	25						
23.2.2	G1 (NOMINAL UNIT WT- 0.62 MT)	NOS	3	0	3						
23.2.3	G1X (NOMINAL UNIT WT- 1.4 MT)	NOS	4	0	4						
23.2.4	G2 (NOMINAL UNIT WT- 0.91 MT)	NOS	4	0	4						
23.2.5	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	179.95	27.00	206.95						
23.3	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV, 132 KV & 33 KV EQUIPMENTS**										
23.3.1	ISOLATORS-220KV	SET	20	8	28						
23.3.2	ISOLATORS-132KV	SET	4	0	4						
23.3.3	CTS-220 KV	SET	18	6	24						
23.3.4	CTS-132 KV	SET	6	0	6						
23.3.5	CVTS-220 KV	SET	6	6	12						
23.3.6	IVTS-220 KV	SET	6	0	6						
23.3.7	Surge Arrester-220 Kv	SET	12	6	18						
23.3.8	Surge Arrester-132 kV	SET	6	0	6						
23.3.9	Wave Trap-220 KV	SET	4	4	8						
23.3.10	BPI-220 KV	SET	42	20	62						
23.3.11	BPI-132 KV	SET	10	0	10						
23.3.12	NCTS	SET	2	0	2						
23.3.13	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**46.92**	**16.50**	63.42						
23.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(33.2.9+33.3.9)**	MT	**226.87**	**43.50**	270.37						
23.5	**Total weight of GI Nuts and bolts for the above structures**	MT	**12**	**8**	20						
23.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1	1	2						
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**										
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**										

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									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
24.1.1	3.5 CX300 mm^2	LOT	1	0	1						
24.1.2	3.5 CX185 mm^2	LOT	1	0	1						
24.1.3	3.5 CX120 mm^2	LOT	1	0	1						
24.1.4	3.5 CX70 mm^2	LOT	1	0	1						
24.1.5	3.5 CX35 mm^2	LOT	1	1	2						
24.1.6	4 CX 16 mm^2	LOT	1	1	2						
24.1.7	4 CX 6 mm^2	LOT	1	1	2						
24.1.8	2CX 6 mm^2	LOT	1	1	2						
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**										
24.2.1	4 CX 2.5 mm^2	LOT	1	1	2						
24.2.2	5 CX 2.5 mm^2	LOT	1	1	2						
24.2.3	7CX 2.5 mm^2	LOT	1	1	2						
24.2.4	10 CX 2.5 mm^2	LOT	1	1	2						
24.2.5	12 CX 2.5 mm^2	LOT	1	1	2						
24.2.6	16 CX 2.5 mm^2	LOT	1	1	2						
24.2.7	19 CX 2.5 mm^2	LOT	1	1	2						
24.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	0	1						
24.3	**ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**										
24.3.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	4	4	8						
24.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	4						
24.3.3	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	**1500**	**1500**	3000						
24.3.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	**1**	**0**	1						
24.3.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	**1000**	**0**	1000						
24.3.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	**1000**	**0**	1000						
24.3.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	**400**	**200**	600						
24.3.8	4 WIRE TELEPHONE SET	NO	**8**	**2**	10						
24.3.9	PLANTE TYPE BATTERY ***350*** AH(FOR 48 V)	NO	2	0	2						
24.3.10	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	2	0	2						
24.3.11	48 V DCDB	SET	1	0	1						
25	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION**										
25.1	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	1	0	1						
25.2	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 800 AMP.MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	1	0	1						

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									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
26	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard,Colony street and other street area)**										
26.1	***SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of*** reputed make (Philips/CGL/Bajaj) ***with switch gear,Cables,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	2						
26.2	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 & AROUND THE CONTROL ROOM BUILDING, THE SWITCH YARD ALONG THE ROADS (APPROACH INSIDE YARD), COLONY QUARTERS AND OTHER ROADS).	LOT	1	0	1						
26.3	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. > 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 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 FITTINGS INCLUDING LAMPS.	LOT	1	0	1						
26.4	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.	LOT	1	0	1						
27	2 TR(Two Ton) CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY AND INCLUDING RELATED MATERIALS LIKE CABLES,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.	LOT	1	0	1						
28	**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-SCOPE OF WORKAT SL NO. 16-ANNEXURE - I)**										
28.1	FOAM TYPE-9 LTRS	NOS	4	0	4						
28.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4	0	4						
28.3	DRY POWDER TYPE - 5 KGS	NOS	4	0	4						
28.4	CO_2 - 4.5 KGS	NOS	10	0	10						
28.5	CO_2 - 9 KGS	NOS	10	0	10						

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									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
28.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4						
28.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5	0	5						
29	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**										
29.1	**220 KV SIDE**										
29.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	2	2	4						
29.1.2	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2	0	2						
29.1.3	BUSCOUPLER CONTROL PANEL (CPB-2D)	NOS	1	0	1						
29.1.4	FEEDER RELAY PANEL(RPF-2D)	NOS	2	2	4						
29.1.5	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2	0	2						
29.1.6	BUSCOUPLER RELAY PANEL (RPB-2D)	NOS	1	0	1						
29.1.7	COMMON PANEL (KP-2)	NOS	1	0	1						
29.1.8	SYNCHRONOUS TROLLY	NOS	1	0	1						
29.1.9	BUS-BAR RELAY PANEL(RBB-2D):(1) For new sub-station: A complete set	SET	1	0	1						
29.1.10	BUS-BAR RELAY MODULES FOR THE EXISTING BUS BAR PANEL: For Bay extension: only the respective modules to be supplied to match with the existing Bus Bar scheme.	NOS	0	2	2						
29.1.10	TIME SYNCH EQUIPMENT	NOS	1	0	1						
29.1.11	EVENT LOGGER PANEL	NOS	1	0	1						
29.2	**132 KV SIDE**										
29.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)	NOS	2	0	2						
29.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	0	0	0						
29.2.4	TRANSFORMER RELAY PANEL(RPL-1M)	NOS	2	0	2						
29.2.5	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	0	0	0						
29.2.6	COMMON PANEL (KP-1)	NOS	0	0	0						
30	**AC & DC SYSTEM**										
30.1	**AC SYSTEM**										
30.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1	0	1						
30.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	0	1						
30.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	0	1						
30.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	0	1						
30.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	0	1						
30.1.6	INDOOR RECEPTACLE BOARD	SET	1	0	1						
30.2	**DC SYSTEM**										
30.2.1	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	0	1						
30.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	0	1						
31	220 V BATTERY SYSTEM										
31.1	**BATTERY (350 AH PLANTE TYPE) for 220 V DC**	SET	2	0	2						
31.2	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST)	SET	2	0	2						
32	DISTILLED WATER PLANT of 10 L/Hr FOR BATTERY BANKS	SET	1	0	1						

Sl. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having 05 Nos (2Fdr+2AT+1 B/C) 220 kV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	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(8) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(8)]		
									Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6	7	8 = 6X7	9	10	11	12
33	WALKIE TALKIE SET	SET/PAIR	2	0	2						
34	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	0	1						
35	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 20)	SET	1	0	1						
36	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	0	1						
37	WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM	NOS	1	0	1						
38	MAINTENANCE TESTING EQUIPMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 17 **ANNEXURE - II** ,INDICATED IN -SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	0	1						
39	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 18 **ANNEXURE - III** ,INDICATED IN SCHEDULE OF REQUIREMENTS OTHER T&P's)	LOT	1	0	1						
40	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	0	1						
41	BEST QUALITY & APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT & BACK SIDE (where doors of the panels are provided) OF ALL PANELS,BOARDS ETC.	LOT	1	1	2						
	TOTAL (Part-I):2A (SS 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) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220/132 KV Sub-Station at KESINGA alongwith 220 KV Transmission Line and Associated System

BID DOCUMENT No.: Sr.G.M-CPC-Tender-220/132 KV S/S at KESINGA- 66-02/2011

TENDER NOTICE No.-NIT-56/2011

(Equipment/Materials F&I Price Break-up of Ex-works Prices against KESINGA PACKAGE)

