

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 1 No. 220 KV Transformer Bay for 1x20 MVA, 220/33 KV & construction of 3 Nos 33 KV Bays at existing 220/33 KV Sub-station at LAXMIPUR & associated system.

BID DOCUMENT No.: Sr.GM-CPC-TENDER-LAXMIPUR PACKAGE-11 / 2013-14

NOTICE INVITING TENDER-NIT NO. 11 /2013-14

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

PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY)			TO BE QUOTED IN INR						
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	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	3						
2	245 KV,2000A,40KA,ISOLATORS								
2.1	WITH OUT EARTH SWITCH	NOS	2						
3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	1						
4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III	NOS	3						
5	220 KV Bus Post Insulators	NOS	5						
6	36 KV,800-400-200,25KA, SINGLE PHASE CURRENT TRANSFORMER.								
6.1	36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER(3 PS CI & 1 0.2 CI)	NOS	3						
6.2	36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6						
7	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	2						
8	36 KV,800A,25KA,ISOLATORS								
8.1	S/I WITH OUT EARTH SWITCH	NOS	3						
8.2	D/I WITH SINGLE EARTH SWITCH	NOS	2						
8.3	D/I WITHOUT EARTH SWITCH	NOS	1						
9	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	9						
10	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3						
11	33 KV Bus Post Insulators	NOS	9						
12	BUS BAR & CIRCUIT MATERIALS								
12.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING								
12.1.1	160 KN ANTIFOG INSULATOR STRINGS for <i>twin Moose cond</i> (TENSION)-220 KV	SET	6						

PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY)				TO BE QUOTED IN INR					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	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)]		
1	2	3	4	5	6=4X5	7	Excise Duty	Sales Tax	Other Levies(if any)
8	9	10							
12.1.2	160 kN ANTIFOG INSULATOR STRINGS <i>for single Moose cond</i> (TENSION)-220 KV	SET	6						
12.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	6						
12.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	6						
12.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-220 KV	SET	6						
12.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	15						
12.2	ACSR MOOSE CONDUCTOR	KM	0.5						
12.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1						
12.4	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1						
12.5	4" IPS Aluminium Tube (114±5 mm),8.5 mm thick)	MTRs	100						
12.5.1	Cl;amps & connectors for 220 KV side CT(6 Nos),Isolators(12 Nos) & Circuit Breakers(6 Nos) suitable for 4" IPS Aluminium Tube (114±5 mm),8.5 mm thick).	Nos	24						
13	SUBSTATION EARTHING SYSTEMS								
13.1	EARTHING CONDUCTOR FOR BURRIAL : 40 mm dia M.S rod for laying (<i>spacing maximum 5m both way</i>)	MT	20						
13.2	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment,structure etc)	MT	5						
13.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	SET	30						
13.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1						
14	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1						
15	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES								
15.1	BAY MARSHALLING KIOSK (<i>01 nos on 220 kV bay & 02 Nos 33 KV bay</i>)	NOS	3						
15.2	SWITCH YARD AC CONSOLE FOR LIGHTING (<i>01 nos on 220 kV bay & 01 No in 33KV bay</i>)	NOS	2						
15.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (<i>01 no. near 220/33 KV power Transformer</i>)	NOS	1						
16	SWITCH YARD STRUCTURES (LATTICE TYPE FOR TOWER COLUMN & BEAMS & PIPE TYPR FOR ALL EQUIPMENT COLUMN) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.								
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS								
16.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)								
16.1.2	P2A-220 KV (NOMINAL UNIT WT- 1..5 MT)								

PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY)				TO BE QUOTED IN INR					
SL NO	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	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)]		
1	2	3	4	5	6=4X5	7	Excise Duty	Sales Tax	Other Levies(if any)
8	9	10							
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)								
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)								
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS								
16.2.1	Q1-220KV (NOMINAL UNIT WT- 1.5 MT)								
16.2.2	Q3-220KV (NOMINAL UNIT WT-2.5 MT)								
16.2.3	Q4-220KV (NOMINAL UNIT WT- 0.9 MT)								
16.2.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)								
16.2.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)								
16.2.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)								
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	18						
16.4	EQUIPMENT SUPPORT STRUCTURES (lattice)FOR ALL 220KV & 33KV EQUIPMENTCLASS INCLUDING FOUNDATION BOLTS & NUTS.								
16.4.1	ISOLATORS-220KV								
16.4.2	ISOLATORS-33 KV								
16.4.3	CTS-220 KV								
16.4.4	CTS-33 KV								
16.4.5	Surge Arrester-220 Kv								
16.4.6	Surge Arrester-33 kv								
16.4.7	Wave Trap-220 KV								
16.4.8	BPI-220 KV								
16.4.9	BPI-33 KV								
16.4.10	NCTS								
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	12						
16.6	PROVISION OF A 4 POLE STRUCTURE INFRONT OF 33 KV SIDE OF 220/33 KV TRANSFORMER								
16.6.1	PROVISION OF GALVANISED STRUCTURES								
16.6.1.1	5.2 mtr long 100x50x5 mm GI pressure Channel 20 nos.	MT	0.99						
16.6.1.2	5.2 mtr long 75x40x5 mm GI channel 12 nos. for Belting	MT	0.43						
16.6.1.3	7.4 mtr long 65x65x6 mm GI Angle 8 nos. for bracings	MT	0.34						
16.6.1.4	Back Clamp for Power Channel, Belting Channel & Bracings	MT	0.13						
16.6.1.5	17 MTRS LONG RS JOIST POLE (4 NOS) 200x100 mm, 25.4kg/mtr	MT	1.73						
16.7	Total weight of GI Nuts and bolts for the above structures	MT	2						
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES								

