Date: 02.01.2012

Orissa Power Transmission Corporation Ltd. Bhubaneshwar
Construction of Sub-Station at Jainagar-PGCIL(61-01);Mendhasal (61-02) & Somnathpur(61-03) along with associated Transmission Line for OPTCL against
Bid Document No. : Sr.GM-CPC-Tender-Pkg-61-01;61-02& 61-03
Revised Bid document & Attached Revised BPS Schedule2A,2B,2C & 3 (Annexure-I).

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 220 KV DOUBLE CIRCUIT LINE FROM JAYANAGAR 220/132/33KV SUBSTATION OF OPTCL TO 400/220 KV SUBSTATION OF PGCIL AT KALIAGAON JEYPORE ALONG WITH 2 NOS 220 KVFEEDER BAYS EACH AT BOTH ENDS OF SUB-STATION

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package 61-01 / 2012)

Bidder's Name & Address :

To,

Orissa Power Transmission
Corporation Ltd., Bhubaneswar

Dear Sir,
We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with transmission line and associated system against the subject Package. (Bidder shall quote price for the following items, price of all accessories, assemblies, Components, part etc. associated with these items are to be included in bidder quoted price for all these items).

PART-I SCHEDULE-2A- (PACKAGE 61-01 / 2012)											
	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	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=4+5	7	8	9	10	11	12
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER WITH CLAMP	NOS	6	12	18						
2	**245 KV,2000A,40KA,ISOLATORS**										
2.1	WITH SINGLE EARTH SWITCH WITH CLAMP	NOS	2	4	6						
2.2	WITH DOUBLE EARTH SWITCH WITH CLAMP	NOS	2	0	2						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
2.3	WITH OUT EARTH SWITCH WITH CLAMP	NOS	0	2	2						
2.4	TANDUM ISOLATOR	NOS	4	0	4						
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER WITH CLAMP	NOS	6	6	12						
	245 KV,2 CORE(0.2 CL & 3P CL),SINGLE PHASE INDUCTIVE VOLTAGE TRANSFORMER WITH CLAMP	NOS	0	6	6						
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE WITH CLAMP	NOS	2	3	5						
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class - III WITH CLAMP	NOS	6	6	12						
6	220 KV Bus Post Insulators (8 KN)	NOS	16	6	22						
7	**BUS BAR & CIRCUIT MATERIALS**										
7.1	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	12	12	24						
7.2	220KV SINGLE SUSPENSION INSULATOR STRINGS (120 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	6	6	12						
7.3	220KV SINGLE SUSPENSION INSULATOR STRINGS(120 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	12	12	24						
7.4	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	24	12	36						
7.5	ACSR MOOSE CONDUCTOR	KM	2	2	4						

S. No.	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR					
	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	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=4+5	7	8	9	10	11	12
7.6	HARDWARES & FITTINGS/SPACERS /CLAMP & CONNECTORS of different type	LOT	1	1	2						
8	**Substation earthmat** & other Earthing system. It includes design,supply of all materials and labour to complete the earthing system.										
8.1	Supply of Hot dip galvanised flats of size 75X10mm as per Technical specification and relevant IS.	MTRS	2225	2225	4450						
8.2	Supply of Hot dip galvanised flats of size 50X6 mm as per Technical specification and relevant IS.	MTRS	990	1150	2140						
8.3	Supply of Earthing Device including all accessories (G.I pipe shall be medium gauge having 50 mm Dia X 3 Mtrs long)as per as per ISS:3043/IEC ,technical spec .	SET	60	60	120						
9	BAY MARSHALLING KIOSKS/BOXES										
9.1	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2	2	4						
9.2	C.T CONSOLE BOX	NOS	2	4	6						
9.3	C.V.T/IVT CONSOLE BOX	NOS	2	4	6						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
9.4	ACDB CONSOLE BOX(Suitable for Out door type)There shall be two incomers of 32 Amp 3ph & Nut MCB and to be connected to two separate Bus in the ACDB . From each bus there shall be two nos 16 Amp MCB(3ph & Nut) & two nos 10 Amp DP MCB(1ph & Nut) out going to be provided (Total outgoing from the ACDB shall be 4 Nos. 16 AMP (3 ph & Nu) & 4 Nos 10 AMP DP MCB) and suitable Terminal blocks for the same to be provided for connection of the cables. Separate 16 Amp,50 Nos. Stud type terminal blocks to be provided for any interlocking arrangement in one row.	NOS	2	2	4						
9.5	DCDB CONSOLE BOX(Suitable for Out door type).There shall be two incomers of 16 Amp DP DC MCB and to be connected to two separate Bus in the DCDB . From each bus there shall be three nos 6 Amp DP DC MCB out going to be provided (Total outgoing from the DCDB shall be 6 Nos. 6 Amp DP DC MCB) and suitable Terminal blocks for the same to be provided for connection of the cables. Separate 16 Amp,50 Nos. Stud type terminal blocks to be provided for any interlocking arrangement in one row.	NOS	2	2	4						
10	**SWITCH YARD G.I STRUCTURES (LATTICE TYPE) FOR ALL 220 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS**										

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
10.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**										
10.1.1	COLUMMS ARE EXISTING(DBC,NOM UNIT WT 4.61 MT)	NOS	**0**	**4**	**4**						
10.1.2	COLUMMS ARE EXISTING(BBC,NOM UNIT WT 2.473 MT)	NOS	**0**	**2**	**2**						
10.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**										
10.2.1	MAIN TBM (NOMINAL UNIT WT- 1.6797 MT)	NOS	**3**	**4**	**7**						
10.2.2	BUS BBM (NOMINAL UNIT WT- 2.1718 MT)	NOS	**0**	**2**	**2**						
10.3	**TOTAL WEIGHT OF COLUMN**	MT	**0**	**23.39**	**23.39**						
10.4	**TOTAL WEIGHT OF BEAM**	MT	**5.1**	**11.06**	**16.16**						
10.5	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	**0.2**	**1.5**	**1.7**						
10.6	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	**0**	**1.75**	**1.75**						
10.7	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV EQUIPMENTS**										
10.7.1	ISOLATORs(NOMINAL UNIT WT- 1.0824 MT)	SET	**8**	**6**	**14**						
10.7.2	CTs(NOMINAL UNIT WT- 0.2252 MT)	NOS	**6**	**12**	**18**						
10.7.3	CVTs/IVT(NOMINAL UNIT WT- 0.254 MT)	NOS	**6**	**12**	**18**						
10.7.4	SA s(NOMINAL UNIT WT- 0.2922 MT)	NOS	**6**	**6**	**12**						
10.7.5	BPIs(NOMINAL UNIT WT- 0.2924 MT)	NOS	**16**	**6**	**22**						
10.8	**TOTAL WEIGHT OF EQUIPMENT STRUCTURE**	MT	**18.00**	**16.1**	**34.1**						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
10.9	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	**0.70**	**0.75**	**1.45**						
10.10	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	**2.00**	**2**	**4**						
10.11	**TOTAL WEIGHT OF COLUMN,BEAM & EQUIPMENT STRUCTURE**	MT	**23.10**	**50.55**	**73.65**						
10.12	**TOTAL WEIGHT OF NUT & BOLT FOR (COLUMN,BEAM & EQUIPMENT STRUCTURE) ABOVE**	MT	**0.90**	**2.25**	**3.15**						
10.13	**TOTAL WEIGHT OF FOUNDATION BOLT FOR (COLUMN & EQUIPMENT STRUCTURE) ABOVE**	MT	**2.00**	**3.75**	**5.75**						
11	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**										
11.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**										
11.1.1	3.5 CX90 SQ mm	KM	**1**	**0.6**	**1.6**						
11.1.2	3.5 CX 25 SQ mm	KM	**1**	**0.6**	**1.6**						
11.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**										
11.2.1	2CX2.5 mm2	**KM**	**1**	**1**	**2**						
11.2.2	4 CX 2.5 mm2	KM	**32.5**	**22**	**54.5**						
11.2.3	10 CX 2.5 mm2	KM	**2**	**2**	**4**						
12	**ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**										
12.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	**2**	**2**	**4**						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
12.2	LINE MATCHING UNIT HAVING BUILT IN PROTECTIVE DEVICES LIKE DRAINAGE COIL,SURGE ARRESTOR & EARTH SWITCH. TUNABLE BAND PASS COUPLING FILTER:90 – 500 KHZ. HF POWER RATING:1000 W	SET	**2**	**2**	**4**						
12.3	12.5 MM OD ARMOURED COAXIAL CABLE,IMPEDANCE:75 OHMS,INSULATION RESISTANCE:100 M OHMS DIELECTRIC STRENGTH: 5 KV,SIGNAL ATTENUATION:6 DB/KM (MAX) AT 500 KHZ.	MTRS	**1000**	**1000**	**2000**						
13	**SUB STATION LIGHTING(AS PER SPECIFICATION AND APPROVED DRAWINGS)**										
13.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES AND LAMPS (LED LIGHTING 70 WATT EACH LOC),PVC CABLES,CONTROL BOX ASSOCIATED,G.I PIPE & BENDS(FOR TAKING THE CABLES FROM THE CONTROL GEAR TO THE FIXTURE,FROM LIGHTING DISTRIBUTION BOARD TO THE CONTROL GEAR) AS PER TECHNICAL SPECIFICATION	LOC	**14**	**14**	**28**						
14	PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS AS PER TECH SPEC AND										
14.1	**220 KV SIDE**										
14.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	**2**	**2**	**4**						

S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES 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=4+5	7	8	9	10	11	12
14.1.2	FEEDER RELAY PANEL(RPF-2D)	NOS	2	2	4						
14.1.3	BUS BAR PROTECTION FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	1	1	2						
14.1.4	EVENT LOGGER FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	1	1	2						
15	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF PANELS.	LOT	1	1	2						
16	SUPPLY OF G.I PERFORATED CABLE TRAY AS PER EXISTING SYSTEM HAVING SIZE 150 mm WIDTH & 2 mm THICK (ALONG WITH ITS ACCESSORIES FOR FIXING) & REQUIRED GI ANGLE (50x50x6) FOR CABLE TRAY SUPPORT as per TS).	MTRS	200	200	400						
17	2 TR CAPACITY SPLIT AIR CONDITIONING UNITS(5 STAR Rated) 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 ,OFFICE & CONFERENCE ROOM.	NOS	0	3	3						
	TOTAL OF SUBSTATION (PART-I)-SCHEDULE-2A										

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.

S. No.	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR					
	SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	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=4+5	7	8	9	10	11	12

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)

6 *Bus-Bar Protection for the proposed bay extension work: Bidder to ascertain the existing Bus-Bar scheme and accordingly propose the same.

Date :
Place :

(Designation) …….
(Common Seal) ……

(Signature) ……
(Name) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

CONSTRUCTION OF 220 KV DOUBLE CIRCUIT LINE FROM JAYANAGAR 220/132/33KV SUBSTATION OF OPTCL TO 400/220 KV SUBSTATION OF PGCIL AT KALIAGAON JEYPORE ALONG WITH 2 NOS 220 KVFEEDER BAYS EACH AT BOTH ENDS OF SUB-STATION

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package 61-01 / 2012)

Bidder's Name & Address :

To,
Orissa Power Transmission Corporation Ltd.
Bhubaneswar

Dear Sir,
We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with transmission line and associated system against the subject Package. (Bidder shall quote price for the following items, price of all accessories, assemblies, Components, part etc. associated with these items are to be included in bidder quoted price for all these items).

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)

S. No.	DESCRIPTION OF ITEMS F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES TO BE QUOTED IN INR Unit F&I Charges	 Total F&I Charges
1	2	3	4	5	6=4+5	7	8
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER WITH CLAMP	NOS	6	12	18		
2	**245 KV,2000A,40KA,ISOLATORS**						
2.1	WITH SINGLE EARTH SWITCH WITH CLAMP	NOS	2	4	6		
2.2	WITH DOUBLE EARTH SWITCH WITH CLAMP	NOS	2	0	2		
2.3	WITH OUT EARTH SWITCH WITH CLAMP	NOS	0	2	2		
2.4	TANDUM ISOLATOR	NOS	4	0	4		
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER WITH CLAMP	NOS	6	6	12		

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)							
	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR	
S. No.	F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4+5	7	8
	245 KV,2 CORE(0.2 CL & 3P CL),SINGLE PHASE INDUCTIVE VOLTAGE TRANSFORMER WITH CLAMP	NOS	**0**	**6**	**6**		
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE WITH CLAMP	NOS	**2**	**3**	**5**		
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class - III WITH CLAMP	NOS	**6**	**6**	**12**		
6	220 KV Bus Post Insulators (8 KN)	NOS	**16**	**6**	**22**		
7	**BUS BAR & CIRCUIT MATERIALS**						
7.1	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	**12**	**12**	**24**		
7.2	220KV SINGLE SUSPENSION INSULATOR STRINGS (120 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	**6**	**6**	**12**		
7.3	220KV SINGLE SUSPENSION INSULATOR STRINGS(120 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	**12**	**12**	**24**		
7.4	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	**24**	**12**	**36**		
7.5	ACSR MOOSE CONDUCTOR	KM	**2**	**2**	**4**		
7.6	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS of different type	LOT	**1**	**1**	**2**		
8	**Substation earthmat** & other Earthing system. It includes design,supply of all materials and labour to complete the earthing system.						
8.1	Supply of Hot dip galvanised flats of size 75X10mm as per Technical specification and relevant IS.	**MTRS**	**2225**	**2225**	**4450**		
8.2	Supply of Hot dip galvanised flats of size 50X6 mm as per Technical specification and relevant IS.	**MTRS**	**990**	**1150**	**2140**		
8.3	Supply of Earthing Device including all accessories (G.I pipe shall be medium gauge having 50 mm Dia X 3 Mtrs long)as per as per ISS:3043/IEC ,technical spec .	**SET**	**60**	**60**	**120**		
9	BAY MARSHALLING KIOSKS/BOXES						

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)							
	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR	
S. No.	F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4+5	7	8
9.1	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2	2	4		
9.2	C.T CONSOLE BOX	NOS	2	4	6		
9.3	C.V.T/IVT CONSOLE BOX	NOS	2	4	6		
9.4	ACDB CONSOLE BOX	NOS	2	2	4		
9.5	DCDB CONSOLE BOX	NOS	2	2	4		
10	**SWITCH YARD G.I STRUCTURES (LATTICE TYPE) FOR ALL 220 KV CLASS**						
10.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**						
10.1.1	COLUMMS ARE EXISTING(DBC,NOM UNIT WT 4.61 MT)	NOS	0	4	4		
10.1.2	COLUMMS ARE EXISTING(BBC,NOM UNIT WT 2.473 MT)	NOS	0	2	2		
10.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**						
10.2.1	MAIN TBM (NOMINAL UNIT WT- 1.6797 MT)	NOS	3	4	7		
10.2.2	BUS BBM (NOMINAL UNIT WT- 2.1718 MT)	NOS	0	2	2		
10.3	**TOTAL WEIGHT OF COLUMN**	MT	0	23.39	23.39		
10.4	**TOTAL WEIGHT OF BEAM**	MT	5.1	11.06	16.16		
10.5	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	0.2	1.5	1.7		
10.6	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	0	1.75	1.75		
10.7	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV EQUIPMENTS**						
10.7.1	ISOLATORs(NOMINAL UNIT WT- 1.0824 MT)	SET	8	6	14		
10.7.2	CTs(NOMINAL UNIT WT- 0.2252 MT)	NOS	6	12	18		
10.7.3	CVTs/IVT(NOMINAL UNIT WT- 0.254 MT)	NOS	6	12	18		
10.7.4	SA s(NOMINAL UNIT WT- 0.2922 MT)	NOS	6	6	12		
10.7.5	BPIs(NOMINAL UNIT WT- 0.2924 MT)	NOS	16	6	22		
10.8	**TOTAL WEIGHT OF EQUIPMENT STRUCTURE**	MT	18.00	16.1	34.1		
10.9	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	0.70	0.75	1.45		

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)							
	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR	
S. No.	F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4+5	7	8
10.10	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	**2.00**	**2**	**4**		
10.11	**TOTAL WEIGHT OF COLUMN,BEAM & EQUIPMENT STRUCTURE**	MT	**23.10**	**50.55**	**73.65**		
10.12	**TOTAL WEIGHT OF NUT & BOLT FOR (COLUMN,BEAM & EQUIPMENT STRUCTURE) ABOVE**	MT	**0.90**	**2.25**	**3.15**		
10.13	**TOTAL WEIGHT OF FOUNDATION BOLT FOR (COLUMN & EQUIPMENT STRUCTURE) ABOVE**	MT	**2.00**	**3.75**	**5.75**		
11	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**						
11.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**						
11.1.1	3.5 CX90 SQ mm	KM	**1**	**0.6**	**1.6**		
11.1.2	3.5 CX 25 SQ mm	KM	**1**	**0.6**	**1.6**		
11.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**						
11.2.1	2CX2.5 mm2	**KM**	**1**	**1**	**2**		
11.2.2	4 CX 2.5 mm2	KM	**32.5**	**22**	**54.5**		
11.2.3	10 CX 2.5 mm2	KM	**2**	**2**	**4**		
12	**ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**						
12.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	**2**	**2**	**4**		
12.2	LINE MATCHING UNIT HAVING BUILT IN PROTECTIVE DEVICES LIKE DRAINAGE COIL,SURGE ARRESTOR & EARTH SWITCH. TUNABLE BAND PASS COUPLING FILTER:90 – 500 KHZ. HF POWER RATING:1000 W	SET	**2**	**2**	**4**		
12.3	12.5 MM OD ARMOURED COAXIAL CABLE,IMPEDANCE:75 OHMS,INSULATION RESISTANCE:100 M OHMS DIELECTRIC STRENGTH: 5 KV,SIGNAL ATTENUATION:6 DB/KM (MAX) AT 500 KHZ.	MTRS	**1000**	**1000**	**2000**		
13	**SUB STATION LIGHTING(AS PER SPECIFICATION AND APPROVED DRAWINGS)**						