PART-I SCHEDULE-2B (FOR SUBSTATION)

Sl. No.	DESCRIPTION OF ITEMS F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	TO BE QUOTED IN INR Unit F&I Price	 Total F&I Price
1	2	3	4	5	6	7	8=6X7
1	245 KV,(1200-600-300/1-1-1-1-1-1A),40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	6	24		
2	**245 KV,1600A,40KA,ISOLATORS**						
2.1	WITH OUT EARTH SWITCH	NOS	14	2	16		
2.2	WITH SINGLE EARTH SWITCH	NOS	6	2	8		
2.3	SINGLE ISOLATOR WITH BEAM MOUNTED.	NOS	4	0	4		
2.4	TANDEM ISO WITH OUT EARTH SWITCH		0	4	4		
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	12		
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE	NOS	5	2	7		
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10KA , Class-III	NOS	12	6	18		
6	245 KV ,2 CORE,SINGLE PHASE,IVT	NOS	6	0	6		
7	220 KV Bus Post Insulators	NOS	42	20	62		
8	145 KV,(800-400-200/1-1-1-1A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	0	6		
9	**145 KV,1200A,31.5KA,ISOLATORS**						
9.1	S/I WITH OUT EARTH SWITCH	NOS	2	0	2		
9.2	D/I WITHOUT EARTH SWITCH	NOS	2	0	2		
10	120 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class III	NOS	6	0	6		
11	132 KV Bus Post Insulators	NOS	10	0	10		
12	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2	0	2		
13	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING AS DECIDED (RATINGS AS PER THE SUITABILITY) HAVING TWO CORE (IN EACH AUTO TRANSFORMER 1 No. NCT)	NOS	**2**	**0**	2		
14	**BUS BAR & CIRCUIT MATERIALS**						
14.1	160 kN INSULATOR STRINGS for twin Moose cond (Double TENSION)-220 KV	SET	36	12	48		
14.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (Single TENSION)-220 KV	SET	72	30	102		

Sl. No.	DESCRIPTION OF ITEMS F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	TO BE QUOTED IN INR Unit F&I Price	 Total F&I Price
1	2	3	4	5	6	7	8=6X7
14.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	12	0	12		
14.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	18	0	18		
14.5	90 kN INSULATOR STRINGS ***for Double Moose cond*** (SUSPENSION)-220 KV	SET	51	6	57		
14.6	90 kN INSULATOR STRINGS ***for Single Moose cond*** (SUSPENSION)-220 KV	SET	6	12	18		
14.7	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132KV	SET	6	0	6		
15	ACSR MOOSE CONDUCTOR	LOT	1	1	2		
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	2		
17	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1	1	2		
18	SUBSTATION SYSTEMS						
18.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m both way*)	LOT	1	1	2		
18.2	EARTHING CONDUCTOR: 50X6 mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1	1	2		
18.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1	1	2		
18.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1	1	2		
18.5	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	2		
19	BAY MARSHALLING KIOSK ***(05 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	6	2	8		
20	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2	1	3		
21	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr)***	NOS	1	0	1		
22	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay)***	NOS	1	1	2		
23	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR ALL 220 KV, 132 KV & 33 KV**						
23.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**						
23.1.1	P1S (NOMINAL UNIT WT- 4.5 MT)	NOS	24	5	29		
23.1.2	P2S (NOMINAL UNIT WT- 4.5 MT)	NOS	3	0	3		
23.1.3	T1S (NOMINAL UNIT WT- 1.2 MT)	NOS	8	0	8		
23.1.4	T4S (NOMINAL UNIT WT- 0.95 MT)	NOS	5	0	5		
23.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**						
23.2.1	Q1S (NOMINAL UNIT WT- 1.5 MT)	NOS	22	3	25		
23.2.2	G1 (NOMINAL UNIT WT- 0.62 MT)	NOS	3	0	3		
23.2.3	G1X (NOMINAL UNIT WT- 1.4 MT)	NOS	4	0	4		
23.2.4	G2 (NOMINAL UNIT WT- 0.91 MT)	NOS	4	0	4		

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1	2	3	4	5	6	7	8=6X7
23.2.5	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	179.95	27.00	206.95		
23.3	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV, 132 KV & 33 KV EQUIPMENTS**						
23.3.1	ISOLATORS-220KV	SET	20	8	28		
23.3.2	ISOLATORS-132KV	SET	4	0	4		
23.3.3	CTS-220 KV	SET	18	6	24		
23.3.4	CTS-132 KV	SET	6	0	6		
23.3.5	CVTS-220 KV	SET	6	6	12		
23.3.6	IVTS-220 KV	SET	6	0	6		
23.3.7	Surge Arrester-220 Kv	SET	12	6	18		
23.3.8	Surge Arrester-132 kV	SET	6	0	6		
23.3.9	Wave Trap-220 KV	SET	4	4	8		
23.3.10	BPI-220 KV	SET	42	20	62		
23.3.11	BPI-132 KV	SET	10	0	10		
23.3.12	NCTS	SET	2	0	2		
23.3.13	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**46.92**	**16.50**	63.42		
23.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(33.2.9+33.3.9)**	MT	**226.87**	**43.50**	270.37		
23.5	**Total weight of GI Nuts and bolts for the above structures**	MT	**12**	**8**	20		
23.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1	1	2		
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	0	1		
24.1.2	3.5 CX185 mm^2	LOT	1	0	1		
24.1.3	3.5 CX120 mm^2	LOT	1	0	1		
24.1.4	3.5 CX70 mm^2	LOT	1	0	1		
24.1.5	3.5 CX35 mm^2	LOT	1	1	2		
24.1.6	4 CX 16 mm^2	LOT	1	1	2		
24.1.7	4 CX 6 mm^2	LOT	1	1	2		
24.1.8	2CX 6 mm^2	LOT	1	1	2		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**						
24.2.1	4 CX 2.5 mm^2	LOT	1	1	2		
24.2.2	5 CX 2.5 mm^2	LOT	1	1	2		

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1	2	3	4	5	6	7	8=6X7
24.2.3	7CX 2.5 mm^2	LOT	1	1	2		
24.2.4	10 CX 2.5 mm^2	LOT	1	1	2		
24.2.5	12 CX 2.5 mm^2	LOT	1	1	2		
24.2.6	16 CX 2.5 mm^2	LOT	1	1	2		
24.2.7	19 CX 2.5 mm^2	LOT	1	1	2		
24.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	0	1		
24.3	**ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**						
24.3.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	4	4	8		
24.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	4		
24.3.3	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	1500	1500	3000		
24.3.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	**1**	**0**	1		
24.3.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	**1000**	**0**	1000		
24.3.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	**1000**	**0**	1000		
24.3.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	**400**	**200**	600		
24.3.8	4 WIRE TELEPHONE SET	NO	**8**	**2**	10		
24.3.9	PLANTE TYPE BATTERY ***350*** AH(FOR 48 V)	NO	2	0	2		
24.3.10	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	2	0	2		
24.3.11	48 V DCDB	SET	1	0	1		
25	**SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION**						
25.1	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	1	0	1		
25.2	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 800 AMP.MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	1	0	1		
26	**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=6X7
26.1	***SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of*** reputed make (Philips/CGL/Bajaj) ***with switch gear,Cables,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	2		
26.2	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 & AROUND THE CONTROL ROOM BUILDING, THE SWITCH YARD ALONG THE ROADS (APPROACH INSIDE YARD), COLONY QUARTERS AND OTHER ROADS).	LOT	1	0	1		
26.3	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. > 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 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 FITTINGS INCLUDING LAMPS.	LOT	1	0	1		
26.4	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.	LOT	1	0	1		