PART-I, SCHEDULE-2A (FOR SUBSTATION SUPPLY)			TO BE QUOTED IN INR						
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1	2	3	4	5	6=4X5	7	Excise Duty	Sales Tax	Other Levies(if any)
8	9	10							
17.1	POWER CABLES,1.1KV,XLPE/PVC ,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)								
17.1.1	XLPE 3.5 CX120 mm ²	KM	0.5						
17.1.2	PVC 3.5 CX35 mm ²	KM	1.5						
17.1.3	PVC 4 CX 6 mm ²	KM	0.5						
17.1.4	PVC 2CX 6 mm ²	KM	1.5						
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)								
17.2.1	2 CX 2.5 mm ²	KM	4						
17.2.2	3 CX 2.5 mm ²	KM	0.5						
17.2.3	4 CX 2.5 mm ²	KM	9						
17.2.4	7CX 2.5 mm ²	KM	1.5						
17.2.5	10 CX 2.5 mm ²	KM	4						
17.2.6	12 CX 2.5 mm ²	KM	1.5						
17.2.7	24 CX 2.5 mm ²	KM	0.5						
18.1	3 CoreX 400 Sq. mm Aluminium conductor XLPE insulation, armoured 33 KV HT cable conforming to IS 7098 or latest.	KM	0.7						
18.2	Cable Jointing & Termination Accessories for jointing of the above 33 KV HT XLPE cable(Termination at Transformer end, Termination at bus end & Mid span joint etc) & Suitable cable sockets.	LOT	1						
19	SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)								
19.1	<i>SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear,GI Conduit etc.(Lighting fixtures are to be fixed rigidly on the Column at a suitable height so that the required lux can be maintained).</i>	LOT	1						
20	FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)								
20.1	FOAM TYPE-9 LTRS	NOS	2						
20.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	1						
20.3	DRY POWDER TYPE - 5 KGS	NOS	2						
20.4	CO ₂ - 9 KGS	NOS	2						
20.5	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	1						

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							Excise Duty	Sales Tax	Other Levies(if any)
1	2	3	4	5	6=4X5	7	8	9	10
20.6	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	1						
21	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC								
21.1	220 KV SIDE								
21.1.1	TRANSFORMER RELAY PANEL(FOR 220/33 KV TRANSFORMER)	NOS	1						
21.1.2	BUS BAR PROTECTION MODULES TO MATCH WITH THE EXISTING BUS-BAR PROTECTION & ALSO TO ACCOMMODATE THE PROPOSED 220 KV BAY EXTENSION FOR 220/33 KV,20 MVA TRANSFORMER.	LOT	1						
21.2	33 KV SIDE								
21.2.1	FEEDER CONTROL & RELAY PANEL	NOS	2						
21.2.2	TRANSFORMER CONTROL & RELAY PANEL-33 KV SIDE OF THE TRANSFORMER	NOS	1						
22	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1						
TOTAL (Part-I):2A (SS SUPPLY)									

Note:

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

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

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 3 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).....

(Printed Name).....

(Designation).....

(Common Seal).....

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 1 No. 220 KV Transformer Bay for 1x20 MVA, 220/33 KV & construction of 3 Nos 33 KV Bays at existing 220/33 KV Sub-station at LAXMIPUR & associated system.