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)							
	DESCRIPTION OF ITEMS					PRICES TO BE QUOTED IN INR	
S. No.	F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4+5	7	8
13.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES AND LAMPS (LED LIGHTING 70 WATT EACH LOC),PVC CABLES,CONTROL BOX ASSOCIATED,G.I PIPE & BENDS(FOR TAKING THE CABLES FROM THE CONTROL GEAR TO THE FIXTURE,FROM LIGHTING DISTRIBUTION BOARD TO THE CONTROL GEAR) AS PER TECHNICAL SPECIFICATION .	LOC	**14**	**14**	**28**		
14	PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS AS PER TECH SPEC AND						
14.1	**220 KV SIDE**						
14.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	**2**	**2**	**4**		
14.1.2	FEEDER RELAY PANEL(RPF-2D)	NOS	**2**	**2**	**4**		
14.1.3	BUS BAR PROTECTION FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	**1**	**1**	**2**		
14.1.4	EVENT LOGGER FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	**1**	**1**	**2**		
15	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF PANELS.	LOT	**1**	**1**	**2**		
16	SUPPLY OF G.I PERFORATED CABLE TRAY AS PER EXISTING SYSTEM HAVING SIZE 150 mm WIDTH & 2 mm THICK (ALONG WITH ITS ACCESSORIES FOR FIXING) & REQUIRED GI ANGLE (50x50x6) FOR CABLE TRAY SUPPORT as per TS).	MTRS	**200**	**200**	**400**		
17	2 TR CAPACITY SPLIT AIR CONDITIONING UNITS(5 STAR Rated) 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 ,OFFICE & CONFERENCE ROOM.	NOS	**0**	**3**	**3**		
	TOTAL OF SUBSTATION (PART-I)-SCHEDULE-2B						

PART-I SCHEDULE-2B- (PACKAGE 61-01 / 2012)

S. No.	DESCRIPTION OF ITEMS F &I ON SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	TOTAL QUANTITY	PRICES TO BE QUOTED IN INR Unit F&I Charges	 Total F&I Charges
1	2	3	4	5	6=4+5	7	8

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

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 *Bus-Bar Protection for the proposed bay extension work: Bidder to ascertain the existing Bus-Bar scheme and accordingly propose the same.

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

Date :
Place :

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220KV Double Circuit line from Jayanagar 220/132/32 KV substation of OPTCL to 400/220 KV substation of PGCIL at Jeypore with 2 Nos 220 KV feeder bays each at both ends

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package 61-01 / 2012)

Bidder's Name & Address:

To,
Orissa Power Transmission Corporation Ltd.
Bhubneshwar

Dear Sir,
We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with Transmission line and associated system against the subject Package.
(Bidder shall quote price for the following items, price of all accessories, assemblies, components, part etc. associated with these items are to be included in bidder quoted price for all these items).

PART-I, SCHEDULE-2C (FOR SUBSTATION)						PRICE IN INDIAN RUPEES	
S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	Total Quantity	Erection Charges Unit Rate	Total Price
1	2	3	4	5	6	7	8
A	**ELECTRICAL WORKS**						
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER WITH CLAMP	NOS	**6**	**12**	**18**		
2	**245 KV,2000A,40KA,ISOLATORS**						
2.1	WITH SINGLE EARTH SWITCH WITH CLAMP	NOS	**2**	**4**	**6**		
2.2	WITH DOUBLE EARTH SWITCH WITH CLAMP	NOS	**2**	**0**	**2**		
2.3	WITH OUT EARTH SWITCH WITH CLAMP	NOS	**0**	**2**	**2**		
2.4	TANDUM ISOLATOR	NOS	**4**	**0**	**4**		
3	245 KV,4400pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER WITH CLAMP	NOS	**6**	**6**	**12**		
	245 KV,2 CORE(0.2 CL & 3P CL),SINGLE PHASE INDUCTIVE VOLTAGE TRANSFORMER WITH CLAMP	NOS	**0**	**6**	**6**		
4	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORT STRUCTURE WITH CLAMP	NOS	**2**	**3**	**5**		
5	216 KV, METAL OXIDE SURGE ARRESTOR, 10kA, Class - III WITH CLAMP	NOS	**6**	**6**	**12**		
6	220 KV Bus Post Insulators (8 KN)	NOS	**16**	**6**	**22**		
7	**BUS BAR & CIRCUIT MATERIALS**						

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	Total Quantity	Erection Charges Unit Rate	Total Price
1	2	3	4	5	6	7	8
7.1	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	**12**	**12**	**24**		
7.2	220KV SINGLE SUSPENSION INSULATOR STRINGS (120 KN Antifog) WITH HARD WARE FOR DOUBLE ACSR MOOSE	SET	**6**	**6**	**12**		
7.3	220KV SINGLE SUSPENSION INSULATOR STRINGS(120 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	**12**	**12**	**24**		
7.4	220KV SINGLE TENSION INSULATOR STRINGS (160 KN Antifog) WITH HARD WARE FOR SINGLE ACSR MOOSE	SET	**24**	**12**	**36**		
7.5	ACSR MOOSE CONDUCTOR	KM	**2**	**2**	**4**		
7.6	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS of different type	LOT	**1**	**1**	**2**		
8	Substation earth mat & other Earthing system. Excavation for earth mat Laying ,Laying of earth mat GI Flats of Hot dip galvanised of size 75X10mm inside the trench (as per IEC/IS Standard), inclusive of corrosion protection measures & welding/jointing of ground Earth conductors along with risers upto the height of 350 mm above the finished ground level etc 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. This is as per approved drawing specification and as per the Instruction of Engineer in Charge. It includes design,supply of all materials (except GI Flat) and labour to complete the earthing system.						
8.1	Erection of Hot dip galvanised flats of size 75X10mm as per Technical specification and relevant IS.	**MTRS**	**2225**	**2225**	**4450**		
8.2	Erection of Hot dip galvanised flats of size 50X6 mm as per Technical specification and relevant IS. (Supply of materials and labours G.I flats(50X6 mm) and its connection to equipments,columns,Beams and Structures, Fencing,Cable trays including welding & application of Zinc rich primer and paints on welded spots as per the instruction of the Engineer in Charge).	**MTRS**	**990**	**1150**	**2140**		
8.3	Erection of Earthing Device including all accessories/materials required (except G.I pipe shall be medium gauge having 50 mm Dia X 3 Mtrs long)as per as per ISS:3043/IEC ,technical spec. (Pipe earthing including excavation of earth, back filling,treatment with bentonate compound and other related materials as per ISS:3043/IEC also includes welding/bolting of G.I Strips with pipe for termination of earth flat and apply of paint. G.I pipe shall be medium gauge having 50mm Dia X 3 Mtrs long as per the instruction of the Engineer in Charge.)	**SET**	**60**	**60**	**120**		
9	ERECTION OF BAY MARSHALLING KIOSKS/BOXES						
9.1	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	**2**	**2**	**4**		
9.2	C.T CONSOLE BOX	NOS	**2**	**4**	**6**		
9.3	C.V.T/IVT CONSOLE BOX	NOS	**2**	**4**	**6**		
9.4	ACDB CONSOLE BOX	NOS	**2**	**2**	**4**		
9.5	DCDB CONSOLE BOX	NOS	**2**	**2**	**4**		
10	**ERECTION OF SWITCH YARD G.I STRUCTURES (LATTICE TYPE) FOR ALL 220 KV CLASS**						
10.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**						
10.1.1	COLUMMS ARE EXISTING(DBC,NOM UNIT WT 4.61 MT)	NOS	**0**	**4**	**4**		
10.1.2	COLUMMS ARE EXISTING(BBC,NOM UNIT WT 2.473 MT)	NOS	**0**	**2**	**2**		
10.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**						

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	Total Quantity	Erection Charges Unit Rate	Total Price
1	2	3	4	5	6	7	8
10.2.1	MAIN TBM (NOMINAL UNIT WT- 1.6797 MT)	NOS	3	4	7		
10.2.2	BUS BBM (NOMINAL UNIT WT- 2.1718 MT)	NOS	0	2	2		
10.3	**TOTAL WEIGHT OF COLUMN**	MT	0	23.39	23.39		
10.4	**TOTAL WEIGHT OF BEAM**	MT	5.1	11.06	16.16		
10.5	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	0.2	1.5	1.7		
10.6	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	0	1.75	1.75		
10.7	**SUPPORT STRUCTURES(LATTICE/PIPE TYPE) FOR ALL 220 kV EQUIPMENTS**						
10.7.1	ISOLATORs(NOMINAL UNIT WT- 1.0824 MT)	SET	8	6	14		
10.7.2	CTs(NOMINAL UNIT WT- 0.2252 MT)	NOS	6	12	18		
10.7.3	CVTs/IVT(NOMINAL UNIT WT- 0.254 MT)	NOS	6	12	18		
10.7.4	SA s(NOMINAL UNIT WT- 0.2922 MT)	NOS	6	6	12		
10.7.5	BPIs(NOMINAL UNIT WT- 0.2924 MT)	NOS	16	6	22		
10.8	**TOTAL WEIGHT OF EQUIPMENT STRUCTURE**	MT	18.00	16.1	34.1		
10.9	**TOTAL WEIGHT OF NUT & BOLT FOR ABOVE**	MT	0.70	0.75	1.45		
10.10	**TOTAL WEIGHT OF FOUNDATION BOLT FOR ABOVE COLUMN**	MT	2.00	2	4		
10.11	**TOTAL WEIGHT OF COLUMN,BEAM & EQUIPMENT STRUCTURE**	MT	23.10	50.55	73.65		
10.12	**TOTAL WEIGHT OF NUT & BOLT FOR (COLUMN,BEAM & EQUIPMENT STRUCTURE) ABOVE**	MT	0.90	2.25	3.15		
10.13	**TOTAL WEIGHT OF FOUNDATION BOLT FOR (COLUMN & EQUIPMENT STRUCTURE) ABOVE**	MT	2.00	3.75	5.75		
11	**ERECTION OF GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**						
11.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**						
11.1.1	3.5 CX90 SQ mm	KM	1	0.6	1.6		
11.1.2	3.5 CX 25 SQ mm	KM	1	0.6	1.6		
11.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**						
11.2.1	2CX2.5 mm2	**KM**	1	1	2		
11.2.2	4 CX 2.5 mm2	KM	32.5	22	54.5		
11.2.3	10 CX 2.5 mm2	KM	2	2	4		
12	**ERECTION OF ACCESSORIES FOR PLLC SYSTEM AS PER TECHNICAL SPECIFICATION)**						
12.1	220 KV,1600 A,1mH,Pedestal Mounting WAVE TRAP	NOS	2	2	4		
12.2	LINE MATCHING UNIT HAVING BUILT IN PROTECTIVE DEVICES LIKE DRAINAGE COIL,SURGE ARRESTOR & EARTH SWITCH. TUNABLE BAND PASS COUPLING FILTER:90 – 500 KHZ. HF POWER RATING:1000 W	SET	2	2	4		
12.3	12.5 MM OD ARMOURED COAXIAL CABLE,IMPEDANCE:75 OHMS,INSULATION RESISTANCE:100 M OHMS DIELECTRIC STRENGTH: 5 KV,SIGNAL ATTENUATION:6 DB/KM (MAX) AT 500 KHZ.	MTRS	1000	1000	2000		
13	**ERECTION OF SUB STATION LIGHTING(AS PER SPECIFICATION AND APPROVED DRAWINGS)**						
13.1	FIXING OF SUB-STATION SWITCH YARD LIGHTING & ITS ASSOCIATED ITEM AS INDICATED IN THE SUPPLY PORTION AS PER TECHNICAL SPECIFICATION .	LOC	14	14	28		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	Total Quantity	Erection Charges Unit Rate	Total Price
1	2	3	4	5	6	7	8
14	ERECTION OF PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS , ETC AS PER TECH SPEC.						
14.1	**220 KV SIDE**						
14.1.1	FEEDER CONTROL PANEL(CPF-2D)	NOS	**2**	**2**	**4**		
14.1.2	FEEDER RELAY PANEL(RPF-2D)	NOS	**2**	**2**	**4**		
14.1.3	BUS BAR PROTECTION FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	**1**	**1**	**2**		
14.1.4	EVENT LOGGER FOR 2 NOS FEEDER SIMILAR TO THE EXISTING SYSTEM FOR COMPATIBILITY.	LS	**1**	**1**	**2**		
15	ERECTION OF BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF PANELS.	LOT	**1**	**1**	**2**		
16	ERECTION OF G.I PERFORATED CABLE TRAY AS PER EXISTING SYSTEM HAVING SIZE 150 mm WIDTH & 2 mm THICK (ALONG WITH ITS ACCESSORIES FOR FIXING) & REQUIRED GI ANGLE (50x50x6) FOR CABLE TRAY SUPPORT as per TS).	MTRS	**200**	**200**	**400**		
17	INSTALLATION of 2 TR CAPACITY SPLIT AIR CONDITIONING UNITS(5 STAR Rated) WITH REMOTE CONTROL FACILITY AND INCLUDING RELATED MATERIALS LIKE CABLES,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE SCHEME.(AS PER SPECIFICATION) FOR INCLUDING ALL CIVIL WORKS.	NOS	**0**	**3**	**3**		
	TOTAL OF ELECTRICAL WORKS (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.***						
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						
1.1.1	**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.**						
1.1.1(a)	DENCE & COMPACT SOIL	CUM	282	483	765		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Quantity for :CONSRTUCTION OF 02 NOS. 220 KV FEEDER BAY WITH BUS EXTENSION AT 400/220 KV, PGCIL (JEYPORE) GRID SUBSTATION (3 BUS SYSTEM)	Quantity for :CONSRTUCTION OF 02 NOS. 220/KV FEEDER BAY WITH BUS EXTENSION AT JAYANAGAR GRID SUBSTATION (1&1/2 BREAKER SYSTEM) WITH TIE BUS	Total Quantity	Erection Charges Unit Rate	Total Price
1	2	3	4	5	6	7	8
1.1.1(b)	DFR SOIL	CUM	524	993	1517		
1.1.2(c)	***Open cast foundation for the below column/equipment/marshalling box foundations (Sl No. 1.2,1.3&1.4) 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	228	433	661		
1.1.2(d)	***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	37	55	92		
1.2	**TOWER FOUNDATION**						
1.2.1	MAIN DBC (NOMINAL UNIT WT- 4..6032 MT)	NOS	0	4	4		
1.2.2	BUS BBC (NOMINAL UNIT WT- 2.4727 MT)	NOS	0	2	2		
1.3	**EQUIPMENT FOUNDATION**						
1.3.1	245kV circuit breaker	Nos	2	3	5		
1.3.2	245 KV Isolator (S/I)(W E/S ,TANDEM & W/O E/S)	Nos	8	6	14		
1.3.3	245kV current transformers	Nos	6	12	18		
1.3.4	245kV capacitor voltage transformers	Nos	6	6	12		
1.3.5	216kV Surge arrestors	Nos	6	6	12		
1.3.6	245kV bus post Insulators	Nos	16	6	22		
1.3.7	245kV Wave traps (pedestal mounted)	Nos	2	2	4		
1.3.8	245 KV PT	Nos	6	0	6		
1.4	SWITCH YARD OUT DOOR BOXES						
1.4.1	SWITCH YARD AC CONSOLE FOR LIGHTING	NOS	2	2	4		
1.4.2	C.T CONSOLE BOX	NOS	2	4	6		
1.4.3	C.V.T CONSOLE BOX	NOS	2	2	4		
1.4.4	PT CONSOLE BOX	NOS	2	0	2		
1.4.5	ACDB CONSOLE BOX	NOS	2	2	4		
1.4.6	DCDB CONSOLE BOX	NOS	2	2	4		
1.5	MASSONARY WORKS						
1.5.1	Brick masonry works in Cement Sand Ratio 1:5 with First class K.B Bricks including supply of sand,bricks ,cement and all other materials as per the instruction of Engineer in Charge and Technical specification.	CUM	30	30	60		

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1	2	3	4	5	6	7	8
1.5.2	Cement Plastering with cement sand Mortar of 1:6 Ratio with supply of sand and Cement as per technical specification.	SQ MTR	250	250	500		
2.0	Contour Survey & Leveling of sub-station and other area and stone pitching works to protect from soil erosion. LEVELLING OF S/S AREA:Providing, neatly dressing up and leveling of switch yard area to a required level as decided by the Engineer in Charge, the work includes removal, clearing of the entire area from vegetation, trees, bushes, uprooting of plants and disposal of surplus earth and unusable material from the site by means of any mechanical transport, with all labours, tools, tackles and plants complete as per approved drawing and specification. This also includes excavation in all type of soils or rocks, and disposal of excess earth or rocks and filling of areas of switch yard by borrowed earth/sand to make the area to a level for construction as per scope.						
2.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	0	15000	15000		
2.2	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	***Cum***	0	400	400		
2.3	***Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.***	***Cum***	0	1200	1200		
3	**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 Engineer. 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 SUPORT.						
3.1	**Cable trench with covers**						
3.1.1	Section 1-1	Mtrs	0	**20**	20		
3.1.2	Section 4-4	Mtrs	192	192	384		
4	**Site Surfacing**						