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1	2	3	4	5	6	7	8=6X7
27	2 TR(Two Ton) CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY AND INCLUDING RELATED MATERIALS LIKE CABLES,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.	LOT	1	0	1		
28	**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-SCOPE OF WORKAT SL NO. 16-ANNEXURE - I)**						
28.1	FOAM TYPE-9 LTRS	NOS	4	0	4		
28.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4	0	4		
28.3	DRY POWDER TYPE - 5 KGS	NOS	4	0	4		
28.4	CO_2 - 4.5 KGS	NOS	10	0	10		
28.5	CO_2 - 9 KGS	NOS	10	0	10		
28.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4		
28.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5	0	5		
29	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**						
29.1	**220 KV SIDE**						
29.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	2	2	4		
29.1.2	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2	0	2		
29.1.3	BUSCOUPLER CONTROL PANEL (CPB-2D)	NOS	1	0	1		
29.1.4	FEEDER RELAY PANEL(RPF-2D)	NOS	2	2	4		
29.1.5	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2	0	2		
29.1.6	BUSCOUPLER RELAY PANEL (RPB-2D)	NOS	1	0	1		
29.1.7	COMMON PANEL (KP-2)	NOS	1	0	1		
29.1.8	SYNCHRONOUS TROLLY	NOS	1	0	1		
29.1.9	BUS-BAR RELAY PANEL(RBB-2D):(1) For new sub-station: A complete set	SET	1	0	1		
29.1.10	BUS-BAR RELAY MODULES FOR THE EXISTING BUS BAR PANEL: For Bay extension: only the respective modules to be supplied to match with the existing Bus Bar scheme.	NOS	0	2	2		
29.1.10	TIME SYNCH EQUIPMENT	NOS	1	0	1		
29.1.11	EVENT LOGGER PANEL	NOS	1	0	1		
29.2	**132 KV SIDE**						
29.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)	NOS	2	0	2		

Sl. No.	DESCRIPTION OF ITEMS F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	TO BE QUOTED IN INR Unit F&I Price	 Total F&I Price
1	2	3	4	5	6	7	8=6X7
29.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	0	0	0		
29.2.4	TRANSFORMER RELAY PANEL(RPL-1M)	NOS	2	0	2		
29.2.5	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	0	0	0		
29.2.6	COMMON PANEL (KP-1)	NOS	0	0	0		
30	**AC & DC SYSTEM**						
30.1	**AC SYSTEM**						
30.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1	0	1		
30.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	0	1		
30.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	0	1		
30.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	0	1		
30.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	0	1		
30.1.6	INDOOR RECEPTACLE BOARD	SET	1	0	1		
30.2	**DC SYSTEM**						
30.2.1	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	0	1		
30.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	0	1		
31	220 V BATTERY SYSTEM						
31.1	**BATTERY (350 AH PLANTE TYPE) for 220 V DC**	SET	2	0	2		
31.2	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST)	SET	2	0	2		
32	DISTILLED WATER PLANT of 10 L/Hr FOR BATTERY BANKS	SET	1	0	1		
33	WALKIE TALKIE SET	SET/PAIR	2	0	2		
34	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	0	1		
35	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 20)	SET	1	0	1		
36	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	0	1		
37	WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM	NOS	1	0	1		
38	MAINTENANCE TESTING EQUIPMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 17 **ANNEXURE - II** ,INDICATED IN -SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1	0	1		

Sl. No.	DESCRIPTION OF ITEMS F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	TO BE QUOTED IN INR Unit F&I Price	 Total F&I Price
1	2	3	4	5	6	7	8=6X7
39	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 18 **ANNEXURE - III** ,INDICATED IN SCHEDULE OF REQUIREMENTS OTHER T&P's)	LOT	1	0	1		
40	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	0	1		
41	BEST QUALITY & APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT & BACK SIDE (where doors of the panels are provided) OF ALL PANELS,BOARDS ETC.	LOT	1	1	2		
	TOTAL (Part-I):2B (SS 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 **Bidder should be quoted including service tax, no service tax shall be paid/reimbursed.**

(Signature) .....

Date :

(Name) .....

Place :

(Common Seal) .....(Designation) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220/132 KV Sub-Station at KESINGA alongwith 220 KV Transmission Line and Associated System

BID DOCUMENT No.: Sr.G.M-CPC-Tender-220/132 KV S/S at KESINGA- 66-02/2011

TENDER NOTICE No.-NIT-56/2011

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

	PART-I, SCHEDULE-2C (FOR SUB-STATION)					**TO BE QUOTED IN INR**	
	DESCRIPTION OF ITEMS			**SUBSTATION**			
Sl. No.	**ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)**	**UNITS**	**Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.**	**Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.**	**TOTAL QUANTITY**	**Unit Rate**	**Total Price**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8=6X7**
A	**ELECTRICAL WORKS**						
1	245 KV,(1200-600-300/1-1-1-1-1-1A),40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18	6	24		
2	**245 KV,1600A,40KA,ISOLATORS**						
2.1	WITH OUT EARTH SWITCH	NOS	14	2	16		
2.2	WITH SINGLE EARTH SWITCH	NOS	6	2	8		
2.3	SINGLE ISOLATOR WITH BEAM MOUNTED.	NOS	4	0	4		
2.4	TANDEM ISO WITH OUT EARTH SWITCH		0	4	4		
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6	6	12		
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE	NOS	5	2	7		
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10KA , Class-III	NOS	12	6	18		
6	245 KV ,2 CORE,SINGLE PHASE,IVT	NOS	6	0	6		
7	220 KV Bus Post Insulators	NOS	42	20	62		
8	145 KV,(800-400-200/1-1-1-1A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6	0	6		
9	**145 KV,1200A,31.5KA,ISOLATORS**						
9.1	S/I WITH OUT EARTH SWITCH	NOS	2	0	2		
9.2	D/I WITHOUT EARTH SWITCH	NOS	2	0	2		
10	120 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class III	NOS	6	0	6		
11	132 KV Bus Post Insulators	NOS	10	0	10		
12	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2	0	2		
13	36 KV Class NCT FOR TRANSFORMER PROTECTION RATING AS DECIDED (RATINGS AS PER THE SUITABILITY) HAVING TWO CORE (IN EACH AUTO TRANSFORMER 1 No. NCT)	NOS	**2**	**0**	2		
14	**BUS BAR & CIRCUIT MATERIALS**						
14.1	160 kN INSULATOR STRINGS for twin Moose cond (Double TENSION)-220 KV	SET	36	12	48		
14.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (Single TENSION)-220 KV	SET	72	30	102		
14.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	12	0	12		
14.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	18	0	18		
14.5	90 kN INSULATOR STRINGS ***for Double Moose cond*** (SUSPENSION)-220 KV	SET	51	6	57		
14.6	90 kN INSULATOR STRINGS ***for Single Moose cond*** (SUSPENSION)-220 KV	SET	6	12	18		

Sl. No.	DESCRIPTION OF ITEMS			SUBSTATION			
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1	2	3	4	5	6	7	8=6X7
14.7	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132KV	SET	6	0	6		
15	ACSR MOOSE CONDUCTOR	LOT	1	1	2		
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1	1	2		
17	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1	1	2		
18	SUBSTATION SYSTEMS						
18.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (*spacing maximum 5m*) (Substation earth mat): Design, engineering, supply (except the 75X10 mm GI 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 (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(relevant IS/IEEE) and as per specification.	LOT	1	1	2		
18.2	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	2		
18.3	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	2		
18.4	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	2		
18.5	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	2		
19	BAY MARSHALLING KIOSK ***(05 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	6	2	8		
20	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2	1	3		
21	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr)***	NOS	1	0	1		
22	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay)***	NOS	1	1	2		
23	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR ALL 220 KV, 132 KV & 33 KV**						
23.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**						
23.1.1	P1S (NOMINAL UNIT WT- 4.5 MT)	NOS	24	5	29		
23.1.2	P2S (NOMINAL UNIT WT- 4.5 MT)	NOS	3	0	3		
23.1.3	T1S (NOMINAL UNIT WT- 1.2 MT)	NOS	8	0	8		
23.1.4	T4S (NOMINAL UNIT WT- 0.95 MT)	NOS	5	0	5		
23.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**						
23.2.1	Q1S (NOMINAL UNIT WT- 1.5 MT)	NOS	22	3	25		
23.2.2	G1 (NOMINAL UNIT WT- 0.62 MT)	NOS	3	0	3		
23.2.3	G1X (NOMINAL UNIT WT- 1.4 MT)	NOS	4	0	4		
23.2.4	G2 (NOMINAL UNIT WT- 0.91 MT)	NOS	4	0	4		
23.2.5	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	179.95	27.00	206.95		
23.3	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV, 132 KV & 33 KV EQUIPMENTS**						
23.3.1	ISOLATORS-220KV	SET	20	8	28		
23.3.2	ISOLATORS-132KV	SET	4	0	4		