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1	2	3	4	5	6	7	8
4.1	**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 loose fine, clear good quality river sand and maintaining proper sloping for easy discharge of storm water having 150 mm thickness. including rolling , dressing, compaction of the area. The spreading of sand shall be done on layer wise after anti weed treatment suitably as per the specification/ technical specification and approved drawing, and as per the instruction of the Engg-in-Charge. **(Spreading of sand & Anti weed treatment)**	CUM	400	400	800		
4.2	**Metal Spreading:**Providing supplying and laying two layers of machine crushed metals (gravel) fill, the first layer after compaction shall make minimum 75 mm thickness coarse/ layer of 20 mm nominal size consolidated/ compacted and (by using roller as specified in the specification). A final layer of 75 mm thickness of machine crushed 20 mm nominal size of metals(gravel) above the first layer of 75 mm thickness and as per the technical specification and instruction of Engineer in charge above the sand spreading. The total compacted thickness of the metals(20 mm Nominal) 150mm above the finished sand layer.	CUM	400	400	800		
5.0	**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.) 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.**						
5.1	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		
5.2	PCC: M10(1: 3 : 6)	Cu.m.	1	1	2		
5.3	RCC M 15(1:2:4)	Cu.m.	1	1	2		
5.4	RCC: M 20(1:1.5:3)	Cu.m.	1	1	2		
5.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1	1	2		
5.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1	1	2		
5.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1	1	2		
6.0	**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	1	2		

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1	2	3	4	5	6	7	8
7.0	**Switch yard buildings: Extension of the existing Control Room Building at Jayanager end. Design, engineering and construction of switch yard buildings including the piling where required, the cost of material, supply of labour, cement, reinforcement- steel, form work and excavation as per the approved drawing and technical specification (The RCC structure frame should be in the ratio 1:1.5:3).This also includes excavation in all types of soil or rocks ,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawings and specification. Since the soil is sandy, piling foundation is required.**						
7.1	**EXTENSION OF THE EXISTING CONTROL ROOM BUILDING: A) Area of the Ground floor with portico at front side and as per Technical specification and instruction of Engg in charge,** **SIZE OF THE LAND: (8 mtrs X 7 Mtrs)= 56 Sq Mtrs**						
7.1.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	LOT	0	1	1		
7.1.2	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	LOT	0	1	1		
7.1.3	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	0	1	1		
7.1.4	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	0	1	1		
7.1.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	LOT	0	1	1		
7.1.6	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	0	1	1		
7.1.7	Provision of PHD and other fittings of reputed make,provision of rain water discharge pipes at different locations and etc as per requirement and approved drawing. There shall be septic tank and soak pit of required capacity including complete sewage system as per approved drawing & technical specification & as per instruction of Engg- in-Charge. It includes supply of all types of materials of reputed make, labour etc to complete the work.	LOT	0	1	1		
7.1.8	Internal concealed wiring,fixing of lighting fixtures(LED) ,fans and regulators ,exhaust fan,D.C emergency lighting as per spec & approved drawing.	LOT	0	1	1		
8	**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,backfilling,and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.						
8.1	3.75 mtrs Bituminus road with soulder at both the side & shall have drain on both side of the road as per technical specification indicated in the civil section(Periphery roads outside switch yard fencing and colony roads)	Mtrs	50	50	100		
8.2	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.	Mtrs	36	36	72		
	TOTAL OF CIVIL WORKS (B)						

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1	2	3	4	5	6	7	8
	TOTAL OF PART-I (SUM OF ELECTRICAL WORKS AND CIVIL WORKS) (A +B)						

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.**

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)

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

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

***Bus-Bar Protection for the proposed bay extension work: Bidder to ascertain the existing Bus-Bar scheme and accordingly propose the same.**

Date (Designation) …… (Signature) ……

Place (Common Seal) …… (Name) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220KV Double Circuit line from Jayanagar 220/132/32 KV substation of OPTCL to 400/220 KV substation of PGCIL at Jeypore with 2 Nos 220 KV feeder bays each at both ends

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package 61-01 / 2012)

Bidder's Name & Address :

To,
Orissa Power Transmission Corporation Ltd.,Bhubneshwar

Dear Sir,
We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with transmission line and associated system against the subject Package. (Bidder shall quote price for the following items, price of all accessories, assemblies, Components, part etc. associated with these items are to be included in bidder quoted price for all these items).

PART-II SCHEDULE-2A (FOR LINE)									
S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)					
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 CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE (TOTAL LINE LENGTH : 8.608 KM)	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	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.	19						
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	5						
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	1						

S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)					
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 CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE (TOTAL LINE LENGTH : 8.608 KM)	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	7	8	9	10
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	0						
1.2.1	+3 EXTENSION (Nominal unit Weight 1.208 MT)	Nos.	0						
1.2.2	+6 EXTENSION (Nominal unit Weight 2.185 MT)	Nos.	0						
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	15						
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	4						
1.3.2	+6 EXTENSION (Nominal unit Weight 2.536 MT)	Nos.	2						
1.3.3	15 EXTENSION (Nominal unit Weight 8.665 MT)	Nos.	3						
1.4	Lattice type galvanised steel angle tower UR type (Nominal unit Weight 13.586 MT)	Nos.	3						
1.4.1	+6 EXTENSION TO UR (Nominal unit Weight 4.159 MT)	Nos.	3						
1.5	TOTAL WT. OF TOWER	MT	325.535						
1.6	TEMPLATES(OA-2NOS,OC-1NO,OC+15-1NO & UR-1NO)	MT	5.61						
1.7	**GI Nuts and Bolts with spring washers, Packing washers**	MT	12.000						
2.0	Supply, of the following tower accessories as per technical specification and as directed by the engineer in charge.								
2.1	EARTHING DEVICE	SET	37						
2.2	DANGER BOARD	Nos.	37						
2.3	NUMBER PLATE	Nos.	37						
2.4	PHASE PLATE	Nos.	183						
2.5	BIRD GUARD	Nos.	114						
2.6	ANTICLIMBING DEVICE	Nos.	37						
2.7	CIRCUIT PLATE	Nos.	74						
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.	46						

S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)					
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 CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE (TOTAL LINE LENGTH : 8.608 KM)	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	7	8	9	10
4.0	**POWER CONDUCTOR ACESSORIES**								
4.1	For ACSR ZEBRA								
4.1.1	MID SPAN COMPRESSION JOINT	Nos.	47						
4.1.2	**PERFORMED ARMOUR ROD**	Nos.	114						
4.1.3	STOCK BRIDGE VIBRATION DAMPER	Nos.	444						
4.1.4	REPAIR SLEEVE	Nos.	47						
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.	10						
6.0	**EARTH CONDUCTOR ACESSORIES**								
6.1	STOCK BRIDGE VIBRATION DAMPER	Nos.	92						
6.2	FLEXIBLE COPPER EARTH BOND	Nos.	55						
6.3	SUSPENSION CLAMP	Nos.	19						
6.4	TENSION CLAMP	Nos.	54						
6.5	MID-SPAN COMPRESSION JOINT	Nos.	10						
6.6	U ' BOLT	Nos.	20						
7.0	Supply of the following antifog 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)(for suspension)	Nos.	1800						
7.2	160KN Insulator (taking 5% extra towards wastage)(for tension)	Nos.	2600						
8.0	Supply, 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 disc insulator.	Nos.	120						
8.1.2	Double suspension Hard wares fittings(AGS type) suitable for 90 KN disc insulator.	Nos.	20						
8.1.3	Single tension Hard wares fittings suitable for 160 KN disc insulator.	Nos.	142						
8.1.4	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.	18						

S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)					
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 CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE (TOTAL LINE LENGTH : 8.608 KM)	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	7	8	9	10
8.1.5	HANGERS	Nos.	50						
8.1.6	U-BOLT	Nos.	20						
8.1.7	D-SHACKLE	Nos.	50						
	TOTAL OF LINE (PART-II)-SCEDULE-2A								
	TOTAL OF SUBSTATION (PART-I)-SCEDULE-2A								
	GRAND TOTAL OF SCHEDULE 2A (PART-I+PART-II)								

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)

(Signature) .....
Date : (Name) .....
Place : (Designation) .....
(Common Seal) .....

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220KV Double Circuit line from Jayanagar 220/132/32 KV substation of OPTCL to 400/220 KV substation of PGCIL at Jeypore with 2 Nos 220 KV feeder bays each at both ends

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package 61-01 / 2012)

Bidder's Name & Address :

Orissa Power Transmission Corporation
Ltd.,Bhubneshwar

Dear Sir,
We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with transmission line and associated system against the subject Package. (Bidder shall quote price for the following items, price of all accessories, assemblies, Components, part etc. associated with these items are to be included in bidder quoted price for all these item.

PART-II SCHEDULE-2B (FOR LINE)					
S. No.	**DESCRIPTION OF ITEMS**			**(PRICE IN INDIAN RUPEES)**	
S. No.	**F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)**	**UNITS**	**CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM**	**Unit F&I Charges**	**Total F&I Charges**
1	2	3	4	5	6
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.	19		
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	5		
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	1		
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	0		
1.2.1	+3 EXTENSION (Nominal unit Weight 1.208 MT)	Nos.	0		

S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6
1.2.2	+6 EXTENSION (Nominal unit Weight 2.185 MT)	Nos.	0		
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	15		
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	4		
1.3.2	+6 EXTENSION (Nominal unit Weight 2.536 MT)	Nos.	2		
1.3.3	15 EXTENSION (Nominal unit Weight 8.665 MT)	Nos.	3		
1.4	Lattice type galvanised steel angle tower UR type (Nominal unit Weight 13.586 MT)	Nos.	3		
1.4.1	+6 EXTENSION TO UR (Nominal unit Weight 4.159 MT)	Nos.	3		
1.5	TOTAL WT. OF TOWER	MT	325.535		
1.6	TEMPLATES(OA-2NOS,OC-1NO,OC+15-1NO & UR-1NO)	MT	5.61		
1.7	**GI Nuts and Bolts with spring washers, Packing washers**	MT	12.000		
2.0	Supply, of the following tower accessories as per technical specification and as directed by the engineer in charge.				
2.1	EARTHING DEVICE	SET	37		
2.2	DANGER BOARD	Nos.	37		
2.3	NUMBER PLATE	Nos.	37		
2.4	PHASE PLATE	Nos.	183		
2.5	BIRD GUARD	Nos.	114		
2.6	ANTICLIMBING DEVICE	Nos.	37		
2.7	CIRCUIT PLATE	Nos.	74		
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.	46		
4.0	**POWER CONDUCTOR ACESSORIES**				
4.1	For ACSR ZEBRA				
4.1.1	MID SPAN COMPRESSION JOINT	Nos.	47		
4.1.2	**PERFORMED ARMOUR ROD**	Nos.	114		
4.1.3	STOCK BRIDGE VIBRATION DAMPER	Nos.	444		
4.1.4	REPAIR SLEEVE	Nos.	47		

S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6
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.	10		
6.0	**EARTH CONDUCTOR ACESSORIES**				
6.1	STOCK BRIDGE VIBRATION DAMPER	Nos.	92		
6.2	FLEXIBLE COPPER EARTH BOND	Nos.	55		
6.3	SUSPENSION CLAMP	Nos.	19		
6.4	TENSION CLAMP	Nos.	54		
6.5	MID-SPAN COMPRESSION JOINT	Nos.	10		
6.6	U ' BOLT	Nos.	20		
7.0	Supply of the following antifog 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)(for suspension)	Nos.	1800		
7.2	160KN Insulator (taking 5% extra towards wastage)(for tension)	Nos.	2600		
8.0	Supply, 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 disc insulator.	Nos.	120		
8.1.2	Double suspension Hard wares fittings(AGS type) suitable for 90 KN disc insulator.	Nos.	20		
8.1.3	Single tension Hard wares fittings suitable for 160 KN disc insulator.	Nos.	142		
8.1.4	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.	18		
8.1.5	HANGERS	Nos.	50		
8.1.6	U-BOLT	Nos.	20		
8.1.7	D-SHACKLE	Nos.	50		
	TOTAL OF LINE (PART-II)-SCEDULE-2A				
	TOTAL OF SUBSTATION (PART-I)-SCEDULE-2A				
	GRAND TOTAL OF SCHEDULE 2A (PART-I+PART-II)				

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.

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S. No.	DESCRIPTION OF ITEMS			(PRICE IN INDIAN RUPEES)	
S. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS ALONG WITH HOT DIP GALVANISED STRUCTURE (As per Technical Specification)	UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6

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 :

(Designation) ……(Signature) ……
(Common Seal) ……(Name) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220KV Double Circuit line from Jayanagar 220/132/32 KV substation of OPTCL to 400/220 KV substation of PGCIL at Jeypore with 2 Nos 220 KV feeder bays each at both ends

NOTICE INVITING TENDER-NIT NO.52/2011-12
Bid Document No. Sr. G.M-CPC-TENDER- PACKAGE 61-01 / 2012

(Equipment/Materials Price Break-up of Ex-works Prices against Package-PACKAGE 61-01 / 2012)

Bidder's Name & Address:

To,

Orissa Power Transmission Corporation Ltd.,Bhubneshwar

Dear Sir,

We hereby furnish the detailed price break-up of the equipment covered under the entire scope of Construction of Sub-Station along with Transmission line and associated system against the subject Package. (Bidder shall quote price for the following items, price of all accessories, assemblies, components, part etc. associated with these items are to be included in bidder quoted price for all these items). **(All price in Rs.)**

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.				**PRICE IN INDIAN RUPEES**	
				Erection Charges	
	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	**UNITS**	**CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM**	**Unit Rate**	**Total Price**
1	**2**	**3**	4	**5**	**6**
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. Erection of templates.**				
1.1	OA TYPE (SUSPENSION) TOWERS (Nominal unit Weight 4.351 MT)	Nos.	19		
1.1.1	+3 EXTENSION (Nominal unit Weight 0.727 MT)	Nos.	5		
1.1.2	+6 EXTENSION (Nominal unit Weight 1.448 MT)	Nos.	1		
1.2	OB TYPE (30 deg ANGLE) TOWERS (Nominal unit Weight 7.574 MT)	Nos.	0		
1.2.1	+3 EXTENSION (Nominal unit Weight 1.208 MT)	Nos.	0		
1.2.2	+6 EXTENSION (Nominal unit Weight 2.185 MT)	Nos.	0		
1.3	OC TYPE (60 deg ANGLE) TOWERS (Nominal unit Weight 9.839 MT)	Nos.	15		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			PRICE IN INDIAN RUPEES	
				Erection Charges	
		UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit Rate	Total Price
1.3.1	+3 EXTENSION (Nominal unit Weight 1.474 MT)	Nos.	4		
1.3.2	+6 EXTENSION (Nominal unit Weight 2.536 MT)	Nos.	2		
1.3.3	15 EXTENSION (Nominal unit Weight 8.665 MT)	Nos.	3		
1.4	Lattice type galvanised steel angle tower UR type (Nominal unit Weight 13.586 MT)	Nos.	3		
1.4.1	+6 EXTENSION TO UR (Nominal unit Weight 4.159 MT)	Nos.	3		
1.5	TOTAL WT. OF TOWER	MT	325.535		
1.6	TEMPLATES(OA-2NOS,OC-1NO,OC+15-1NO & UR-1NO)	MT	5.61		
1.7	GI Nuts and Bolts with spring washers, Packing washers	MT	12.000		
2.0	Supply, of the following tower accessories as per technical specification and as directed by the engineer in charge.				
2.1	EARTHING DEVICE	SET	37		
2.2	DANGER BOARD	Nos.	37		
2.3	NUMBER PLATE	Nos.	37		
2.4	PHASE PLATE	Nos.	183		
2.5	BIRD GUARD	Nos.	114		
2.6	ANTICLIMBING DEVICE	Nos.	37		
2.7	CIRCUIT PLATE	Nos.	74		
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.	46		
4.0	POWER CONDUCTOR ACESSORIES				
4.1	For ACSR ZEBRA				
4.1.1	MID SPAN COMPRESSION JOINT	Nos.	47		
4.1.2	PERFORMED ARMOUR ROD	Nos.	114		
4.1.3	STOCK BRIDGE VIBRATION DAMPER	Nos.	444		
4.1.4	REPAIR SLEEVE	Nos.	47		
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.	10		
6.0	EARTH CONDUCTOR ACESSORIES				

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			PRICE IN INDIAN RUPEES	
				Erection Charges	
		UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit Rate	Total Price
6.1	STOCK BRIDGE VIBRATION DAMPER	Nos.	92		
6.2	FLEXIBLE COPPER EARTH BOND	Nos.	55		
6.3	SUSPENSION CLAMP	Nos.	19		
6.4	TENSION CLAMP	Nos.	54		
6.5	MID-SPAN COMPRESSION JOINT	Nos.	10		
6.6	U ' BOLT	Nos.	20		
7.0	ERECTION of the following antifog 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)(for suspension)	Nos.	1800		
7.2	160KN Insulator (taking 5% extra towards wastage)(for tension)	Nos.	2600		
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 disc insulator.	Nos.	120		
8.1.2	Double suspension Hard wares fittings(AGS type) suitable for 90 KN disc insulator.	Nos.	20		
8.1.3	Single tension Hard wares fittings suitable for 160 KN disc insulator.	Nos.	142		
8.1.4	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.	18		
8.1.5	HANGERS	Nos.	50		
8.1.6	U-BOLT	Nos.	20		
8.1.7	D-SHACKLE	Nos.	50		
8.1.6	D-SHACKLE	Nos.	50		
	TOTAL ELECTRICAL WORKS (A)				
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.	8.61		
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.	8.61		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			PRICE IN INDIAN RUPEES	
				Erection Charges	
		UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit Rate	Total Price
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.	8.61		
2.0	Detail soil investigation	Location	5		
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.				
3.1.1	Soft Soil	CUM	38		
3.1.2	Wet Soil	CUM	10		
3.1.3	Dry dence soil	CUM	1722		
3.1.4	Partially submerged soil	CUM	3180		
3.1.5	Fully Submerged soil	CUM	556		
3.1.6	Soft rock (not required blasting)	CUM	1317		
3.1.7	Hard Rock required blasting/using rock breaking machine.	CUM	100		
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	1100		

S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			PRICE IN INDIAN RUPEES	
				Erection Charges	
		UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit Rate	Total Price
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	122		
4.2	Soaring and shuttering	SQ MT	4320		
4.3	De Watering (HP Hr)	Hour	2400		
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	37		
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.	36000		
7.0	**Revetment work for protection of tower footing**				
7.1	Excavation (soft soil)	CUM	650		
7.2	PCC(1:3:6) with cement	CUM	34		
7.3	PCC(1:2:4) with cement	CUM	9		
7.4	RR masonary	CUM	420		
7.5	Back filling	CUM	520		
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 (B)				
	TOTAL OF LINE (PART-II)2C (A+B)				
	TOTAL OF SUBSTATION (PART-I)2C (A+B)				
	GRAND TOTAL OF SCHEDULE 2C (PART-I+PART-II)				

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.