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1	2	3	4	5	6	7	8=6X7
23.3.3	CTS-220 KV	SET	18	6	24		
23.3.4	CTS-132 KV	SET	6	0	6		
23.3.5	CVTS-220 KV	SET	6	6	12		
23.3.6	IVTS-220 KV	SET	6	0	6		
23.3.7	Surge Arrester-220 Kv	SET	12	6	18		
23.3.8	Surge Arrester-132 kV	SET	6	0	6		
23.3.9	Wave Trap-220 KV	SET	4	4	8		
23.3.10	BPI-220 KV	SET	42	20	62		
23.3.11	BPI-132 KV	SET	10	0	10		
23.3.12	NCTS	SET	2	0	2		
23.3.13	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**46.92**	**16.50**	63.42		
23.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(33.2.9+33.3.9)**	MT	**226.87**	**43.50**	270.37		
23.5	**Total weight of GI Nuts and bolts for the above structures**	MT	**12**	**8**	20		
23.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1	1	2		
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	0	1		
24.1.2	3.5 CX185 mm^2	LOT	1	0	1		
24.1.3	3.5 CX120 mm^2	LOT	1	0	1		
24.1.4	3.5 CX70 mm^2	LOT	1	0	1		
24.1.5	3.5 CX35 mm^2	LOT	1	1	2		
24.1.6	4 CX 16 mm^2	LOT	1	1	2		
24.1.7	4 CX 6 mm^2	LOT	1	1	2		
24.1.8	2CX 6 mm^2	LOT	1	1	2		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**						
24.2.1	4 CX 2.5 mm^2	LOT	1	1	2		
24.2.2	5 CX 2.5 mm^2	LOT	1	1	2		
24.2.3	7CX 2.5 mm^2	LOT	1	1	2		
24.2.4	10 CX 2.5 mm^2	LOT	1	1	2		
24.2.5	12 CX 2.5 mm^2	LOT	1	1	2		
24.2.6	16 CX 2.5 mm^2	LOT	1	1	2		
24.2.7	19 CX 2.5 mm^2	LOT	1	1	2		
24.2.8	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1	0	1		
24.3	**ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**						
24.3.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	4	4	8		
24.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2	2	4		
24.3.3	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	**1500**	**1500**	3000		

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1	2	3	4	5	6	7	8=6X7
24.3.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	**1**	**0**	1		
24.3.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	**1000**	**0**	1000		
24.3.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	**1000**	**0**	1000		
24.3.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	**400**	**200**	600		
24.3.8	4 WIRE TELEPHONE SET	NO	**8**	**2**	10		
24.3.9	PLANTE TYPE BATTERY ***350*** AH(FOR 48 V)	NO	2	0	2		
24.3.10	BATTERY CHARGER FOR 48 V, 75 A Float cum Boost	SET	2	0	2		
24.3.11	48 V DCDB	SET	1	0	1		
24.3.12	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	2		
25	**ERECTION OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION**						
25.1	STATION TRANSFORMER 33KV/433V,250 KVA (AS PER SPECIFICATION)	NOS	1	0	1		
25.2	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 800 AMP.MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	1	0	1		
26	**ERECTION OF SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard, Colony street and other street area)**						
26.1	***SUB-STATION SWITCH YARD LIGHTING: ERECTION OF FIXTURES & LAMPS (LED) of*** reputed make (Philips/CGL/Bajaj) ***with switch gear,Cables,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).***The quantity of such fixtures are to be designed and to be approved.	LOT	1	1	2		
26.2	ERECTION OF STREET LIGHTING: GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN & AROUND THE CONTROL ROOM BUILDING, THE SWITCH YARD ALONG THE ROADS (APPROACH INSIDE YARD), COLONY QUARTERS AND OTHER ROADS).	LOT	1	0	1		

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	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	Unit Rate	Total Price
1	2	3	4	5	6	7	8=6X7
26.3	ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS;- **ERECTION OF**: 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. 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. > ERECTION OF: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. > 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 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 FITTINGS INCLUDING LAMPS. **(* ONLY ERECTION OF THE MATERIALS)**	LOT	1	0	1		
26.4	ERECTION 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.	LOT	1	0	1		
27	ERECTION OF 2 TR(Two Ton) CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY AND INCLUDING RELATED MATERIALS LIKE CABLES,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.	LOT	1	0	1		
28	**ERECTION OF FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 16-ANNEXURE - I)**						
28.1	FOAM TYPE-9 LTRS	NOS	4	0	4		
28.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4	0	4		
28.3	DRY POWDER TYPE - 5 KGS	NOS	4	0	4		
28.4	CO_2 - 4.5 KGS	NOS	10	0	10		
28.5	CO_2 - 9 KGS	NOS	10	0	10		
28.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4	0	4		
28.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5	0	5		
29	**ERECTION OF PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**						
29.1	**220 KV SIDE**						
29.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	2	2	4		
29.1.2	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2	0	2		
29.1.3	BUSCOUPLER CONTROL PANEL (CPB-2D)	NOS	1	0	1		
29.1.4	FEEDER RELAY PANEL(RPF-2D)	NOS	2	2	4		
29.1.5	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2	0	2		
29.1.6	BUSCOUPLER RELAY PANEL (RPB-2D)	NOS	1	0	1		

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1	2	3	4	5	6	7	8=6X7
29.1.7	COMMON PANEL (KP-2)	NOS	1	0	1		
29.1.8	SYNCHRONOUS TROLLY	NOS	1	0	1		
29.1.9	BUS-BAR RELAY PANEL(RBB-2D):(1) For new sub-station: A complete set	SET	1	0	1		
29.1.10	BUS-BAR RELAY MODULES FOR THE EXISTING BUS BAR PANEL: For Bay extension: only the respective modules to be supplied to match with the existing Bus Bar scheme.	NOS	0	2	2		
29.1.10	TIME SYNCH EQUIPMENT	NOS	1	0	1		
29.1.11	EVENT LOGGER PANEL	NOS	1	0	1		
29.2	**132 KV SIDE**						
29.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)	NOS	2	0	2		
29.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	0	0	0		
29.2.4	TRANSFORMER RELAY PANEL(RPL-1M)	NOS	2	0	2		
29.2.5	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	0	0	0		
29.2.6	COMMON PANEL (KP-1)	NOS	0	0	0		
30	**ERECTION OF AC & DC SYSTEM**						
30.1	**AC SYSTEM**						
30.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1	0	1		
30.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1	0	1		
30.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1	0	1		
30.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1	0	1		
30.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1	0	1		
30.1.6	INDOOR RECEPTACLE BOARD	SET	1	0	1		
30.2	**DC SYSTEM**						
30.2.1	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	0	1		
30.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1	0	1		
31	220 V BATTERY SYSTEM						
31.1	**BATTERY (350 AH PLANTE TYPE) for 220 V DC**	SET	2	0	2		
31.2	BATTERY CHARGER FOR 350 AH, 220 V DC (FLOAT & FLOAT CUM BOOST)	SET	2	0	2		
32	DISTILLED WATER PLANT of 10 L/Hr FOR BATTERY BANKS	SET	1	0	1		
33	WALKIE TALKIE SET	SET/PAIR	2	0	2		
34	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.(REFER TS-VOL-IIA-SCOPE OF WORKAT SL NO. 20)	SET	1	0	1		
35	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1	0	1		
36	WATER COOLER WITH WATER PURIFIER(with ultra violet purification system of ISI mark) SYSTEM	NOS	1	0	1		