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S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			PRICE IN INDIAN RUPEES	
				Erection Charges	
		UNITS	CONSTRUCTION OF . 220 KV D/C CONNECTING LINE ON D/C TOWER FROM 220/132/33kV S/S JAYANAGAR TO 400/ 220kV S/S OF PGCIL ,JEYPORE TOTAL LINE LENGTH 8.608 KM	Unit Rate	Total Price

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 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-I, SCHEDULE-2A (FOR SUBSTATION)				PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	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	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6						
2	**245 KV,1600A,40KA,ISOLATORS**								
2.1	WITH OUT EARTH SWITCH	NOS	2						
2.2	WITH SINGLE EARTH SWITCH	NOS	2						
2.3	TANDEM WITHOUT EARTH SWITCH	NOS	4						
3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2						
4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III	NOS	6						
5	220 KV Bus Post Insulators	NOS	14						
6	145 KV,(Different Ratio),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15						
7	145 KV,1200A,40 KA,ISOLATORS								
7.1	S/I WITH OUT EARTH SWITCH ***(Includes sectiona switches at the main bus near B/C)***	NOS	8						
7.2	D/I WITH SINGLE EARTH SWITCH	NOS	2						
7.3	D/I WITHOUT EARTH SWITCH	NOS	2						
9	145 KV, 6000pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6						
10	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12						
11	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3						
12	132 KV Bus Post Insulators	NOS	18						
13	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5						
14	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**						
15	**BUS BAR & CIRCUIT MATERIALS**								
15.1	**FOLLOWING ANTI FOG TYPE DISC INSULATORS**								
15.1.1	160 kN INSULATOR STRINGS ***for twin Moose cond*** (TENSION)-220 KV	SET	24						
15.1.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (TENSION)-220 KV	SET	48						
15.1.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	18						
15.1.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	54						
15.1.5	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-220 KV	SET	36						
15.1.6	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	24						
15.2	ACSR MOOSE CONDUCTOR	LOT	1						
15.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1						
15.4	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1						

SL NO	SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	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
16	SUBSTATION SYSTEMS								
16.1	EARTHING CONDUCTOR FOR BURRIAL : 40 mm DIA MS ROD for laying (*spacing maximum 5m*)	LOT	1						
16.2	EARTHING CONDUCTOR: 75x10mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1						
16.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1						
16.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1						
17	BAY MARSHALLING KIOSK ***(2 nos on 220 kV bay, 03 Nos 132 kv bay)***	NOS	5						
18	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2						
19	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr ,)***	NOS	1						
20	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay, 02 Nos 132 kv bay)***	NOS	3						
21	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS**								
21.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**								
21.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	17						
21.1.2	P2S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	2						
21.1.3	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	20						
21.1.4	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5						
21.1.5	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	0						
21.1.6	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	0						
21.1.7	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	NOS	1						
22.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**								
22.2.1	Q1S-220KV (NOMINAL UNIT WT- 1.5 MT)	NOS	14						
22.2.2	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	17						
22.2.3	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0						
22.2.4	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4						
22.2.5	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0						
22.2.6	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	0						
22.2.7	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	0						
22.2.8	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	0						
22.2.9	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**159.269**						
22.3	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 220KV, 132 KV & 33KV EQUIPMENTS**								
22.3.1	ISOLATORS-220KV	SET	8						
22.3.2	ISOLATORS-132KV	SET	12						
22.3.3	ISOLATORS-33 KV	SET	0						
22.3.4	CTS-220 KV	SET	6						
22.3.5	CTS-132 KV	SET	15						
22.3.6	CTS-33 KV	SET	0						
22.3.7	CVTS-220 KV	SET	0						

SL NO	SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	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
22.3.8	CVTS-132 KV	SET	6						
22.3.9	IVTS-220 KV	SET	0						
22.3.10	IVTS-132 KV	SET	3						
22.3.11	IVTS-33 KV	SET	0						
22.3.12	Surge Arrester-220 Kv	SET	6						
22.3.13	Surge Arrester-132 kV	SET	12						
22.3.14	Surge Arrester-33 kV	SET	0						
22.3.15	Wave Trap-220 KV	SET	0						
22.3.16	Wave Trap-132 KV	SET	4						
22.3.17	BPI-220 KV	SET	14						
22.3.18	BPI-132 KV	SET	18						
22.3.19	BPI-33 KV	SET	0						
22.3.20	NCTS	SET	2						
22.3.21	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**40.144**						
22.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(22.2.9+22.3.21)**	MT	**199.413**						
22.5	**Total weight of GI Nuts and bolts for the above structures(@10% of Total structure weight)**	MT	**19**						
22.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	MT	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	KMS	1						
23.1.2	3.5 CX120 mm^2	KMS	1						
23.1.3	3.5 CX70 mm^2	KMS	1						
23.1.4	3.5 CX35 mm^2	KMS	1						
23.1.5	4 CX 16 mm^2	KMS	5						
23.1.6	4 CX 6 mm^2	KMS	5						
23.1.7	2CX 6 mm^2	KMS	4						
23.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)								
23.2.1	4 CX 2.5 mm^2	KMS	28						
23.2.2	5 CX 2.5 mm^2	KMS	25						
23.2.3	7CX 2.5 mm^2	KMS	15						
23.2.4	10 CX 2.5 mm^2	KMS	20						
23.2.5	12 CX 2.5 mm^2	KMS	5						
23.2.6	16 CX 2.5 mm^2	KMS	2						
23.2.7	19 CX 2.5 mm^2	KMS	4						
23.3	*Perforated G.I Cable trays(2mm thickness) with accessories for laying of cables in cable trench of different section(1-1;2-2;3-3;4-4) as per T.S.*	LOT	1						
23.4	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**								
23.4.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4						

SL NO	SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	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
23.4.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2						
23.4.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strengh: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	***1000***						
23.4.4	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	***500***						
23.4.5	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	***250***						
23.4.6	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	***100***						
24	**SUB-STATION SWITCH YARD LIGHTING**								
25	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard)**								
25.1	***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						
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-SCOPE OF WORKAT SL NO. 16-ANNEXURE - I)**								
26.1	FOAM TYPE-9 LTRS	NOS	2						
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	5						
26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4						
26.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	4						
27	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**								
27.1	**220 KV SIDE**								
27.1.1	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2						
27.1.2	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2						
27.1.3	220 KV BUS BAR MODULE SUITABLE FOR EXISTING BUS-BAR RELAY PANEL(RBB-2D)(To be matched with the existing Bus Bar protection scheme. Existing Bus Bsr is of Siemens make,Distributed type. Only Bay module to be provided and to be connected to the Master unit through Optical Fiber cable)(220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2						
27.1.4	220 KV PAS MODULE SUITABLE FOR EXISTING AUTOMATION PANEL(To be matched with the existing Automation scheme.Existing S/S Automation is of Siemens make,.Only Bay module to be provided and to be connected to the Master unit through Optical Fibre cable)(220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2						
27.2	**132 KV SIDE**								
27.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2						
27.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr)	NOS	2						
27.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1						
27.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2						
27.2.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE	NOS	2						
27.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1						
27.2.7	COMMON PANEL (KP-1)	NOS	1						

SL NO	SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	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
28	**AC & DC SYSTEM**								
28.1	**AC SYSTEM**								
28.1.1	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1						
28.2	**DC SYSTEM**								
28.2.1	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						
23	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1						
24	WALKIE TALKIE SET	SET /PAIR	2						
25	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						
26	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						
27	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1						
28	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						
29	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						
30	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						
31	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						
	TOTAL OF SUBSTATION-2A(SUPPLY) (PART-I)								

Note:

1. **Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.**
2. **Bidders are required to fill up amount in all column except shaded portion.**
3. **Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). No rate shall be furnished/obtained after bid opening (Ref clause no 33.4.1 of INB vol-I)**
4. **Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**
5. **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 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-I, SCHEDULE-2B (FOR SUBSTATION) — **PRICE IN INDIAN RUPEES**

SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Unit F&I Price	Total F&I Price
1	**2**	3	4	5	6= 4X5
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
2	**245 KV,1600A,40KA,ISOLATORS**				
2.1	WITH OUT EARTH SWITCH	NOS	2		
2.2	WITH SINGLE EARTH SWITCH	NOS	2		
2.3	TANDEM WITHOUT EARTH SWITCH	NOS	4		
3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		
4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III	NOS	6		
5	220 KV Bus Post Insulators	NOS	14		
6	145 KV,(Different Ratio),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
7	145 KV,1200A,40 KA,ISOLATORS				
7.1	S/I WITH OUT EARTH SWITCH ***(Includes sectiona switches at the main bus near B/C)***	NOS	8		
7.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
7.3	D/I WITHOUT EARTH SWITCH	NOS	2		
9	145 KV, 6000pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		
10	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		
11	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
12	132 KV Bus Post Insulators	NOS	18		
13	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		
14	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**		
15	**BUS BAR & CIRCUIT MATERIALS**				
15.1	**FOLLOWING ANTI FOG TYPE DISC INSULATORS**				
15.1.1	160 kN INSULATOR STRINGS ***for twin Moose cond*** (TENSION)-220 KV	SET	24		
15.1.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (TENSION)-220 KV	SET	48		
15.1.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	18		
15.1.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	54		
15.1.5	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-220 KV	SET	36		
15.1.6	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	24		
15.2	ACSR MOOSE CONDUCTOR	LOT	1		
15.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
15.4	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1		

SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Unit F&I Price	Total F&I Price
1	2	3	4	5	6= 4X5
16	SUBSTATION SYSTEMS				
16.1	EARTHING CONDUCTOR FOR BURRIAL : 40 mm DIA MS ROD for laying (*spacing maximum 5m*)	LOT	1		
16.2	EARTHING CONDUCTOR: 75x10mm **GI Flat** for Raiser from the burial earth mat to equipment,structure etc)	LOT	1		
16.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1		
16.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1		
17	BAY MARSHALLING KIOSK ***(2 nos on 220 kV bay, 03 Nos 132 kv bay)***	NOS	5		
18	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2		
19	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr ,)***	NOS	1		
20	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay, 02 Nos 132 kv bay)***	NOS	3		
21	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS**				
21.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
21.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	17		
21.1.2	P2S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	2		
21.1.3	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	20		
21.1.4	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5		
21.1.5	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	0		
21.1.6	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	0		
21.1.7	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	NOS	1		
22.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
22.2.1	Q1S-220KV (NOMINAL UNIT WT- 1.5 MT)	NOS	14		
22.2.2	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	17		
22.2.3	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0		
22.2.4	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4		
22.2.5	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0		
22.2.6	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	0		
22.2.7	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	0		
22.2.8	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	0		
22.2.9	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**159.269**		
22.3	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 220KV, 132 KV & 33KV EQUIPMENTS**				
22.3.1	ISOLATORS-220KV	SET	8		
22.3.2	ISOLATORS-132KV	SET	12		
22.3.3	ISOLATORS-33 KV	SET	0		
22.3.4	CTS-220 KV	SET	6		
22.3.5	CTS-132 KV	SET	15		
22.3.6	CTS-33 KV	SET	0		
22.3.7	CVTS-220 KV	SET	0		
22.3.8	CVTS-132 KV	SET	6		
22.3.9	IVTS-220 KV	SET	0		

SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Unit F&I Price	Total F&I Price
1	2	3	4	5	6= 4X5
22.3.10	IVTS-132 KV	SET	3		
22.3.11	IVTS-33 KV	SET	0		
22.3.12	Surge Arrester-220 Kv	SET	6		
22.3.13	Surge Arrester-132 kV	SET	12		
22.3.14	Surge Arrester-33 kV	SET	0		
22.3.15	Wave Trap-220 KV	SET	0		
22.3.16	Wave Trap-132 KV	SET	4		
22.3.17	BPI-220 KV	SET	14		
22.3.18	BPI-132 KV	SET	18		
22.3.19	BPI-33 KV	SET	0		
22.3.20	NCTS	SET	2		
22.3.21	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**40.144**		
22.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(22.2.9+22.3.21)**	MT	**199.413**		
22.5	**Total weight of GI Nuts and bolts for the above structures(@10% of Total structure weight)**	MT	**19**		
22.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	MT	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	KMS	1		
23.1.2	3.5 CX120 mm^2	KMS	1		
23.1.3	3.5 CX70 mm^2	KMS	1		
23.1.4	3.5 CX35 mm^2	KMS	1		
23.1.5	4 CX 16 mm^2	KMS	5		
23.1.6	4 CX 6 mm^2	KMS	5		
23.1.7	2CX 6 mm^2	KMS	4		
23.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
23.2.1	4 CX 2.5 mm^2	KMS	28		
23.2.2	5 CX 2.5 mm^2	KMS	25		
23.2.3	7CX 2.5 mm^2	KMS	15		
23.2.4	10 CX 2.5 mm^2	KMS	20		
23.2.5	12 CX 2.5 mm^2	KMS	5		
23.2.6	16 CX 2.5 mm^2	KMS	2		
23.2.7	19 CX 2.5 mm^2	KMS	4		
23.3	*Perforated G.I Cable trays(2mm thickness) with accessories for laying of cables in cable trench of different section(1-1;2-2;3-3;4-4) as per T.S.*	LOT	1		
23.4	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**				
23.4.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4		
23.4.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2		
23.4.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strengh: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	***1000***		

SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Unit F&I Price	Total F&I Price
1	2	3	4	5	6= 4X5
23.4.4	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	***500***		
23.4.5	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	***250***		
23.4.6	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	***100***		
24	**SUB-STATION SWITCH YARD LIGHTING**				
25	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard)**				
25.1	***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		
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-SCOPE OF WORKAT SL NO. 16-ANNEXURE - I)**				
26.1	FOAM TYPE-9 LTRS	NOS	2		
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	5		
26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4		
26.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	4		
27	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**				
27.1	**220 KV SIDE**				
27.1.1	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2		
27.1.2	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2		
27.1.3	220 KV BUS BAR MODULE SUITABLE FOR EXISTING BUS-BAR RELAY PANEL(RBB-2D)(To be matched with the existing Bus Bar protection scheme. Existing Bus Bsr is of Siemens make,Distributed type. Only Bay module to be provided and to be connected to the Master unit through Optical Fiber cable)(220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2		
27.1.4	220 KV PAS MODULE SUITABLE FOR EXISTING AUTOMATION PANEL(To be matched with the existing Automation scheme.Existing S/S Automation is of Siemens make,.Only Bay module to be provided and to be connected to the Master unit through Optical Fibre cable) (220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2		
27.2	**132 KV SIDE**				
27.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2		
27.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr)	NOS	2		
27.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1		
27.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2		
27.2.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE	NOS	2		
27.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1		
27.2.7	COMMON PANEL (KP-1)	NOS	1		
28	**AC & DC SYSTEM**				
28.1	**AC SYSTEM**				
28.1.1	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		
28.2	**DC SYSTEM**				
28.2.1	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		

SL NO	F&I FOR SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Unit F&I Price	Total F&I Price
1	2	3	4	5	6= 4X5
23	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		
24	WALKIE TALKIE SET	SET/PAIR	2		
25	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		
26	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		
27	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		
28	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		
29	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		
30	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		
31	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		
	TOTAL OF SUBSTATION-2B(F&I) (PART-I)				
	Note:				
1	**Before filling up rate/amount etc. in the schedules bidders are requested to read carefully the instruction given in Vol-I of Bidding Document.**				
2	**Bidders are required to fill up amount in all column except shaded portion.**				
3	**Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). No rate shall be furnished/obtained after bid opening (Ref clause no 33.4.1 of INB vol-I)**				
4	**Kindly enclose soft copy of the duly filled schedule in a CD with the priced copy of Bid.**				
5	**Bidder should be quoted including service tax, no service tax shall be paid/reimbursed.**				
	Date :	(Signature) ……			
	Place :	(Name) ……			
		(Designation) ……			
		(Common Seal) ……			