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37	RECEIVING THE TRANSFORMERS AND ITS ACCESSORIES FROM NEAREST OPTCL STORES,DRAGGING AND INSTALLING ON THE PLINTH AND PLACING IN POSITION, ERECTION OF ACCESSORIES OF THE TRANSFORMERS, EART-HING AS PER STANDARD(INCLUDING SUPPLY OF MATERIALS),VACUUM TREATMENT OF THE TANK AND WINDING,OIL FILTRATION(INCLUDING SUPPLY OF VACUUM CUM OIL FILTER MACHINE),SUPPLY & LAYING OF ALL TYPES OF CONTROL & POWER CABLES PERTAINING TO TRANSFORMERS ,TESTING AND COMMISSIONING INCLUDING ALL TESTS OF THE OILS AS PER STIPULATION IN THE STANDARD APPROVED TESTING LABORATORY AND AS PER THE INSTRUCTION OF THE ENGINEER IN CHARGE.THIS INCLUDE ALL RELATED WORKS FOR ERECTION(Transformer and its accessories,RTCC Panel etc),TESTING AND COMMISSIONING OF THE POWER TRANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTTION INCLUDING T&P's. **1. 220/132/33 KV 160/100 MVA: 02 Nos**	NOS	2	0	2		
	Total Electrical Works (Part-A)-SUB-STATION-2C						
1	***Foundations : Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod, coarse and fine aggregates(Sand and Metal Chips) etc) for construction of RCC (1:1.5:3) & PCC (1:3:6), RCC footings of any depth, pedestal and piling as per requirement including soil investigation, excavation,concreting, shuttering, grouting, underpinning and back filling of foundations etc complete for the following switch yard gantry/ portal structures and equipment support & others as per the technical specification and approved drawings.(RCC RATIO 1:1.5:3). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.***						
1.1	**Switch yard gantry/portal structure foundations.**(Bidders may identify the numbers and type of structures for each type of switch yard and indicate the same along with the erection price						
a	**P1S**	Sets	24	5	29		
b	**P2S**	Sets	3	0	3		
c	**T1S**	Sets	8	0	8		
d	**T4S**	Sets	5	0	5		
1.2	**Equipment foundations :**						
1.2.1	245kV circuit breaker	Nos	5	2	7		
1.2.2	245 KV Isolator (S/I)(W E/S & W/O E/S)	Nos	20	8	28		
1.2.3	245kV current transformers	Nos	18	6	24		
1.2.4	a)245kV capacitor voltage transformers	Nos	6	6	12		
	b)245 KV IVT	Nos	6	0	6		
1.2.5	216kV Surge arrestors	Nos	12	6	18		
1.2.6	245kV bus post Insulators	Nos	42	20	62		
1.2.7	245kV line traps (pedestal mounted)	Nos	4	4	8		
1.2.8	145kV circuit breaker	Nos	2	0	2		
1.2.9(a)	(a) 145 KV Isolators (S/I)	Nos	2	0	2		
1.2.9(b)	(b) 145kV isolators (D/I)(W E/S & W/O E/S)	Nos	2	0	2		

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1	2	3	4	5	6	7	8=6X7
1.2.10	145kV current transformers	Nos	6	0	6		
1.2.12	120kV surge arrestors	Nos	6	0	6		
1.2.13	145kV bus post Insulators	Nos	10	0	10		
1.2.20	BAY MARSHALLING KIOSK ***(05 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	6	2	8		
1.2.21	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2	1	3		
1.2.22	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr)***	NOS	1	0	1		
1.2.23	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay)***	NOS	1	1	2		
1.2.24	**NCT FOUNDATION**: Near Transformers	NOS	2	0	2		
2	**Cable Trenches:** Design, engineering, and construction of RCC(1:1.5:3) cable trenches and all associated works for cable trench crossings to the required depths, precast RCC covers(1:1.5:3), water stops, brickwork with plastering wherever required including the supply of labour,material, cement, reinforcement steel, formwork, steel angles(G.I), flats(G.I) and providing PCC(1:3:6) below cable trenches as per technical specifications and approved drawings and as per direction of the Project Manager. 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 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. *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**						
2.1.1	Section 1-1	Mtrs	300	50	350		
2.1.2	Section 2- 2	Mtrs	300	50	350		
2.1.3	Section 3-3	Mtrs	200	50	250		
2.1.4	Section 4-4	Mtrs	400	100	500		
2.2	**Rain water harvesting** system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	Nos	1	0	1		
2.3	**Cable trench crossing**:Design,engineering,construction including supply of labour,materials,cement,reinforcement steel,formwork etc,and all associated works for construction of trench crossing as per technical specification and approved drawing.						
2.3.1	Road crossing for						
2.3.1.1	Section 1-1	Lot	1	1	2		
2.3.1.2	Section 2- 2	Lot	1	1	2		
2.3.1.3	Section 3-3	Lot	1	1	2		
3	**Switchyard buildings:** Design, engineering and construction of switchyard 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,backfilling,and disposal of excess earth as per the direction of Enginer In charge.As per approved drawings and specification.						

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3.1	**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(for 220/132 KV S/S) at the backside for easy transportation of panels to the control room to be located at the first floor.The details of rooms to be provided are as per the Tech spec. B) Area of the first floor.The details of rooms to be provided are as per the Tech spec. Size of Ground floor. Nos./ area of ground floor/area of first floor . 01 No/ Area of Ground Floor 50mtrsX25mtrs (1250sq mtrs) / Area of first floor 25mtrsX25mtrs (625 sq mtrs)						
3.1.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	Lot	1	0	1		
3.1.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	Lot	1	0	1		
3.1.3	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	0	1		
3.1.4	External and internal wall and ceiling paintings as per technical spec mentioned in the civil section. The left over portion of walls and ceiling of Battery room shall be acid proof paints as per specification & approved drawings.	Lot	1	0	1		
3.1.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	Lot	1	0	1		
3.1.6	Doors and windows shall be of sliding type with locking facility and shall be of aluminium with glaze of 6mm & windows shall have aluminium grills. As per technical spec & approved drawing.	Lot	1	0	1		
3.1.7	Provision of PHD and other fittings of reputed make having ISI mark ,provision of rain water discharge pipes at different locations and etc as per requirement and approved drawing. There shall be septic tank and soak pit of required capacity including complete sewage system as per approved drawing & technical specification & as per instruction of Engg- in-Charge. It includes supply of all types of materials of reputed make, labour etc to complete the work.	Lot	1	0	1		
3.1.8	Internal concealed wiring,fixing of lighting fixtures(LED) ,fans and regulators(Electronic regulator) ,exhaust fan,D.C emergency lighting as per spec & approved drawing.	Lot	1	0	1		
3.1.9	Provision of smoke and fire detection system of the building.	Lot	1	0	1		
4	**Roads:** Design, construction of roads and walkways/ shoulders within sub-station***(Switch yard area,colony area,approach road,control room building area, main gate to the switch yard gate etc) a***s per specification, layout and approved drawings complete. This also includes excavation in all types of soil or rocks, back filling,and disposal of excess earth as per the direction of Enginer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.						
4.1	3.75 mtrs Bituminus road with shoulder at both the side & shall have drain on both side of the road as per technical specification indicated in the civil section(Periphery roads outside switch yard fencing and colony roads)	Lots	1	1	2		
4.2	7 mtrs wide Concrete roads with shoulder infront of the Transformer as per specification indicated in the civil section.This road shall connect to the Main Switchyard gate (approach road) & Shall have drain on both side of the road.	Lots	1	0	1		
4.3	7 mtrs wide Bituminus roads with shoulder as per specification indicated in the civil section.(for main and approach roads).Shall have drain on both side of the road.	Lots	1	0	1		
5	**Drainage system:Collection of rainfall data,** Design, construction of storm water drainage scheme, road-culverts, and drains crossing cable trenches etc. as per specification and approved drawing.This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Enginer In charge.All the switcyard bays , roads water drainage shall be connected to the mainsurface drain.As per approved drawing and specification.						