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-I, SCHEDULE-2C (FOR SUBSTATION)				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 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Erection charges Unit Rate	 Total Price
1	2	3	4	5	6
A	**ELECTRICAL WORKS**				
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
2	**245 KV,1600A,40KA,ISOLATORS**				
2.1	WITH OUT EARTH SWITCH	NOS	2		
2.2	WITH SINGLE EARTH SWITCH	NOS	2		
2.3	TANDEM WITHOUT EARTH SWITCH	NOS	4		
3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		
4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III	NOS	6		
5	220 KV Bus Post Insulators	NOS	14		
6	145 KV,(Different Ratio),40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
7	145 KV,1200A,40 KA,ISOLATORS				
7.1	S/I WITH OUT EARTH SWITCH ***(Includes section switches at the main bus near B/C)***	NOS	8		
7.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
7.3	D/I WITHOUT EARTH SWITCH	NOS	2		
8	145 KV, 6000pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		
9	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		
10	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		

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				Unit Rate	Total Price
1	2	3	4	5	6
11	132 KV Bus Post Insulators	NOS	18		
12	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		
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**		
14	**BUS BAR & CIRCUIT MATERIALS**				
14.1	**FOLLOWING ANTI FOG TYPE DISC INSULATORS**				
14.1.1	160 kN INSULATOR STRINGS ***for twin Moose cond*** (TENSION)-220 KV	SET	24		
14.1.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (TENSION)-220 KV	SET	48		
14.1.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	18		
14.1.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	54		
14.1.5	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-220 KV	SET	36		
14.1.6	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	24		
14.2	ACSR MOOSE CONDUCTOR	LOT	1		
14.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
14.4	EARTH WIRES & IT'S HARDWARES & FITTING, ***with copper earth bond***	LOT	1		
15	SUBSTATION SYSTEMS				
15.1	EARTHING CONDUCTOR FOR BURRIAL : 40 mm DIA MS ROD for laying (*spacing maximum 5m*) (Substation earth mat): Design, engineering, supply (except the MS Rods, only erection) inclusive of corrosion protection measures if any,laying of earth mat conductors of size 40 mm dia MS Rod as per the approval of Engineer in charge, excavation, welding/jointing of ground conductors along with risers (a) up to Finished level from the mat size 40 mm MS rods. 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 700mm from the finished ground level as per the practice and as per specification.	LOT	1		
15.2	EARTHING CONDUCTOR: 75x10mm **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 75X10 mm GI Flats, as per approved drawing and specification.	LOT	1		

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				Unit Rate	Total Price
1	2	3	4	5	6
15.3	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		
15.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit) to be inserted directly inside the soil.	LOT	1		
16	BAY MARSHALLING KIOSK ***(2 nos on 220 kV bay, 03 Nos 132 kv bay)***	NOS	5		
17	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2		
18	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr ,)***	NOS	1		
19	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay, 02 Nos 132 kv bay)***	NOS	3		
20	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS**				
20.1	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
20.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	17		
20.1.2	P2S-220 KV (NOMINAL UNIT WT- 4.5 MT)	NOS	2		
20.1.3	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	20		
20.1.4	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5		
20.1.5	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	0		
20.1.6	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	0		
20.1.7	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	NOS	1		
20.2	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
20.2.1	Q1S-220KV (NOMINAL UNIT WT- 1.5 MT)	NOS	14		
20.2.2	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	17		
20.2.3	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0		
20.2.4	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4		
20.2.5	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0		
20.2.6	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	0		
20.2.7	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	0		

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1	2	3	4	5	6
20.2.8	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	0		
20.2.9	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**159.269**		
20.3	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 220KV, 132 KV & 33KV EQUIPMENTS**				
20.3.1	ISOLATORS-220KV	SET	8		
20.3.2	ISOLATORS-132KV	SET	12		
20.3.3	ISOLATORS-33 KV	SET	0		
20.3.4	CTS-220 KV	SET	6		
20.3.5	CTS-132 KV	SET	15		
20.3.6	CTS-33 KV	SET	0		
20.3.7	CVTS-220 KV	SET	0		
20.3.8	CVTS-132 KV	SET	6		
20.3.9	IVTS-220 KV	SET	0		
20.3.10	IVTS-132 KV	SET	3		
20.3.11	IVTS-33 KV	SET	0		
20.3.12	Surge Arrester-220 Kv	SET	6		
20.3.13	Surge Arrester-132 kV	SET	12		
20.3.14	Surge Arrester-33 kV	SET	0		
20.3.15	Wave Trap-220 KV	SET	0		
20.3.16	Wave Trap-132 KV	SET	4		
20.3.17	BPI-220 KV	SET	14		
20.3.18	BPI-132 KV	SET	18		
20.3.19	BPI-33 KV	SET	0		
20.3.20	NCTS	SET	2		
20.3.21	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**40.144**		
20.4	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(22.2.9+22.3.21)**	MT	**199.413**		
20.5	**Total weight of GI Nuts and bolts for the above structures(@10% of Total structure weight)**	MT	**19**		
20.6	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	MT	1		

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1	2	3	4	5	6
21	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
21.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
21.1.1	3.5 CX185 mm^2	KMS	1		
21.1.2	3.5 CX120 mm^2	KMS	1		
21.1.3	3.5 CX70 mm^2	KMS	1		
21.1.4	3.5 CX35 mm^2	KMS	1		
21.1.5	4 CX 16 mm^2	KMS	5		
21.1.6	4 CX 6 mm^2	KMS	5		
21.1.7	2CX 6 mm^2	KMS	4		
21.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
21.2.1	4 CX 2.5 mm^2	KMS	28		
21.2.2	5 CX 2.5 mm^2	KMS	25		
21.2.3	7CX 2.5 mm^2	KMS	15		
21.2.4	10 CX 2.5 mm^2	KMS	20		
21.2.5	12 CX 2.5 mm^2	KMS	5		
21.2.6	16 CX 2.5 mm^2	KMS	2		
21.2.7	19 CX 2.5 mm^2	KMS	4		
21.3	*Perforated G.I Cable trays(2mm thickness) with accessories for laying of cables in cable trench of different section(1-1;2-2;3-3;4-4) as per T.S.*	LOT	1		
21.4	**ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION**				
21.4.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHZ),Isc=40kA compatible to IEC 353 specifications	NOS	4		
21.4.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2		
21.4.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strengh: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	***1000***		
21.4.4	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	***500***		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Erection charges	
				Unit Rate	Total Price
1	2	3	4	5	6
21.4.5	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	***250***		
21.4.6	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	***100***		
22	**SUB-STATION SWITCH YARD LIGHTING**				
23	**SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(includes Switc yard)**				
23.1	***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		
24	**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)**				
24.1	FOAM TYPE-9 LTRS	NOS	2		
24.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	2		
24.3	DRY POWDER TYPE - 5 KGS	NOS	2		
24.4	CO_2 - 4.5 KGS	NOS	5		
24.5	CO_2 - 9 KGS	NOS	5		
24.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	4		
24.7	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	4		
25	**PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC**				
25.1	**220 KV SIDE**				
25.1.1	TRANSFORMER CONTROL PANEL(CPL-2D)	NOS	2		
25.1.2	TRANSFORMER RELAY PANEL(RPL-2D)	NOS	2		
25.1.3	220 KV BUS BAR MODULE SUITABLE FOR EXISTING BUS-BAR RELAY PANEL(RBB-2D)(To be matched with the existing Bus Bar protection scheme. Existing Bus Bsr is of Siemens make,Distributed type. Only Bay module to be provided and to be connected to the Master unit through Optical Fiber cable)(220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2		
25.1.4	220 KV PAS MODULE SUITABLE FOR EXISTING AUTOMATION PANEL(To be matched with the existing Automation scheme. Existing S/S Automation is of Siemens make,.Only Bay module to be provided and to be connected to the Master unit through Optical Fibre cable)(220 KV Bay extension for 2 Nos Auto Transformer)	NOS	2		

SL NO	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+2 SPARE)132 KV Bays.	Erection charges	
				Unit Rate	Total Price
1	2	3	4	5	6
25.2	**132 KV SIDE**				
25.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2		
25.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 220/132/33 KV Auto Tfr)	NOS	2		
25.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1		
25.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2		
25.2.5	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 220/132 KV AUTO TRANSFORMERS ON 132 KV SIDE	NOS	2		
25.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1		
25.2.7	COMMON PANEL (KP-1)	NOS	1		
26	**AC & DC SYSTEM**				
26.1	**AC SYSTEM**				
26.1.1	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		
26.2	**DC SYSTEM**				
26.2.1	220 V DC BOARD (HAVING 100A DC MCCB AS INCOMER, E/F (EARTH LEAKAGE), UNDER & OVER VOLTAGE AS PER SPECIFICATION (DC DB-1,DC DB-2 & B/C)	SET	1		
27	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		
28	WALKIE TALKIE SET	SET/PAIR	2		
29	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		
30	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		
31	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		
32	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		

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1	2	3	4	5	6
33	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		
	TOTAL of Part-I (A) (ELECTRICAL WORKS)				
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.***				
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**	Nos	17		
b	**P2S**	Nos	2		
c	**T1S**	Nos	20		
d	**T4S**	Nos	5		

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				Unit Rate	Total Price
1	2	3	4	5	6
e	**OC TYPE TOWER**	NOS	1		
1.2	**Equipment foundations :**				
1.2.1	245kV circuit breaker	Nos	2		
1.2.2	(a) 245 KV Isolator (S/I)(W E/S & W/O E/S)	Nos	4		
	(b) 245kV isolators (tandem type)	Nos	4		
1.2.3	245kV current transformers	Nos	6		
1.2.4	216kV Surge arrestors	Nos	6		
1.2.5	245kV bus post Insulators	Nos	14		
1.2.6	145kV circuit breaker	Nos	5		
1.2.7	(a) 145 KV Isolators (S/I)	Nos	8		
	(b) 145kV isolators (D/I)(W E/S & W/O E/S)	Nos	4		
1.2.8	145kV current transformers	Nos	15		
1.2.9	a)145kV capacitor voltage transformers	Nos	6		
	b)145 KV IVT	Nos	3		
1.2.10	120kV surge arrestors	Nos	12		
1.2.11	145kV bus post Insulators	Nos	18		
1.2.12	145kV line traps (pedestal mounted)	Nos	4		
1.2.13	BAY MARSHALLING KIOSK ***(2 nos on 220 kV bay, 03 Nos 132 kv bay)***	NOS	5		
1.2.14	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 nos on 220 kV bay, 01 Nos 132 kv bay)***	NOS	2		
1.2.15	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 220/132 KV Auto Tfr ,)***	NOS	1		
1.2.16	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 nos on 220 kV bay, 02 Nos 132 kv bay)***	NOS	3		
1.2.17	***NCT FOUNDATIONS near Transformers as per the direction of Engineer In charge.***	***NOS***	***2***		
1.3	Excavation: in all types of soil or rocks, back filling including borrowed earth if required ,and disposal of excess earth as per the direction of Engineer In charge as required for the above foundations.				
1.3.1	Soft/Loose Soil	Cum	900		

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				Unit Rate	Total Price
1	2	3	4	5	6
1.3.2	Soft Rock	Cum	2400		
1.4	Concreting with cost of cement & without Steel as required for the above foundations				
1.4.1	***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 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	250		
1.4.2	***Open cast foundation for the above column/equipment/marshalling box foundations { Sl No. 1.1 & 1.2} with RCC: 1:1.5:3 (Grade M-20),including supply of Labour all materials 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	1310		
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(Duly painted as per instruction of Engg in charge) INCLUDING STANDARD SUPPORT STAND(M.S JOIST ,CHANNEL,ANGLE).				
2.1	Cable trench with covers				

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				Unit Rate	Total Price
1	2	3	4	5	6
2.1.1	Section 1-1	Mtrs	200		
2.1.2	Section 2- 2	Mtrs	100		
2.1.3	Section 3-3	Mtrs	100		
2.1.4	Section 4-4	Mtrs	150		
2.2	**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.				
2.2.1	Road crossing for				
2.2.2	Section 1-1	Lot	1		
2.2.3	Section 2- 2	Lot	1		
2.2.4	Section 3-3	Lot	1		
3	**Switch yard buildings:** Design, engineering and construction of switch yard buildings including the piling where required, the cost of material, supply of labour, cement, reinforcement- steel, form work and excavation as per the approved drawing and technical specification (The RCC structure frame should be in the ratio 1:1.5:3).This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawings and specification.				
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)				
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,backfilling,and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.				

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				Unit Rate	Total Price
1	2	3	4	5	6
4.1	***7.0 mtrs concrete road in front of the Transformer as per technical specification indicated in the civil section(from the switch yard main gate& drain at both side of the road, as per the instruction of Engineer in Charge.***	***Lots***	***1***		
4.2	3.75 mtrs Bituminus road with soulder at both the side & shall have drain on both side of the road as per technical specification indicated in the civil section(Periphery roads outside switch yard fencing and colony roads)	Lots	1		
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		
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.				
5.1	Storm water drain	Lots	1		
5.2	Road-culverts, drain crossings	Lots	1		
5.3	Cable trench crossing	Lots	1		
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 4.1). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. 1. 220/132 KV, 160 MVA : (2 Nos)***				
6.1	160 MVA,100 MVA, 220/ 132kV transformers a) Overall dimension of transformer(appox) Length:11500 mmX Width 7000 mmX Height 7500 mm b) Total weight with oil and tank: 195 MT (appox)	Nos	2		

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				Unit Rate	Total Price
1	2	3	4	5	6
6.2	**OIL SUMP PIT**:Oil collection (from transformers)sump pit with provision of pump(5 HP, with auto level control , including cabling, fixing of control gear)as per CIGRE. As per spec and approved drawing. >Oil capacity of each Transformer in ltrs appox. a) 160 MVA,220/132/33 KV: 68000 ltrs. b) 20/40 MVA,132/33 KV: 26500 ltrs. c) 40 MVA,220/33 KV : 36000 ltrs. (1 for Auto Tfr + 1 for power Tfr)	Nos	1		
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		
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(1:4:8).The total compacted thickness of the metals(20 mm Nominal) 100mm above the PCC.	Lots	1		
9	**Levelling of sub-station and other area.**				
9.1	**LEVELLING OF S/S AREA**:Providing, neatly dressing up and leveling of substation area including switch yard area to a required level as decided by the Engineer in Charge, the work includes removal, clearing of the entire area from vegetation, trees, bushes, uprooting of plants and disposal of surplus earth and unusable material from the site by means of any mechanical transport, if required as per direction of the Project In charge, with all labours, tools, tackles and plants complete as per approved drawing and specification. This also includes excavation in all type of soils or rocks, back filling and disposal of excess earth or rocks to make the area to a level for construction as per scope and as per approved drawing and specification.				
9.2	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	***15000***		

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				Unit Rate	Total Price
1	2	3	4	5	6
9.3	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	***Cum***	***5000***		
9.4	***Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.***	***Cum***	***10000***		
10	***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.***	MTRS	525		
11	**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,backfilling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawing and specification. Painting of the walls as per direction of the Engineer in charge.	Lots	1		
12	**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.)				
12.1	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		
12.2	PCC: M10(1: 3 : 6)	Cu.m.	1		
12.3	RCC M 15(1:2:4)	Cu.m.	1		
12.4	RCC: M 20(1:1.5:3)	Cu.m.	1		
12.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1		
12.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		
12.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1		

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				Unit Rate	Total Price
1	2	3	4	5	6
13	**Switch yard lighting:** Design, engineering, procurement of labour, material including all associated works for construction of switch yard lighting as per technical specification and approved drawings. The fixture shall be of reputed make (Philips/CGL/Bajaj) and fixtures shall be of LED lamps and proper cabling from the lighting outdoor distribution boards to the junction boxes and from junction boxes to the fixtures. The lighting fixtures are to be installed on the switch yard structures. The quantity of such fixtures are to be designed and to be ascertained.	Lots	1		
14	**MAIN & SWITCH YARD GATES**:Design, engineering, procurement of labour, material including all associated works for construction and fixing of of a main gate and one no. switch yard gates with men gates as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of gate lights (Post top lantern type) on each pillar of the gate. It includes supply & fixing of light fixtures including LED Gate lamp, LV XLPE cables, switchgear etc required to complete works as per specification and approved drawings	Lot	1		
15	**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		
16	**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		
	TOTAL OF CIVIL WORKS (B)				

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	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	5	6
	GRAND TOTAL (ELECTRICAL WORKS + CIVIL WORKS) (A+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 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-II SCHEDULE-2A (FOR LINE)

	DESCRIPTION OF ITEMS	LINE				IN INR					
Sl. No.	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	UNIT WEIGHT IN MT(FOR STRUCTURAL MATERIALS)	Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	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(7) [For bought-out items, taxes & duties excluding Octroi/Entry Tax are invariably included in the price quoted at column(7)]		
									Excise Duty	Sales Tax	Other Levies (if any)
1	2	3	4	4	5	6	7=5X6	8	9	10	11
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**.										
1.1	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	Nos.	9.839	0	0						
1.1.1	OC +15 Extension(Nominal Weight 8.375 MT)	Nos.	8.375	0	0						
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	4.973	2	2						
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	1.018	1	1						
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	2.104	0	0						
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6.214	6	6						
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	1.119	1	1						
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	2.342	1	1						
1.4	TEMPLATES										
1.4.1	b) PB (Nominal unit weight 0.602 MT)	Nos.	0.602	1	1						
1.4.2	c) PC (Nominal unit weight 0.904 MT)	Nos.	0.904	1	1						