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1	2	3	4	5	6	7	8=6X7
5.1	Storm water drain	Lots	1	1	2		
5.2	Road-culverts, drain crossings	Lots	1	1	2		
5.3	Cable trench crossing	Lots	1	1	2		
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,backfilling,and disposal of excess earth as per the direction of Engineer In charge. 1. ***220/132 KV, 100/160 MVA(2 Nos)***						
6.1	100/160 MVA, 220/ 132kV transformers a) Overall dimension of transformer(appox) Length:11500 mm X Width 7000 mm X Height 7500 mm b) Total weight with oil and tank: 195 MT (appox)	Nos	2	0	2		
6.2	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	0	0	0		
6.3	**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. a) 160/100 MVA,220/132/33 KV: 68000 ltrs. (appox)	Nos		2	2		
7	**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 .Proper leveling of the switch yard area, 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 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 and approved drawing.	Lots	1	1	2		
8	**Metal Spreading:** Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 50 mm thickness 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(1:3:6). The total compacted thickness of the metals(20 mm Nominal) 100mm above the PCC.	Lots	1	1	2		

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1	2	3	4	5	6	7	8=6X7
9	**Boundary wall :** Soil investigation,Design, engineering, procurement of material, labour including all associated works for construction of boundary-wall along the property line of the sub-station as per technical specification and instruction of the Engineer in Charge.(the size of the bricks shall be 250mm having 1st class kiln burn having compressive strength with 75kg/cm2). This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge. (**APPROXIMATE LENGHTH OF THE BOUNDARY WALL) and approved drawing. Appox. **(1) Area of the sub-station land in sq mtrs = 61000.**						
9.1	**Appox length of the boundary walls in mtrs**	RM	1200	0	1200		
10	**Leveling of sub-station and other area, provision of garden,plantation,vehicle parking shed and stone pitching works to protect from soil erosion.**						
10.1	**LEVELING OF S/S AREA**:Providing, neatly dressing up and leveling of substation area including switchyard area to a required level as decided by the Engineer in Charge, the work includes removal, clearing of the entire area from vegetation, trees, bushes, uprooting of plants and disposal of surplus earth and unusable material from the site by means of any mechanical transport, if required as per direction of the Project In charge, with all labours, tools, tackles and plants complete as per approved drawing and specification. This also includes excavation in all type of soils or rocks, back filling and disposal of excess earth or rocks to make the area to a level for construction as per scope and as per approved drawing and specification.						
10.1.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	15,000	0	15000		
10.1.2	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	***Cum***	4,000	0	4000		
10.1.3	***Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.***	***Cum***	11,000	0	11000		
10.2	**PROVISION OF PLANTATIONS**: Provision of plantation of 100 nos fruit bearing plants and 100 nos decorative plants at different locations, a garden in front of the control room including supply of plants,soil treatment and its plantation including materials, labour and T&P. As per the instruction of Engineer in Charge and specification.	Lot	1	0	1		
10.3	**STONE PITCHING & TOE WALL**:Stone pitching including making of toe walls both at top and bottom, including surface drain both at top and bottom and partition wall in every 10 mtrs by using boulders and RR masonry walls respectively. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth and supply of materials and labour as per the direction of Engineer In charge and as per approved drawing and specification.	Lot	1	0	1		
12	**Switch yard fencing:** Providing and fixing of G.I Goat mesh (2.5 mm dia) fencing(the posts and links shall be of HD Galvanised) in switch yard and other areas of the substation with a total fence height complete as per specification and approved drawings, and as required under the safety regulation of local, state and central government bodies and as per instruction of the Engineer-in-Charge.(The PCC work for grouting the post shall be 1:2:4 and a continuous ***Brick masonry*** work with ratio 1:5 and cement pointing of the joints, for the fencing upto a height from the finished ground level) .This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. The earthing of the fencing as per specification.	Lots	1	1	2		
13	**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 Engineer in charge.	Nos	1	0	1		
14	**Any other civil work** to be included in the schedule by the Bidder if required essential for successful completion of project, including supply of labour, material, cement reinforcement steel, form work etc. Bidder shall also quote the unit rate for the following items of works.(Rate shall be inclusive of supply of labour, material, cement, reinforcement steel, form work etc.)						

Sl. No.	DESCRIPTION OF ITEMS			SUBSTATION			
	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	Unit Rate	Total Price
1	2	3	4	5	6	7	8=6X7
14.1	Excavation. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.	**Cu.m.**	**1**	**1**	2		
14.2	PCC: M10(1: 3 : 6)	Cu.m.	1	1	2		
14.3	RCC M 15(1:2:4)	Cu.m.	1	1	2		
14.4	RCC: M 20(1:1.5:3)	Cu.m.	**1**	**1**	2		
14.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1	1	2		
14.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.mm	1	1	2		
14.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	MT	**1**	**1**	2		
15	**Construction of township/colony** (residential quarters) for staff and employees of the employer. Layout, design, survey, levelling, 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 windo 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(LED) and fans with electronic regulators and exhaust fans as per technical specification and approved drawing. Construction of over head RCC tank(1000 ltrs capacity one for each quarters), sewerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage, culverts, roads, with suitable radius on the curves and its connection with main road the substation, street lighting, internal lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town ship.						
15.1	**"D" type Plinth area- 110 sq. m**	Nos.	1	**0**	1		
15.2	**"E" type Plinth area- 68 sq. m (one no. two storied flat. Each flat shall be with 2 nos quarters on ground floor & 2 Nos quarters on 1st floor).**	Nos.	4	0	4		
17	**STATION TRANSFORMER**:Design, engineering, supply of labour & civil material including all associated works for construction of foundation ,DP structure foundation,Foundation for LT out door kiosk near transformers for station transformers 33/0.415 KV,250 KVA STN TRANSFORMER as per approved drawing and specification and as per instruction of Engineer In charge.	Nos	1	0	1		

Sl. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	SUBSTATION Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	SUBSTATION Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	Unit Rate	Total Price
1	2	3	4	5	6	7	8=6X7
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	Lots	2	0	2		
19	**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.						
19.1	**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(LED) ,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.	Lot	1	0	1		
20	**BORE WELL & PUMP HOUSE**:Design, engineering, procurement of labour, material including all associated works for construction of two nos. bore wells for control room building including switch yard and colony quarters as per specification and approved drawing and instruction of Engineer in charge. This includes supply and fixing and commissioning of two nos 5 HP submersible water pump with starter and other protection. Construction of two nos pump house at ideal location for fixing of the electrical starter units. The pump house be of RCC roof and having walls of Brick masonry and plastering and painting with MS door having locking arrangement. The size of the room shall be 2.5mtrsX2.5 mtrs having height of 3 mtrs. as per approved drawing and specification. There shall be approach road to the pump house. This includes supply of materials,labours and T&P & excavation of all type of soils including rock and disposal of excess materials as per instruction of Engineer In charge Supply & laying of LV XLPE 3.5CX.35 sqmm cable from ACDB to pump house, control gear & earthing of the system etc to complete the scheme as per approved drawing & instruction of Engineer-in charge.	Nos	1	0	1		
21	**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)Colur coding (red,Yellow & Blue) for equipments,Bus gantry &column of entire switch yard. Good quality weather proof snickering may be used for identification. b)Each bay should be identified with the help of bay marker sign board, suitably grouted. MS sign board with stand to be installed. Proper painting and lettering to be done of the entire switch yard area.	Lot	1	0	1		
22	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	0	1		

Sl. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	SUBSTATION Quantity for: Construction of,2X160 MVA, 220/132 kV Substation having [05 Nos (2Fdr+2AT+1 B/C] 220 KV Bays,2 Nos (2 Transf) 132 KV Bay Extn at KESINGA.	SUBSTATION Quantity for: Construction of 2 Nos, 220 KV Feeder Bays Extension at 220/132 KV Sub-station at BOLANGIR for Kesinga.	TOTAL QUANTITY	Unit Rate	Total Price
1	2	3	4	5	6	7	8=6X7
23	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 Enginer 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.	Lot	1	0	1		
24	**PROVISION OF RAMP**:Design, Engineering, procurement of labour, material including all associated works for construction and fixing of Ramp as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of a ramp of adequate size and capable of for loading and unloading of the materials of 5 Ton capacity from the lorry or to the lorry near the store shed. Adequate size of MS frames and RCC (1:1.5:3) based ramps to be used for the said purpose.	Lot	1	0	1		
	Total CIVIL Works (Part-B)-SUB-STATION-2C						
	TOTALOF SUB-STATION-2C- PART(I) -(Part A + Part B)						

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.**

Date :
Place :

(Signature) .....
(Name) .....
(Designation) .....
(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220/132 KV Sub-Station at KESINGA alongwith 220 KV Transmission Line and Associated System

BID DOCUMENT No.: Sr.G.M-CPC-Tender-220/132 KV S/S at KESINGA- 66-02/2011

TENDER NOTICE No.-NIT-56/2011

(Equipment/Materials Supply Price Break-up of Ex-works Prices against KESINGA PACKAGE)

PART-II SCHEDULE-2A (FOR LINE)

S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	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	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6=5X4	7	8	9	10
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	OA TYPE (SUSPENSION) TOWERS (Nominal unit Weight 4.351 MT)	Nos.	211						
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	47						
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	17						
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	41						
1.2.1	+3 EXTENSION (Nominal unit Weight 1.350 MT)	Nos.	5						
1.2.2	+6 EXTENSION (Nominal unit Weight 2.242 MT)	Nos.	2						
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	31						
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	3						
1.3.2	+6 EXTENSION (Nominal unit Weight 2.599 MT)	Nos.	6						
1.3.2a	+15 EXTENSION (Nominal unit Weight 8.375 MT)	Nos.	1						
1.3.2b	UR TYPE TOWER(Nominal Unit Weight 12.502 MT)	Nos.	9						
1.23.2c	+6 EXTENSION (Nominal unit Weight 4.158 MT)	Nos.	9						
1.40	TEMPLATES								
1.4.1	OA (Nominal unit Weight 0.597 MT)	Nos.	5						
1.4.2	OB (Nominal unit Weight 0.815 MT)	Nos.	2						
1.4.3	OC (Nominal unit Weight 1.172 MT)	Nos.	2						
1.4.3a	+15 EXTENSION to OC (Nominal unit Weight 8.375 MT)	Nos.	1						

S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	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	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6=5X4	7	8	9	10
1.4.3b	UR TYPE TOWER(Nominal Unit Weight 1.476 MT)	Nos.	1						
1.5	Material as per WEIGHT OF THE STRUCTURE(including stubs, Templates)	MT	**1793**						
1.6	**Weight of G.I Nuts and Bolts**	MT	**89.65**						
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.	292						
2.2	DANGER BOARD	Nos.	292						
2.3	NUMBER PLATE	Nos.	292						
2.4	PHASE PLATE	Nos.	1752						
2.5	BIRD GUARD	Nos.	1266						
2.6	ANTICLIMBING DEVICE	Nos.	292						
2.7	CIRCUIT PLATE	Nos.	584						
3.0	Supply of POWER CONDUCTORS in the proposed 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 Zebra (54/7/3.18mm)	Kms.	485						
4.0	POWER CONDUCTOR ACESSORIES								
4.1	For ACSR ZEBRA								
4.1.1	Stock Bridge VIBRATION DAMPER	Nos.	3516						
4.1.2	MID SPAN JOINT	Nos.	150						
4.1.3	P.A Rod	Nos.	1266						
4.1.4	Repair sleeve	Nos.	50						
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.	81						
6.0	EARTH CONDUCTOR ACCESSORIES								
6.1	Stock Bridge VIBRATION DAMPER	Nos.	586						
6.2	FLEXIBLE EARTH BOND	Nos.	373						
6.3	SUSPENSION CLAMP	Nos.	211						
6.4	TENSION CLAMP	Nos.	162						
6.5	MID SPAN JOINT	Nos.	50						

S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	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	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6=5X4	7	8	9	10
6.6	U ' BOLT	Nos.	58						
7.0	Supply of the following Anti-fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.								
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	21820						
7.2	160KN Insulator (taking 5% extra towards wastage)	Nos.	17294						
8.0	Supply, and of the following hard ware fittings suitable for following conductors as per the technical specification.								
8.1	For ACSR ZEBRA								
8.1.1	Single suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	1360						
8.1.2	Double suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	66						
8.1.3	Single tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	870						
8.1.4	Double tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	114						
	TOTAL (Part-II)-2A-LINE								

Note:

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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-II SCHEDULE-2B (FOR LINE)

S. No.	DESCRIPTION OF ITEMS FOR LINE			TO BE QUOTED IN INR	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=5X4
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	OA TYPE (SUSPENSION) TOWERS (Nominal unit Weight 4.351 MT)	Nos.	211		
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	47		
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	17		
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	41		
1.2.1	+3 EXTENSION (Nominal unit Weight 1.350 MT)	Nos.	5		
1.2.2	+6 EXTENSION (Nominal unit Weight 2.242 MT)	Nos.	2		

S. No.	DESCRIPTION OF ITEMS FOR LINE			TO BE QUOTED IN INR	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=5X4
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	31		
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	3		
1.3.2	+6 EXTENSION (Nominal unit Weight 2.599 MT)	Nos.	6		
1.3.2a	+15 EXTENSION (Nominal unit Weight 8.375 MT)	Nos.	1		
1.3.2b	UR TYPE TOWER(Nominal Unit Weight 12.502 MT)	Nos.	9		
1.23.2c	+6 EXTENSION (Nominal unit Weight 4.158 MT)	Nos.	9		
1.40	TEMPLATES				
1.4.1	OA (Nominal unit Weight 0.597 MT)	Nos.	5		
1.4.2	OB (Nominal unit Weight 0.815 MT)	Nos.	2		
1.4.3	OC (Nominal unit Weight 1.172 MT)	Nos.	2		
1.4.3a	+15 EXTENSION to OC (Nominal unit Weight 8.375 MT)	Nos.	1		
1.4.3b	UR TYPE TOWER(Nominal Unit Weight 1.476 MT)	Nos.	1		
1.5	Material as per WEIGHT OF THE STRUCTURE(including stubs, Templates)	MT	**1793**		
1.6	**Weight of G.I Nuts and Bolts**	MT	**89.65**		
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.	292		
2.2	DANGER BOARD	Nos.	292		
2.3	NUMBER PLATE	Nos.	292		
2.4	PHASE PLATE	Nos.	1752		
2.5	BIRD GUARD	Nos.	1266		
2.6	ANTICLIMBING DEVICE	Nos.	292		

S. No.	DESCRIPTION OF ITEMS FOR LINE			TO BE QUOTED IN INR	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=5X4
2.7	CIRCUIT PLATE	Nos.	584		
3.0	Supply of POWER CONDUCTORS in the proposed 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 Zebra (54/7/3.18mm)	Kms.	485		
4.0	POWER CONDUCTOR ACESSORIES				
4.1	For ACSR ZEBRA				
4.1.1	Stock Bridge VIBRATION DAMPER	Nos.	3516		
4.1.2	MID SPAN JOINT	Nos.	150		
4.1.3	P.A Rod	Nos.	1266		
4.1.4	Repair sleeve	Nos.	50		
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.	81		
6.0	EARTH CONDUCTOR ACCESSORIES				
6.1	Stock Bridge VIBRATION DAMPER	Nos.	586		
6.2	FLEXIBLE EARTH BOND	Nos.	373		
6.3	SUSPENSION CLAMP	Nos.	211		
6.4	TENSION CLAMP	Nos.	162		
6.5	MID SPAN JOINT	Nos.	50		
6.6	U ' BOLT	Nos.	58		
7.0	Supply of the following Anti-fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.				