1.4.3	c) OC+15(Nominal weight 2.50MT)	Nos.	2.5	0	0						
1.5	**TOTAL** WEIGHT OF THE STRUCTURE (including stubs,Templates,Foundation Bolts and nuts etc)	MT		**53.22**	**53.22**						
1.6	**Weight of G.I Nuts and Bolts**	MT		**2.67**	**2.67**						
2.0	**Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.**										
2.1	EARTHING DEVICE	Nos.		8	8						
2.2	DANGER BOARD	Nos.		8	8						
2.3	NUMBER PLATE	Nos.		8	8						
2.4	PHASE PLATE	Nos.		24	24						
2.5	ANTICLIMBING DEVICE	Nos.		8	8						
2.6	CIRCUIT PLATE	Nos.		16	16						
3.0	**Supply of following POWER CONDUCTORS in the proposed 132 KV /220kV lines with 1.5% provision for sag and wastage as per the technical specification.**										
3.1	AAAC Zebra	Kms.		0	0						
3.2	ACSR Panther (1) Multi circuit – 10.355 Kms (2) Double Circuit – 0.632 Km.	Kms.		7.5	7.5						
4.0	**POWER CONDUCTOR ACESSORIES**										
4.1	For AAAC ZEBRA										
4.1.1	VIBRATION DAMPER AAAC ZEBRA	Nos.		0	0						
4.1.2	MID SPAN JOINT AAAC ZEBRA	Nos.		0	0						
4.1.3	Repair sleeve for ACSR Zebra	Nos.		0	0						
4.2	For ACSR PANTHER										
4.2.1	P.A Rod for ACSR Panther	Set		0	0						
4.2.2	VIBRATION DAMPER ACSR Panther	Nos.		120	120						
4.2.3	MID SPAN JOINT ACSR Panther	Nos.		5	5						
4.2.4	Repair sleeve for ACSR Panther	Nos.		5	5						
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 *as per Technical specification*.**	Kms.		4	4						
6.0	**EARTH CONDUCTOR ACESSORIES**										
6.1	VIBRATION DAMPER	Nos.		24	24						
6.2	FLEXIBLE EARTH BOND	Nos.		24	24						
6.3	SUSPENSION CLAMP	Nos.		0	0						
6.4	TENSION CLAMP	Nos.		24	24						
6.5	MID SPAN JOINT	Nos.		2	2						
6.6	U BOLT	Nos.		24	24						
7.0	**Supply of the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**										
7.1	70 KN Insulator (taking 5% extra towards wastage)	Nos.		115	115						
7.2	90 KN Insulator (taking 5% extra towards wastage)	Nos.		1135	1135						
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.		0	0						

8.0	**Supply of the following hard ware fittings suitable for following conductors as per the technical specification.**										
8.1	**For ACSR** *ZEBRA conductor*										
8.1.1	Single tension Hard wares fittings suitable for 160 KN insulator.	Nos.		0	0						
8.1.2	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.		0	0						
8.2	**For ACSR Panther** *conductor*										
8.2.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.		12	12						
8.2.2	Single tension Hard wares fittings suitable for 90 KN insulator.	Nos.		84	84						
8.2.3	Double tension Hard wares fittings suitable for 90 KN insulator.	Nos.		12	12						
	TOTAL OF LINE -2A (PART-II)										

Note:

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

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

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

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

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

Date :
Place :

(Name) ……
(Designation) ……
(Common Seal) ……

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-II SCHEDULE-2B (FOR LINE)

	DESCRIPTION OF ITEMS	LINE			PRICE IN INDIAN RUPEES	
Sl. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	Unit F & I Price	Total F & I Price
1	2	3	4	5	6	7=5x6
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**.					
1.1	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	Nos.	0	0		
1.1.1	OC +15 Extension(Nominal Weight 8.375 MT)	Nos.	0	0		
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	2	2		
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	1	1		
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	0	0		
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6	6		
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	1	1		
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	1	1		
1.4	TEMPLATES					
1.4.1	b) PB (Nominal unit weight 0.602 MT)	Nos.	1	1		
1.4.2	c) PC (Nominal unit weight 0.904 MT)	Nos.	1	1		
1.4.3	c) OC+15(Nominal weight 2.50MT)	Nos.	0	0		
1.5	**TOTAL** WEIGHT OF THE STRUCTURE (including stubs,Templates,Foundation Bolts and nuts etc)	MT	**53.22**	**53.22**		
1.6	**Weight of G.I Nuts and Bolts**	MT	**2.67**	**2.67**		
2.0	**Supply of the following tower accessories as per technical specification and as directed by the engineer in charge.**					
2.1	EARTHING DEVICE	Nos.	8	8		
2.2	DANGER BOARD	Nos.	8	8		
2.3	NUMBER PLATE	Nos.	8	8		
2.4	PHASE PLATE	Nos.	24	24		
2.5	ANTICLIMBING DEVICE	Nos.	8	8		
2.6	CIRCUIT PLATE	Nos.	16	16		
3.0	**Supply of following POWER CONDUCTORS in the proposed 132 KV /220kV lines with 1.5% provision for sag and wastage as per the technical specification.**					

PART-II SCHEDULE-2B (FOR LINE)

	DESCRIPTION OF ITEMS	LINE			PRICE IN INDIAN RUPEES	
Sl. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	Unit F & I Price	Total F & I Price
1	2	3	4	5	6	7=5x6
3.1	AAAC Zebra	Kms.	0	0		
3.2	ACSR Panther (1) Multi circuit – 10.355 Kms (2) Double Circuit – 0.632 Km.	Kms.	7.5	7.5		
4.0	**POWER CONDUCTOR ACESSORIES**					
4.1	For AAAC ZEBRA					
4.1.1	VIBRATION DAMPER AAAC ZEBRA	Nos.	0	0		
4.1.2	MID SPAN JOINT AAAC ZEBRA	Nos.	0	0		
4.1.3	Repair sleeve for ACSR Zebra	Nos.	0	0		
4.2	For ACSR PANTHER					
4.2.1	P.A Rod for ACSR Panther	Set	0	0		
4.2.2	VIBRATION DAMPER ACSR Panther	Nos.	120	120		
4.2.3	MID SPAN JOINT ACSR Panther	Nos.	5	5		
4.2.4	Repair sleeve for ACSR Panther	Nos.	5	5		
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 *as per Technical specification.***	Kms.	4	4		
6.0	**EARTH CONDUCTOR ACESSORIES**					
6.1	VIBRATION DAMPER	Nos.	24	24		
6.2	FLEXIBLE EARTH BOND	Nos.	24	24		
6.3	SUSPENSION CLAMP	Nos.	0	0		
6.4	TENSION CLAMP	Nos.	24	24		
6.5	MID SPAN JOINT	Nos.	2	2		
6.6	U BOLT	Nos.	24	24		
7.0	**Supply of the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**					
7.1	70 KN Insulator (taking 5% extra towards wastage)	Nos.	115	115		
7.2	90 KN Insulator (taking 5% extra towards wastage)	Nos.	1135	1135		
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.	0	0		
8.0	**Supply of the following hard ware fittings suitable for following conductors as per the technical specification.**					
8.1	**For ACSR** *ZEBRA conductor*					
8.1.1	Single tension Hard wares fittings suitable for 160 KN insulator.	Nos.	0	0		
8.1.2	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.	0	0		
8.2	**For ACSR Panther** *conductor*					
8.2.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	12	12		
8.2.2	Single tension Hard wares fittings suitable for 90 KN insulator.	Nos.	84	84		
8.2.3	Double tension Hard wares fittings suitable for 90 KN insulator.	Nos.	12	12		

PART-II SCHEDULE-2B (FOR LINE)

	DESCRIPTION OF ITEMS	LINE			PRICE IN INDIAN RUPEES	
Sl. No.	F&I FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	Unit F & I Price	Total F & I Price
1	2	3	4	5	6	7=5x6
	TOTAL OF LINE -2B (PART-II)					

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.**

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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 :

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

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

At MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-02 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-02 / 2012)

PART-II, SCHEDULE-2C (FOR LINE)

S. No.	DESCRIPTION OF ITEMS **ERECTION, TESTING AND COMMISSIONING OF FOLLOWING EQUIPMENTS (Complete as per Technical Specification) AND ASSOCIATED CIVIL WORKS AS DETAILED BELOW**	UNITS	LINE Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	PRICE IN INDIAN RUPEES Unit Erection Charges	Total Erection Charges
1	2	3	4	5	6	7=5x6
A	**ELECTRICAL WORKS**					
1.1	220 KV D/C-OC type (60 deg ANGLE) TOWERS (NOMINAL UNIT WEIGHT 9.839 MT, HEIGHT: 35.645 mtrs,BASE:10.8 mtrs)	Nos.	0	0		
1.1.1	OC +15 Extension(Nominal Weight 8.375 MT)	Nos.	0	0		
1.2	PBTYPE (30 deg ANGLE) TOWERS (Nominal unit weight 4.973 MT)	Nos.	2	2		
1.2.1	+3 EXTENSION (Nominal unit weight 1.018 MT)	Nos.	1	1		
1.2.2	+6 EXTENSION (Nominal unit weight 2.104 MT)	Nos.	0	0		
1.3	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	6	6		
1.3.1	+3 EXTENSION (Nominal unit weight 1.119 MT)	Nos.	1	1		
1.3.2	+6 EXTENSION (Nominal unit weight 2.342 MT)	Nos.	1	1		
1.4	TEMPLATES					
1.4.1	b) PB (Nominal unit weight 0.602 MT)	Nos.	1	1		
1.4.2	c) PC (Nominal unit weight 0.904 MT)	Nos.	1	1		
1.4.3	c) OC+15(Nominal weight 2.50MT)	Nos.	0	0		
1.5	***TOTAL WEIGHT OF THE STRUCTURE (including stubs,Templates,Foundation Bolts and nuts etc)***	MT	**53.22**	**53.22**		
1.6	**Weight of G.I Nuts and Bolts**	MT	**2.67**	**2.67**		
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.	8	8		
2.2	DANGER BOARD	Nos.	8	8		
2.3	NUMBER PLATE	Nos.	8	8		

PART-II, SCHEDULE-2C (FOR LINE)

S. No.	DESCRIPTION OF ITEMS **ERECTION, TESTING AND COMMISSIONING OF FOLLOWING EQUIPMENTS (Complete as per Technical Specification) AND ASSOCIATED CIVIL WORKS AS DETAILED BELOW**	UNITS	LINE Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	PRICE IN INDIAN RUPEES Unit Erection Charges	Total Erection Charges
1	2	3	4	5	6	7=5x6
2.4	PHASE PLATE	Nos.	24	24		
2.5	ANTICLIMBING DEVICE	Nos.	8	8		
2.6	CIRCUIT PLATE	Nos.	16	16		
3.0	**Erection of following POWER CONDUCTORS in the proposed 132 KV /220kV lines with 1.5% provision for sag and wastage as per the technical specification.**					
3.1	AAAC Zebra	Kms.	0	0		
3.2	ACSR Panther (1) Multi circuit – 10.355 Kms (2) Double Circuit – 0.632 Km.	Kms.	7.5	7.5		
4.0	**POWER CONDUCTOR ACESSORIES**					
4.1	For AAAC ZEBRA					
4.1.1	VIBRATION DAMPER AAAC ZEBRA	Nos.	0	0		
4.1.2	MID SPAN JOINT AAAC ZEBRA	Nos.	0	0		
4.1.3	Repair sleeve for ACSR Zebra	Nos.	0	0		
4.2	For ACSR PANTHER					
4.2.1	P.A Rod for ACSR Panther	Set	0	0		
4.2.2	VIBRATION DAMPER ACSR Panther	Nos.	120	120		
4.2.3	MID SPAN JOINT ACSR Panther	Nos.	5	5		
4.2.4	Repair sleeve for ACSR Panther	Nos.	5	5		
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 *as per Technical specification*.**	Kms.	4	4		
6.0	**EARTH CONDUCTOR ACESSORIES**					
6.1	VIBRATION DAMPER	Nos.	24	24		
6.2	FLEXIBLE EARTH BOND	Nos.	24	24		
6.3	SUSPENSION CLAMP	Nos.	0	0		
6.4	TENSION CLAMP	Nos.	24	24		
6.5	MID SPAN JOINT	Nos.	2	2		
6.6	U BOLT	Nos.	24	24		
7.0	**Erection of the following Antifog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.**					

PART-II, SCHEDULE-2C (FOR LINE)

S. No.	DESCRIPTION OF ITEMS	LINE			PRICE IN INDIAN RUPEES	
	ERECTION, TESTING AND COMMISSIONING OF FOLLOWING EQUIPMENTS (Complete as per Technical Specification) AND ASSOCIATED CIVIL WORKS AS DETAILED BELOW	UNITS	Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	Unit Erection Charges	Total Erection Charges
1	2	3	4	5	6	7=5x6
7.1	70 KN Insulator (taking 5% extra towards wastage)	Nos.	115	115		
7.2	90 KN Insulator (taking 5% extra towards wastage)	Nos.	1135	1135		
7.3	160 KN Insulator (taking 5% extra towards wastage)	Nos.	0	0		
8.0	**Erection of the following hard ware fittings suitable for following conductors as per the technical specification.**					
8.1	**For ACSR** *ZEBRA conductor*					
8.1.1	Single tension Hard wares fittings suitable for 160 KN insulator.	Nos.	0	0		
8.1.2	Double tension Hard wares fittings suitable for 160 KN insulator.	Nos.	0	0		
8.2	**For ACSR Panther** *conductor*					
8.2.1	Single suspension Hard wares fittings.(AGS type) suitable for 70 KN insulator.	Nos.	12	12		
8.2.2	Single tension Hard wares fittings suitable for 90 KN insulator.	Nos.	84	84		
8.2.3	Double tension Hard wares fittings suitable for 90 KN insulator.	Nos.	12	12		
9	**TOTAL (Part-A) (ELECTRICAL WORKS)**					
B	**CIVIL WORKS**					
1.0	**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.**					
1.1	Excavation in all type soil and rocks and back filling (back filling shall be done in layers of 500mm sprinkling of water and compaction thereafter and disposed of excess quantity of excavated soil at suitable place after back filling), & if required for filling the foundation, borrowed earth/murrum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.					
1.1.1	Normal soil/compact soil	CUM	110	110		
1.1.2	Dense compact soil	CUM	170	170		
1.1.3	Soft rock	CUM	680	680		
1.1.4	Hard Rock without Blasting	CUM	525	525		
1.1.5	Hard Rock required blasting/using rock breaking machine.	CUM	50	50		
1.2	Cement Cocreting works(RCC & PCC) as per Technical specification and Direction of the Engineer in charge.					

S. No.	DESCRIPTION OF ITEMS **ERECTION, TESTING AND COMMISSIONING OF FOLLOWING EQUIPMENTS (Complete as per Technical Specification) AND ASSOCIATED CIVIL WORKS AS DETAILED BELOW**	UNITS	LINE Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(	TOTAL QUANTITY	PRICE IN INDIAN RUPEES Unit Erection Charges	Total Erection Charges
1	2	3	4	5	6	7=5x6
1.2.1	***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	175	175		
1.2.2	***Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in 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	11	11		
1.3	REVETMENT:(including Benching)Supply of all materials like cement, random rubles stone (stone masonry) all type aggregates,labours,Mixture machine,fuel,lubricant & T&P for construction of revetment walls as per requirement to protect the towers, where felt unsafe and as per the direction of Engineer in charge.					
1.3.1	Excavation in all type of soil including rock & back filling including supply of sand with back filling.	CUM	10	10		
1.3.2	PCC in the ratio1:3:6 including supply of sand 12-20 mm chips.	CUM	4	4		
1.3.3	PCC in the ratio 1:2:4 as above.	CUM	3	3		
1.3.4	RR Masonary work in the ratio 1:5.	CUM	20	20		
1.4	Supply & painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping(both leg & bracing members)	Nos.	10	10		
1.5	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.	17000	17000		

PART-II, SCHEDULE-2C (FOR LINE)

S. No.	DESCRIPTION OF ITEMS	LINE			PRICE IN INDIAN RUPEES	
	ERECTION, TESTING AND COMMISSIONING OF FOLLOWING EQUIPMENTS (Complete as per Technical Specification) AND ASSOCIATED CIVIL WORKS AS DETAILED BELOW	**UNITS**	**Quantity for Construction of 132kv line to existing Chandaka-Khurda 132kv line for LILO arrangement(Line length-1.2Kms(**	**TOTAL QUANTITY**	**Unit Erection Charges**	**Total Erection Charges**
1	**2**	**3**	**4**	**5**	**6**	**7=5x6**
2.0	**SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting.**					
2.1	Preliminary survey, Detail survey and resurvey (required for avoiding ROW problem) including but not limited to taking of levels, profile plotting, tower spotting ,marking of towers locations at site including showing P&T line, power line, Railway line, river crossing, roads and submission of route map and survey report etc. The P&T lines and railway lines for a minimum distance of 8 kms on either side of alignment shall be clearly indicated.	Kms.	1.2	1.2		
2.2	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	Kms.	1.2	1.2		
2.3	Preparation of land schedule on revenue (if required)maps indicating alignment therein duly authenticated by Revenue Inspector & Tahasildar, enumeration of trees with the help of Forest officer and other prominent features required for alignment of the proposed 132 KV line. Final route to be plotted on 1:50000 topo sheet for approval.	LS	1	1		
2.4	PTCC approval has to be obtained by submitting the required documents to the concerned department through OPTCL. The documents for PTCC clearance including required drawings etc has to be submitted by the contractor within 5 months of award of contract. Beyond the above period L.D as applicable & the amount shall be deducted as specified in the specification.	LS	1	1		
	TOTAL (Part-B) (CIVIL WORKS)					
	TOTAL OF ERECTION WORK LINE – 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 Ltd.