S. No.	DESCRIPTION OF ITEMS FOR LINE			TO BE QUOTED IN INR	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=5X4
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	21820		
7.2	160KN Insulator (taking 5% extra towards wastage)	Nos.	17294		
8.0	Supply, and of the following hard ware fittings suitable for following conductors as per the technical specification.				
8.1	For ACSR ZEBRA				
8.1.1	Single suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	1360		
8.1.2	Double suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	66		
8.1.3	Single tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	870		
8.1.4	Double tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	114		
	TOTAL (Part-II)-2B-LINE				

Note:

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

S. No.	DESCRIPTION OF ITEMS FOR LINE			TO BE QUOTED IN INR	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit F&I Price	Total F&I Price
1	2	3	4	5	6=5X4

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

(Signature) ……

Date :

(Name) ……

Place :

(Designation) ……

(Common Seal) ……

	PART-II, SCHEDULE-2C (FOR LINE)				
		LINE		**TO BE QUOTED IN INR**	
S. No.	**DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)**	**UNITS**	**Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)**	**Unit Rate**	**Total Price**
1	**2**	**3**	**4**	**5**	**6=4X5**
A	**ELECTRICAL WORKS**				
1	**Erection 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	OA TYPE (SUSPENSION) TOWERS (Nominal unit Weight 4.351 MT)	Nos.	211		
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	47		
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	17		
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	41		
1.2.1	+3 EXTENSION (Nominal unit Weight 1.350 MT)	Nos.	5		
1.2.2	+6 EXTENSION (Nominal unit Weight 2.242 MT)	Nos.	2		
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	31		
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	3		
1.3.2	+6 EXTENSION (Nominal unit Weight 2.599 MT)	Nos.	6		
1.3.2a	+15 EXTENSION (Nominal unit Weight 8.375 MT)	Nos.	1		
1.3.2b	UR TYPE TOWER(Nominal Unit Weight 12.502 MT)	Nos.	9		
1.23.2c	+6 EXTENSION (Nominal unit Weight 4.158 MT)	Nos.	9		
1.40	TEMPLATES				
1.4.1	OA (Nominal unit Weight 0.597 MT)	Nos.	5		
1.4.2	OB (Nominal unit Weight 0.815 MT)	Nos.	2		
1.4.3	OC (Nominal unit Weight 1.172 MT)	Nos.	2		
1.4.3a	+15 EXTENSION to OC (Nominal unit Weight 8.375 MT)	Nos.	1		
1.4.3b	UR TYPE TOWER(Nominal Unit Weight 1.476 MT)	Nos.	1		
1.5	Material as per WEIGHT OF THE STRUCTURE(including stubs, Templates)	MT	**1793**		
1.6	**Weight of G.I Nuts and Bolts**	MT	**89.65**		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	LINE		TO BE QUOTED IN INR	
		UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit Rate	Total Price
1	2	3	4	5	6=4X5
2.0	Erection of the following tower accessories as per technical specification and as directed by the engineer in charge.				
2.1	EARTHING DEVICE	Nos.	292		
2.2	DANGER BOARD	Nos.	292		
2.3	NUMBER PLATE	Nos.	292		
2.4	PHASE PLATE	Nos.	1752		
2.5	BIRD GUARD	Nos.	1266		
2.6	ANTICLIMBING DEVICE	Nos.	292		
2.7	CIRCUIT PLATE	Nos.	584		
3.0	Erection of POWER CONDUCTORS in the proposed 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 Zebra (54/7/3.18mm)	Kms.	485		
4.0	POWER CONDUCTOR ACESSORIES				
4.1	For ACSR ZEBRA				
4.1.1	Stock Bridge VIBRATION DAMPER	Nos.	3516		
4.1.2	MID SPAN JOINT	Nos.	150		
4.1.3	P.A Rod	Nos.	1266		
4.1.4	Repair sleeve	Nos.	50		
5.0	Erection 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.	81		
6.0	EARTH CONDUCTOR ACCESSORIES				
6.1	Stock Bridge VIBRATION DAMPER	Nos.	586		
6.2	FLEXIBLE EARTH BOND	Nos.	373		
6.3	SUSPENSION CLAMP	Nos.	211		
6.4	TENSION CLAMP	Nos.	162		
6.5	MID SPAN JOINT	Nos.	50		
6.6	U ' BOLT	Nos.	58		
7.0	Erection of the following Anti-fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.				
7.1	90KN Insulator (taking 5% extra towards wastage)	Nos.	21820		
7.2	160KN Insulator (taking 5% extra towards wastage)	Nos.	17294		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	LINE		TO BE QUOTED IN INR	
		UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit Rate	Total Price
1	2	3	4	5	6=4X5
8.0	Erection of the following hard ware fittings suitable for following conductors as per the technical specification.				
8.1	For ACSR ZEBRA				
8.1.1	Single suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	1360		
8.1.2	Double suspension Hard wares fittings (AGS type) suitable for 90 KN antifog insulator.	Nos.	66		
8.1.3	Single tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	870		
8.1.4	Double tension Hard wares fittings suitable for 160 KN antifog insulator.	Nos.	114		
	Total Electrical Works (Part-A)-LINE-2C				
B	**CIVIL WORKS**				
1.0	SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting				
1.1	Preliminary survey, Detail survey and resurvey (required for avoiding ROW problem) including but not limited to taking of levels, profile plotting, tower spotting ,marking of towers locations at site including showing P&T line, power line, Railway line, river crossing, roads and submission of route map and survey report etc. The P&T lines and railway lines for a minimum distance of 8 kms on either side of alignment shall be clearly indicated.	Kms.	79.378		
1.2	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	Kms.	79.378		
1.3	Preparation of land schedule on revenue (if required)maps indicating alignment therein duly authenticated by Revenue Inspector & Tahasildar, enumeration of trees with the help of Forest officer and other prominent features required for alignment of the proposed 220 KV line. Final route to be plotted on 1:50000 topo sheet for approval.	Kms.	79.378		
2.0	Detail soil investigation	Location	292		
3.0	**FOUNDATION MATERIALS: Supply of all materials like cement, steel, all coarse aggregates, fine aggregates and making foundations of the required above mentioned type towers as per the direction laid down in the technical specification and the direction of the site- in charge**				
3.1	Excavation in all type soil (Normal soil/Soft soil, submerged soil,wet 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.				

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	LINE		TO BE QUOTED IN INR	
		UNITS	Quantity for:Construction of 220 KV D/C Line on DC Tower from Bolangir Grid S/S (Sadeipali) to Proposed Kesinga S/S. (Line Length circuit:79.378 Kms.)	Unit Rate	Total Price
1	2	3	4	5	6=4X5
3.1.1	Normal soil(soft/loose)	CUM	2200		
3.1.2	Semi-submerged soil	CUM	23600		
3.1.3	Dense/Compact soil	CUM	6000		
3.1.4	Soft disintegrated rock not required blasting	CUM	1600		
3.1.5	Hard Rock required blasting/using rock breaking machine.	CUM	100		
3.1.6	Fully submerged soil	CUM	9900		
4.0	***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 with supply of binding wire & positioning 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	8400		
4.1	***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	50		
4.2	Soaring and shuttering	SQ MT	11000		
4.3	De Watering (HP Hr)	HP-Hour	15000		
5.0	Supply & painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping(both leg & bracing members)	Location	292		
6.0	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.	275000		

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1	2	3	4	5	6=4X5
7.0	**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.**				
7.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	CUM	6500		
7.2	PCC in the ratio1:3:6 including supply of sand 12-20 mm chips.	CUM	200		
7.3	PCC in the ratio 1:2:4 as above.	CUM	300		
7.4	RR Masonry work in the ratio 1:5.	CUM	2000		
7.5	Back filling with approved borrowed soil	CUM	4000		
8.0	PTCC approval, railway crossing has to be obtained by submitting the required documents to the concerned department through OPTCL. Way-Leave blockade charges and any other charges are to be borne by the bidders. The documents for PTCC clearance & Railway clearance including required drawings etc has to be submitted by the contractor within 5 months of award of contract. Beyond the above period L.D as applicable & the amount shall be deducted as specified in the specification.	LS	1		
	Total CIVIL Works (Part-B)-LINE-2C				
	TOTAL OF LINE-2C (PART-II)(Part A + Part B)				

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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) .....
(Name) .....
(Designation) .....
(Common Seal) .....

Date :
Place :