Construction of 2X160 MVA,220/132 Sub-Station along with 132KV Transmission Lines and associated system

AT MENDHASAL

Bid Document No. : Sr. G.M-CPC-TENDER-2X160 MVA,220/132 KV SYSTEM MENDHASAL-64 /2011

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

(Item wise Price of Mandatory Spares for Package)

SCHEDULE-3, MANDATORY SPARES

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+ 2 SPARE)132 KV Bays.	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	7	8	9	10	11	12
1	**245 KV,1600A,40KA,ISOLATORS**										
1.1	MALE & FEMALE CONTACTS	SET	1								
1.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
1.3	LIMIT SWITCH	SET	2								
1.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
1.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
1.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
1.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
2	**245KV,3150A,40KA,SF6,CIRCUIT BREAKER**										
2.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1								
2.2	SPRING CHARGING/PNEUMATIC MOTOR	NOS	1								
2.3	BREKER AUXILIARY CONTACTS	SET	1								
2.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
2.5	DENSITY MONITORING SYSTEM	SET	1								
2.6	CLOSING COIL	NOS	4								
2.7	TRIPPING COIL	NOS	4								
2.8	SF6 GAS FILLING DEVICE	NOS	1								
2.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1								
3	216 KV,METAL OXIDE, 10 KA, CLASS III SURGE ARRESTOR COMPLETE WITH INSULATING BASE & SURGE MONITOR	NOS	1								
4	220 KV Bus Post Insulators	NOS	2								
5	145 KV,(Different Ratio),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
6	**145 KV,1200A,40 KA,ISOLATORS**										
6.1	MALE & FEMALE CONTACTS	SET	1								

SCHEDULE-3, MANDATORY SPARES

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+ 2 SPARE)132 KV Bays.	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	7	8	9	10	11	12
6.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
6.3	LIMIT SWITCH	SET	2								
6.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
6.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
6.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
6.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
7	145 KV,6000pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
8	120 KV,METAL OXIDE, 10 KA CLASS III SURGE ARRESTOR COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	2								
9	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1								
10	132 KV Bus Post Insulators	NOS	3								
11	**145KV,3150A,40 KA,SF6,CIRCUIT BREAKER**	NOS									
11.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1								
11.2	SPRING CHARGING MOTOR	NOS	1								
11.3	BREKER AUXILIARY CONTACTS	SET	1								
11.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
11.5	DENSITY MONITORING SYSTEM	SET	1								
11.6	CLOSING COIL	NOS	4								
11.7	TRIPPING COIL	NOS	4								
11.8	SF6 GAS FILLING DEVICE	NOS	1								
11.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1								
12	**BUS BAR & CIRCUIT MATERIALS**	**LOT**									
12.1	160 kN INSULATOR STRINGS ***for twin Moose cond*** (TENSION)-220 KV	SET	2								
12.2	160 kN INSULATOR STRINGS ***for single Moose cond*** (TENSION)-220 KV	SET	2								
12.3	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-132 KV	SET	2								
12.4	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-132 KV	SET	2								
12.5	120 kN INSULATOR STRINGS ***for Double Moose cond*** (TENSION)-33 KV	SET	2								
12.6	120 kN INSULATOR STRINGS ***for Single Moose cond***(TENSION)-33 KV	SET	2								

SCHEDULE-3, MANDATORY SPARES

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+ 2 SPARE)132 KV Bays.	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	7	8	9	10	11	12
12.7	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-220 KV	SET	2								
12.8	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-132 KV	SET	2								
12.9	90 kN INSULATOR STRINGS ***for Double/ Single Moose cond*** (SUSPENSION)-33 KV	SET	2								
13	ACSR MOOSE CONDUCTOR	MTRS	500								
14	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	SET (EACH TYPE THREE NOS.)	1								
15	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**										
15.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)**										
15.1.1	3.5 CX120 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
15.1.2	3.5 CX70 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
15.1.3	3.5 CX35 mm^2 (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
15.1.4	4 CX 16 mm^2	MTRS	250								
15.1.5	4 CX 6 mm^2	MTRS	250								
15.1.6	2CX 6 mm^2	MTRS	250								
15.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**										
15.2.1	4 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
15.2.2	5 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
15.2.3	7 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
15.2.4	10 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
15.2.5	12 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
15.2.6	16 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
15.2.7	19 CX 2.5 mm^2 (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
15.3	**CARRIER COMMUNICATION & OTHER MATERIALS**										
15.3.1	132 KV,800 A,0.5mH,Pedestal Mounting WAVE TRAP	NOS	1								
15.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1								
16	**PROTECTION,CONTROL METERING,EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN,RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM**										
16.1	**220 KV SIDE**										

SCHEDULE-3, MANDATORY SPARES

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+ 2 SPARE)132 KV Bays.	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	7	8	9	10	11	12
16.1.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1								
16.1.2	MASTER TRIP RELAY	NOS	1								
16.1.3	DIFFERENTIAL PROTECTION RELAY	NOS	1								
16.1.4	TRIP SUPERVISION RELAY	NOS	2								
16.1.5	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1								
16.1.6	ANNUNCIATOR	NOS	2								
16.1.7	DISCREPANCY CONTROL SWITCH										
16.1.8	a) FOR CIRCUIT BREAKER	NOS	2								
16.1.9	b) FOR ISOLATOR	NOS	2								
16.1.10	PROTECTION TRANSFER SWITCH	NOS	1								
16.1.11	AMMETER SELECTOR SWITCH	NOS	2								
16.1.12	VOLTMETER SELECTOR SWITCH	NOS	2								
16.1.13	AMMETER ALONG WITH TRANSDUCER	SET	1								
16.1.14	VOLTMETER ALONG WITH TRANSDUCER	SET	1								
16.1.15	MW METER ALONG WITH TRANSDUCER	SET	1								
16.1.16	MVAR METER ALONG WITH TRANSDUCER	SET	1								
16.2	**132 KV SIDE**										
16.2.1	DISTANCE PROTECTION RELAY	NOS	1								
16.2.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1								
16.2.3	MASTER TRIP RELAY	NOS	1								
16.2.4	TRIP SUPERVISION RELAY	NOS	2								
16.2.5	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1								
16.2.6	ANNUNCIATOR	NOS	2								
16.2.7	DISCREPANCY CONTROL SWITCH										
16.2.8	a) FOR CIRCUIT BREAKER	NOS	2								
16.2.9	b) FOR ISOLATOR	NOS	2								
16.2.10	PROTECTION TRANSFER SWITCH	NOS	1								
16.2.11	AMMETER SELECTOR SWITCH	NOS	1								
16.2.12	VOLTMETER SELECTOR SWITCH	NOS	1								
16.2.13	AMMETER ALONG WITH TRANSDUCER	SET	1								
16.2.14	VOLTMETER ALONG WITH TRANSDUCER	SET	1								
16.2.15	MW METER ALONG WITH TRANSDUCER	SET	1								
16.2.16	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.

SCHEDULE-3, MANDATORY SPARES

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	Quantity for 2X160 MVA,220/132 Substation at MENDHASAL [02 Nos 220 KV TRANSFORMER Bays,7 Nos(2Fdr+2T+1B/C+ 2 SPARE)132 KV Bays.	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	7	8	9	10	11	12

Date :

Place:

(Signature)……..

(Printed Name)……..

ORISSA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2X20MVA 132/33KV Sub-Stations at switching substation,Somanathpur,Balasore with associated work

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-03 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-03 / 2012)

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 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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**	**7**	**8**	**9**	**10**
1	145 KV,800-400-200/1-1-1-1 A,40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6						
2	**145 KV,1200A,40 KA,ISOLATORS**								
2.1	S/I WITH OUT EARTH SWITCH	NOS	2						
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	0						
2.3	D/I WITHOUT EARTH SWITCH	NOS	2						
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	0						
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	6						
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	0						
6	132 KV Bus Post Insulators	NOS	10						
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2						
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18						
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	**36 KV,800A,25KA,ISOLATORS**								
11.1	S/I WITH OUT EARTH SWITCH	NOS	7						
11.2	D/I WITH SINGLE EARTH SWITCH	NOS	3						
11.3	D/I WITHOUT EARTH SWITCH	NOS	2						
11.4	S/I WITH BEAM MOUNTED	NOS	2						
12	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	15						
13	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3						
14	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	6						
15	33 KV Bus Post Insulators	NOS	18						
16	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "ANTIFOG" Type**								
16.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Zebra)-132 KV	SET	42						
16.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Zebra)-33 KV	SET	45						

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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)
16.3	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Zebra)-132 KV	SET	12						
16.4	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Zebra)-33 KV	SET	24						
17	ACSR ZEBRA CONDUCTOR	Kms	**3**						
18	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1						
19	**SUBSTATION SYSTEMS**								
19.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	MTR	2500						
19.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	MTR	2500						
19.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	NOS	60						
19.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	NOS	20						
19.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 03 Nos 33 kv Bay	NOS	4						
19.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2						
19.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1						
19.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	10						
19.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2						
20	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**								
21	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**								
21.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	8						
21.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	1						
21.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	7						
21.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11						
22	**DIFFERENT TYPE OF BEAMS WITH DETAILS**								
22.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	8						
22.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0						
22.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2						
22.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3						
22.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7						
22.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2						
22.7	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**34.56**						
23	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**								
23.1	**ISOLATORS-132KV**								
23.1.1	D.I W/O E/S	SET	2						
23.1.2	D.I with E/S	SET	0						
23.1.3	S.I W/O E/S	SET	2						
23.2	**ISOLATORS-33 KV**								

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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)
23.2.1	S.I W/O E/S	SET	7						
23.2.2	D.I W/O E/S	SET	2						
23.2.3	D.I with E/S	SET	3						
23.3	CT-132 KV	SET	6						
23.4	CT-33 KV	SET	12						
23.5	CVT-132 KV	SET	0						
23.6	IVT-132 KV	SET	0						
23.7	IVT-33 KV	SET	3						
23.8	Surge Arrester-132 kV	SET	6						
23.9	Surge Arrester-33 kV	SET	9						
23.10'	Wave Trap-132 KV	SET	0						
23.11	BPI-132 KV	SET	10						
23.12	BPI-33 KV	SET	18						
23.13	NCTS (36 KV Class)	SET	4						
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**21.00**						
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**55.56**						
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**						
23.17	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1						
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**								
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**								
24.1.1	3.5 CX120 mm^2	LOT	1						
24.1.2	3.5 CX70 mm^2	LOT	1						
24.1.3	3.5 CX35 mm^2	LOT	1						
24.1.4	4 CX 16 mm^2	LOT	1						
24.1.5	4 CX 6 mm^2	LOT	1						
24.1.6	2CX 6 mm^2	LOT	1						
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**								
24.2.1	2 CX 2.5 mm^2	LOT	1						
24.2.2	4 CX 2.5 mm^2	LOT	1						
24.2.3	5 CX 2.5 mm^2	LOT	1						
24.2.4	7CX 2.5 mm^2	LOT	1						
24.2.5	10 CX 2.5 mm^2	LOT	1						
24.2.6	12 CX 2.5 mm^2	LOT	1						
24.2.7	16 CX 2.5 mm^2	LOT	1						
24.2.8	19 CX 2.5 mm^2	LOT	1						
24.2.9	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	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 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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)
24.3	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						
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)	Per point	30						
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	2						
'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	2						
'26.5	CO_2 - 9 KGS	NOS	2						
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2						
'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 CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 132/33 KV Power Tfr)	NOS	2						
'27.1.2	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2						
27.2	**33 KV SIDE**								
27.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	3						
27.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2						
27.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1						
28	**AC & DC SYSTEM**								
29	**AC SYSTEM**								
30	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1						
31	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1						
32	INDOOR RECEPTACLE BOARD	SET	1						
33	**DC SYSTEM**								

	PART-I, SCHEDULE-2A (FOR SUBSTATION)			PRICE IN INDIAN RUPEES					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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)
33.1	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						
33.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1						
33.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1						
33.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1						
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						
35	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 2X20MVA 132/33KV Sub-Stations at switching substation,Somanathpur,Balasore with associated work

BID DOCUMENT No.: SR. G.M-CPC-TENDER-PACKAGE-61-03 / 2012

(Freight & Insurance for Supply of Equipment/Materials Price Break-up of Ex-works Prices against Package-61-03/2012)

Bidder's Name & Address:

To,
Orissa Power Transmission Corporation Ltd.
Bhubneshwar

PART-I, SCHEDULE-2B (FOR SUBSTATION)				PRICE TO BE QUOTED IN INR	
SL NO	**FREIGHT & INSURANCE FOR SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)**	**Unit**	**Quantity for 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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**
1	145 KV,800-400-200/1-1-1-1 A,40 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
2	**145 KV,1200A,40 KA,ISOLATORS**				
2.1	S/I WITH OUT EARTH SWITCH	NOS	2		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	0		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	0		

4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	6		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	0		
6	132 KV Bus Post Insulators	NOS	10		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18		
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	**36 KV,800A,25KA,ISOLATORS**				
11.1	S/I WITH OUT EARTH SWITCH	NOS	7		
11.2	D/I WITH SINGLE EARTH SWITCH	NOS	3		
11.3	D/I WITHOUT EARTH SWITCH	NOS	2		
11.4	S/I WITH BEAM MOUNTED	NOS	2		
12	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	15		
13	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
14	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	6		
15	33 KV Bus Post Insulators	NOS	18		
16	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "ANTIFOG" Type**				
16.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Zebra)-132 KV	SET	42		
16.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Zebra)-33 KV	SET	45		
16.3	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Zebra)-132 KV	SET	12		
16.4	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Zebra)-33 KV	SET	24		
17	ACSR ZEBRA CONDUCTOR	Kms	**3**		
18	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
19	**SUBSTATION SYSTEMS**				
19.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	MTR	2500		
19.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	MTR	2500		

19.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	NOS	60		
19.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	NOS	20		
19.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 03 Nos 33 kv Bay	NOS	4		
19.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
19.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1		
19.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	10		
19.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
20	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**				
21	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
21.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	8		
21.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	1		
21.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	7		
21.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11		
22	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
22.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	8		
22.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0		
22.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2		
22.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3		
22.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7		
22.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2		
22.7	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**34.56**		
23	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**				
23.1	**ISOLATORS-132KV**				
23.1.1	D.I W/O E/S	SET	2		
23.1.2	D.I with E/S	SET	0		
23.1.3	S.I W/O E/S	SET	2		
23.2	**ISOLATORS-33 KV**				
23.2.1	S.I W/O E/S	SET	7		
23.2.2	D.I W/O E/S	SET	2		
23.2.3	D.I with E/S	SET	3		

23.3	CT-132 KV	SET	6		
23.4	CT-33 KV	SET	12		
23.5	CVT-132 KV	SET	0		
23.6	IVT-132 KV	SET	0		
23.7	IVT-33 KV	SET	3		
23.8	Surge Arrester-132 kV	SET	6		
23.9	Surge Arrester-33 kV	SET	9		
23.10'	Wave Trap-132 KV	SET	0		
23.11	BPI-132 KV	SET	10		
23.12	BPI-33 KV	SET	18		
23.13	NCTS (36 KV Class)	SET	4		
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**21.00**		
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**55.56**		
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**		
23.17	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1		
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
24.1.1	3.5 CX120 mm^2	LOT	1		
24.1.2	3.5 CX70 mm^2	LOT	1		
24.1.3	3.5 CX35 mm^2	LOT	1		
24.1.4	4 CX 16 mm^2	LOT	1		
24.1.5	4 CX 6 mm^2	LOT	1		
24.1.6	2CX 6 mm^2	LOT	1		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**				
24.2.1	2 CX 2.5 mm^2	LOT	1		
24.2.2	4 CX 2.5 mm^2	LOT	1		
24.2.3	5 CX 2.5 mm^2	LOT	1		
24.2.4	7CX 2.5 mm^2	LOT	1		
24.2.5	10 CX 2.5 mm^2	LOT	1		
24.2.6	12 CX 2.5 mm^2	LOT	1		
24.2.7	16 CX 2.5 mm^2	LOT	1		
24.2.8	19 CX 2.5 mm^2	LOT	1		
24.2.9	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		

24.3	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		
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)	Per point	30		
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	2		
'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	2		
'26.5	CO_2 - 9 KGS	NOS	2		
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2		
'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 CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 132/33 KV Power Tfr)	NOS	2		
'27.1.2	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2		
27.2	**33 KV SIDE**				
27.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	3		
27.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2		
27.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1		
28	**AC & DC SYSTEM**				
29	**AC SYSTEM**				
30	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		

31	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1		
32	INDOOR RECEPTACLE BOARD	SET	1		
33	**DC SYSTEM**				
33.1	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		
33.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		
33.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
33.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
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		
35	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
	TOTAL OF SUBSTATION (PART-I)-2B				

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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 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 2X20MVA 132/33KV Sub-Stations at switching substation,Somanathpur,Balasore with associated work

Bid Document No. : Sr. G.M-CPC-TENDER-PACKAGE- 61-03 /2012

(Equipment/Materials Price Break-up of Ex-works Prices against PACKAGE 61-03 / 2012)

Bidder's Name & Address:

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 2X20 MVA 132/33kV Substation Extension works at 132 KV Switching Station at Somanathpur,Balasore.(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	6		
2	**145 KV,1200A,40 KA,ISOLATORS**				
2.1	S/I WITH OUT EARTH SWITCH	NOS	2		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	0		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2		

3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	0		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	6		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	0		
6	132 KV Bus Post Insulators	NOS	10		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	2		
8	36 KV,(800-400-200/1-1-1 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	18		
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	**36 KV,800A,25KA,ISOLATORS**				
11.1	S/I WITH OUT EARTH SWITCH	NOS	7		
11.2	D/I WITH SINGLE EARTH SWITCH	NOS	3		
11.3	D/I WITHOUT EARTH SWITCH	NOS	2		
11.4	S/I WITH BEAM MOUNTED	NOS	2		
12	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	15		
13	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
14	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	6		
15	33 KV Bus Post Insulators	NOS	18		
16	**BUS BAR & CIRCUIT MATERIALS(all insulators as indicated below shall be of "ANTIFOG" Type**				
16.1	120 KN INSULATOR STRINGS(TENSION for single ACSR Zebra)-132 KV	SET	42		
16.2	120 KN INSULATOR STRINGS(TENSION for Single ACSR Zebra)-33 KV	SET	45		
16.3	90 KN INSULATOR STRINGS (SUSPENSION for single ACSR Zebra)-132 KV	SET	12		
16.4	90 KN INSULATOR STRINGS (SUSPENSION for Single ACSR Zebra)-33 KV	SET	24		
17	ACSR ZEBRA CONDUCTOR	Kms	**3**		
18	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
19	**SUBSTATION SYSTEMS**				
19.1	EARTHING CONDUCTOR (75x10mm for laying (*spacing maximum 5m*) (GI FLAT)	MTR	2500		
19.2	EARTHING CONDUCTOR 50 X 6 mm for Raiser GI Earth Flat)	MTR	2500		

19.3	EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	NOS	60		
19.4	EARTHING ROD: 40mm MS rod 3 mtrs long for non treated earth pit.	NOS	20		
19.5	BAY MARSHALLING KIOSK (For S/S: 01 Nos 132 kv bay & 03 Nos 33 kv Bay	NOS	4		
19.6	SWITCH YARD AC CONSOLE FOR LIGHTING ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
19.7	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION ***(01 no. near 132/33 KV Tfr)***	NOS	1		
19.8	132KV CT & 33 KV CT & PT CONSOLE BOX	NOS	10		
19.9	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY ***(01 Nos 132 kv bay & 01 Nos 33 kv Bay)***	NOS	2		
20	**SWITCH YARD STRUCTURES (LATTICE TYPE) FOR 132/33 KV CLASS**				
21	**DIFFERENT TYPES OF COLUMNS WITH DETAILS**				
21.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	8		
21.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	1		
21.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	7		
21.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11		
22	**DIFFERENT TYPE OF BEAMS WITH DETAILS**				
22.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	8		
22.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	0		
22.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	2		
22.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3		
22.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	7		
22.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2		
22.7	**TOTAL WEIGHT OF COLUMN & BEAM**	MT	**34.56**		
23	**SUPPORT STRUCTURES (LATTICE/PIPE TYPE) FOR ALL 132 KV & 33KV EQUIPMENTS**				
23.1	**ISOLATORS-132KV**				
23.1.1	D.I W/O E/S	SET	2		
23.1.2	D.I with E/S	SET	0		
23.1.3	S.I W/O E/S	SET	2		
23.2	**ISOLATORS-33 KV**				
23.2.1	S.I W/O E/S	SET	7		
23.2.2	D.I W/O E/S	SET	2		
23.2.3	D.I with E/S	SET	3		
23.3	CT-132 KV	SET	6		
23.4	CT-33 KV	SET	12		

23.5	CVT-132 KV	SET	0		
23.6	IVT-132 KV	SET	0		
23.7	IVT-33 KV	SET	3		
23.8	Surge Arrester-132 kV	SET	6		
23.9	Surge Arrester-33 kV	SET	9		
23.10'	Wave Trap-132 KV	SET	0		
23.11	BPI-132 KV	SET	10		
23.12	BPI-33 KV	SET	18		
23.13	NCTS (36 KV Class)	SET	4		
23.14	TOTAL WEIGHT OF SUPPORT STRUCTURE FOR ABOVE EQUIPMENT	MT	**21.00**		
23.15	**TOTAL WEIGHT OF COLUMN & BEAM AND SUPPORT STRUCTURE FOR ABOVE EQUIPMENT(Sl No. 21+22+23)**	MT	**55.56**		
23.16	**Total weight of GI Nuts and bolts for the above structures**	MT	**3.00**		
23.17	**ANY OTHER STRUCTURES IF REQUIRED WITH DETAILS**	LOT	1		
24	**GENERAL EQUIPMENT & SUBSTATION ACCESSORIES**				
24.1	**POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)**				
24.1.1	3.5 CX120 mm^2	LOT	1		
24.1.2	3.5 CX70 mm^2	LOT	1		
24.1.3	3.5 CX35 mm^2	LOT	1		
24.1.4	4 CX 16 mm^2	LOT	1		
24.1.5	4 CX 6 mm^2	LOT	1		
24.1.6	2CX 6 mm^2	LOT	1		
24.2	**CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)**				
24.2.1	2 CX 2.5 mm^2	LOT	1		
24.2.2	4 CX 2.5 mm^2	LOT	1		
24.2.3	5 CX 2.5 mm^2	LOT	1		
24.2.4	7CX 2.5 mm^2	LOT	1		
24.2.5	10 CX 2.5 mm^2	LOT	1		
24.2.6	12 CX 2.5 mm^2	LOT	1		
24.2.7	16 CX 2.5 mm^2	LOT	1		
24.2.8	19 CX 2.5 mm^2	LOT	1		
24.2.9	1CX 100 mm^2 BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		
24.3	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		

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)	Per point	30		
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	2		
'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	2		
'26.5	CO_2 - 9 KGS	NOS	2		
'26.6	CO_2 (TROLLY MOUNTED)- 22.5 KGS	NOS	2		
'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 CONTROL PANEL(CPL-1M)(2 for 132 KV Side of 132/33 KV Power Tfr)	NOS	2		
'27.1.2	TRANSFORMER RELAY PANEL(RPL-1M), 02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMERS	NOS	2		
27.2	**33 KV SIDE**				
27.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	3		
27.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2		
27.2.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1		
28	**AC & DC SYSTEM**				
29	**AC SYSTEM**				
30	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		
31	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1		
32	INDOOR RECEPTACLE BOARD	SET	1		
33	**DC SYSTEM**				

33.1	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		
33.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		
33.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
33.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
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		
35	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
36	RECEIVING THE TRANSFORMERS AND ITS ACCESSORIES FROM NEAREST OPTCL STORES,DRAGGING AND INSTALLING ON THE PLINTH AND PLACING IN POSITION, ERECTION OF ACCESSORIES OF THE TRANSFORMERS, EART-HING AS PER STANDARD(INCLUDING SUPPLY OF MATERIALS),VACUUM TREATMENT OF THE TANK AND WINDING,OIL FILTRATION(INCLUDING SUPPLY OF VACUUM CUM OIL FILTER MACHINE),SUPPLY & LAYING OF ALL TYPES OF CONTROL & POWER CABLES PERTAINING TO TRANSFORMERS ,TESTING AND COMMISSIONING INCLUDING ALL TESTS OF THE OILS AS PER STIPULATION IN THE STANDARD APPROVED TESTING LABORATORY AND AS PER THE INSTRUCTION OF THE ENGINEER IN CHARGE.THIS INCLUDE ALL RELATED WORKS FOR ERECTION(Transformer and its accessories,RTCC Panel etc),TESTING AND COMMISSIONING OF THE POWER TRANSFORMERS.(CONTRACTOR TO ARRANGE POWER SUPPLY FOR FILTRATION AND VACUUM TREATMENT WORKS).IT ALSO INCLUDES SUPPLY OF ALL MATERIALS FOR ERECTTION INCLUDING T&P's. **1. 132/33 KV 40/20 MVA: 02 Nos**	NOS	2		
	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.***				
1.2	***Open cast foundation for the above column/equipment/marshalling box foundations { Sl No. 1.4 & 1.5} 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	500		

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	**260**		
1.4	**Switchyard gantry/portal structure foundations.**				
'1.4.1	**T1S**	Nos	8		
'1.4.2	**T4S**	Nos	1		
'1.4.3	**T8S**	Nos	7		
'1.4.4	**T9S**	Nos	11		
1.5	**Switch yard Equipment /Marshaling Boxes foundations**				
'1.5.1	145kV circuit breaker	Nos	2		
'1.5.2	(a) 145 KV Isolators (S/I)	Nos	2		
'1.5.3	(b) 145kV isolators (D/I)(W/O E/S)	Nos	2		
'1.5.4	145kV current transformers	Nos	6		
'1.5.5	120kV surge arrestors	Nos	6		
'1.5.6	145kV bus post Insulators	Nos	10		
'1.5.7	36 KV circuit breakers	Nos	6		
'1.5.8	36 KV Isolator (S/I)	Nos	7		
'1.5.9	36kV isolators (D/I)(W E/S & W/O E/S)	Nos	5		
'1.5.10	36kV voltage transformers	Nos	3		
'1.5.11	36kV bus post insulators	Nos	18		
'1.5.12	Marshaling boxes (Bay Marshaling boxes etc)	Nos	4		
'1.5.13	Junction boxes (Receptacle panels for welding and other emergency works etc)	Nos	2		
'1.5.14	Junction boxes (AC console box near Transformer for oil filtration work)	Nos	1		
'1.5.15	Junction boxes (switch yard lighting panels)	Nos	2		
'1.5.16	NCT for Power Transformer	Nos	4		

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	300		
2.1.2	Section 2- 2	Mtrs	200		
2.1.3	Section 3-3	Mtrs	200		
2.1.4	Section 4-4	Mtrs	500		
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		

3	**Roads: Design, construction of roads (Internal and approach road) and walkways/ shoulders within sub-station as per specification, layout and approved drawings complete. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water.**				
3.1	***7.0 mtrs concrete road in front of the Transformer as per technical specification indicated in the civil section(from the switch yard main gate& drain at both side of the road, as per the instruction of Engineer in Charge.***	Mtrs	200		
3.2	3.75 mtrs Bitumen 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(colony & other periphery roads)	Mtrs	100		
3.3	7 mtrs wide Bitumen roads with shoulder as per specification indicated in the civil section**(for main roads inside Sub-station and approach road)**.Shall have drain on both side of the road. and as per Sl No.4	Mtrs	50		
4	**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.				
4.1	Storm water drain as per technical specification	Mtrs	100		
4.2	Road-culverts, (including one no for approach raod) drain crossings	Lots	1		
4.3	Cable trench crossing	Lots	1		

5	**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 3.1).*** **This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.** ***1. 132/33 KV 20/40 MVA (2 Nos)***				
5.1	12.5/ 20 /40 MVA, 132/ 33kV transformers a) Overall dimension of transformer(appox) Length:7200 mmX Width 6000 mmX Height 6200 mm b) Total weight with oil and tank: 97.5 MT (appox)	Nos	2		
5.2	**OIL SUMP PIT**:Oil collection (from transformers)sump pit with provision of pump (5 HP, with auto level control , including cabling, fixing of control gear) as per CIGRE. As per spec and approved drawing. >Oil capacity of each Transformer in ltrs appox. For **20/40 MVA,132/33 KV: 26500 ltrs.**	Nos	1		

6	**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.**				
6.1	Excavation for laying of EARTHING CONDUCTOR (75x10mm for laying (spacing maximum 5m) (GI FLAT)	MTR	2500		
6.2	Excavation for putting the EARTHING DEVICE INCLUDING ITS ASSOCI-ATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	NOS	60		

7	**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.**				
7.1	***Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.***	***SQM***	1000		
7.2	***Cutting of sub-station area of the as per the direction of Engineer in Charge.***	***Cum***	250		
7.3	***Filling with borrowed earth beyond 30 mtrs lead as per the direct***	***Cum***	750		
8	***Sand Spreading:Providing supplying and laying two layers of river bed sand good quality, the first layer after compaction shall make minimum 50 mm thickness layer compacted and (by using roller as specified in the specification).A final layer of 50 mm thickness of sand 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 river bed good quality sand of 100 mm thickness. It includes supply of sand, Anti weed treatment,spreading of sand as per specification and as directed by Engineer in Charge.***	CUM	300		

9	**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.	CUM	300		
10	**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(Brick masonry,cement plastering & painting) 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,back filling,and disposal of excess earth as per the direction of Engineer in-charge and approved drawing and as per Technical specification.				
10.1	**Boundary wall**	Mtrs	300		
11	**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		

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 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.***	Mtrs	250		
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 Site In charge	Nos	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.)				
14.1	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		
14.2	PCC: M10(1: 3 : 6)	Cu.m.	1		
14.3	RCC M 15(1:2:4)	Cu.m.	1		
14.4	RCC: M 20(1:1.5:3)	Cu.m.	1		
14.5	Brick masonry work in cement sand mortar 1: 6 with bricks of class designation 75.	Cu.m.	1		
14.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		
14.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1		

15	**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		
	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.**

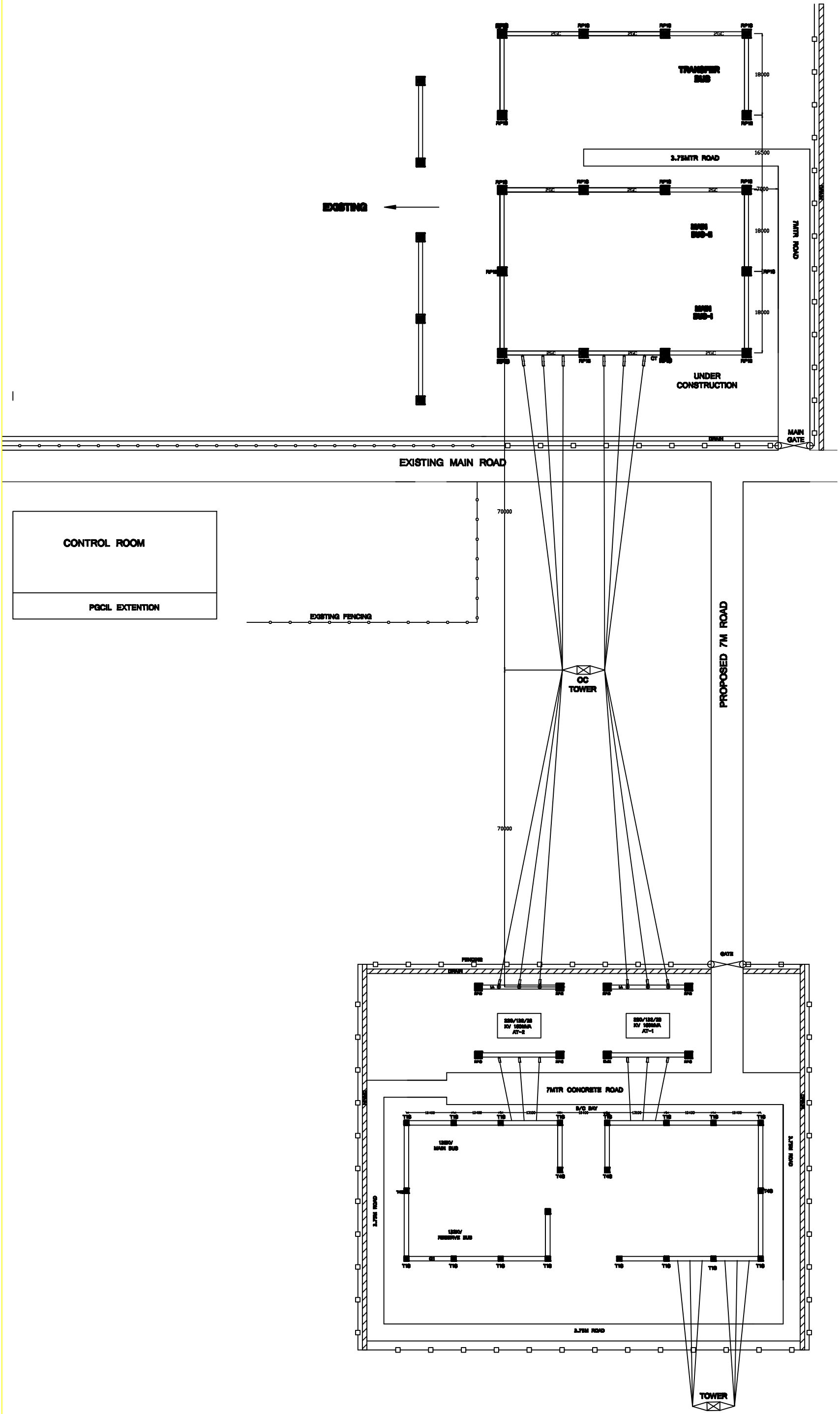
3 **Bidders are requested not to leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). No rate shall be furnished/obtained after bid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

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) ……


TRANSFER BAY
18000
3.75MTR ROAD
16500
7000
EXISTING
7MTR ROAD
MAIN BAY-2
MAIN BAY-1
UNDER CONSTRUCTION
MAIN GATE
DRAIN
EXISTING MAIN ROAD
CONTROL ROOM
PGCIL EXTENTION
EXISTING FENCING
70000
OC TOWER
PROPOSED 7M ROAD
GATE
220/132/33 KV 160MVA AT-2
220/132/33 KV 160MVA AT-1
7MTR CONCRETE ROAD
B/D BAY
132KV MAIN BUS
132KV RESERVE BUS
3.75M ROAD
TOWER