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NOTICE INVITING TENDER-NIT NO. 11 /2013-14

(EQUIPMENT/MATERIALS SUPPLY PRICE BREAK-UP OF F&I PRICES AGAINST LAXMIKPUR PACKAGE)

PART-I, SCHEDULE-2B (FOR SUBSTATION- F & I)					
SL NO	DESCRIPTION OF ITEMS	UNIT	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	FREIGHT & INSURANCE CHARGES IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (AS PER TECHNICAL SPECIFICATION)			UNIT CHARGES	TOTAL PRICE
1	2	3	4	5	6=4X5
1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	3		
2	245 KV,2000A,40KA,ISOLATORS				
2.1	WITH OUT EARTH SWITCH	NOS	2		
3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	1		
4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III	NOS	3		
5	220 KV Bus Post Insulators	NOS	5		
6	36 KV,800-400-200,25KA, SINGLE PHASE CURRENT TRANSFORMER.				
6.1	36 KV,800-400-200,25KA,4CORE SINGLE PHASE CURRENT TRANSFORMER(3 PS CI & 1 0.2 CI)	NOS	3		
6.2	36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
7	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	2		
8	36 KV,800A,25KA,ISOLATORS				
8.1	S/I WITH OUT EARTH SWITCH	NOS	3		
8.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
8.3	D/I WITHOUT EARTH SWITCH	NOS	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION- F & I)					
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11	33 KV Bus Post Insulators	NOS	9		
12	BUS BAR & CIRCUIT MATERIALS				
12.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING				
12.1.1	160 kN ANTIFOG INSULATOR STRINGS <i>for twin Moose cond</i> (TENSION)-220 KV	SET	6		
12.1.2	160 kN ANTIFOG INSULATOR STRINGS <i>for single Moose cond</i> (TENSION)-220 KV	SET	6		
12.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	6		
12.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	6		
12.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-220 KV	SET	6		
12.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	15		
12.2	ACSR MOOSE CONDUCTOR	KM	0.5		
12.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
12.4	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1		
12.5	4" IPS Aluminium Tube (114±5 mm),8.5 mm thick)	MTRs	100		
12.5.1	Cl:amps & connectors for 220 KV side CT(6 Nos),Isolators(12 Nos) & Circuit Breakers(6 Nos) suitable for 4" IPS Aluminium Tube (114±5 mm),8.5 mm thick).	Nos	24		
13	SUBSTATION EARTHING SYSTEMS				
13.1	EARTHING CONDUCTOR FOR BURRIAL : 40 mm dia M.S rod for laying (<i>spacing maximum 5m both way</i>)	MT	20		
13.2	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment,structure etc)	MT	5		
13.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	SET	30		
13.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1		
14	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION- F & I)					
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15.1	BAY MARSHALLING KIOSK (01 nos on 220 kV bay & 02 Nos 33 KV bay)	NOS	3		
15.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 nos on 220 kV bay & 01 No in 33KV bay)	NOS	2		
15.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (01 no. near 220/33 KV power Transformer)	NOS	1		
16	SWITCH YARD STRUCTURES (LATTICE TYPE FOR TOWER COLUMN & BEAMS & PIPE TYPR FOR ALL EQUIPMENT COLUMN) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS				
16.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)				
16.1.2	P2A-220 KV (NOMINAL UNIT WT- 1..5 MT)				
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)				
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)				
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS				
16.2.1	Q1-220KV (NOMINAL UNIT WT- 1.5 MT)				
16.2.2	Q3-220KV (NOMINAL UNIT WT-2.5 MT)				
16.2.3	Q4-220KV (NOMINAL UNIT WT- 0.9 MT)				
16.2.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)				
16.2.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)				
16.2.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)				
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	18		
16.4	EQUIPMENT SUPPORT STRUCTURES (lattice)FOR ALL 220KV & 33KV EQUIPMENTCLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.4.1	ISOLATORS-220KV				
16.4.2	ISOLATORS-33 KV				
16.4.3	CTS-220 KV				
16.4.4	CTS-33 KV				

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	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (AS PER TECHNICAL SPECIFICATION)			UNIT CHARGES	TOTAL PRICE
1	2	3	4	5	6=4X5
16.4.5	Surge Arrester-220 Kv				
16.4.6	Surge Arrester-33 kV				
16.4.7	Wave Trap-220 KV				
16.4.8	BPI-220 KV				
16.4.9	BPI-33 KV				
16.4.10	NCTS				
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	12		
16.6	PROVISION OF A 4 POLE STRUCTURE INFRONT OF 33 KV SIDE OF 220/33 KV TRANSFORMER.				
16.6.1	HOT DIP GALVANISED STRUCTURES				
16.6.1.1	5.2 mtr long 100x50x5 mm GI pressure Channel 20 nos.	MT	0.99		
16.6.1.2	5.2 mtr long 75x40x5 mm GI channel 12 nos. for Belting	MT	0.43		
16.6.1.3	7.4 mtr long 65x65x6 mm GI Angle 8 nos. for bracings	MT	0.34		
16.6.1.4	Back Clamp for Power Channel, Belting Channel & Bracings	MT	0.13		
16.6.1.5	17 MTRS LONG RS JOIST POLE (4 NOS) 200x100 mm, 25.4kg/mtr	MT	1.73		
16.7	Total weight of GI Nuts and bolts for the above structures	MT	2		
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				
17.1	POWER CABLES,1.1KV,XLPE/PVC ,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)				
17.1.1	XLPE 3.5 CX120 mm ²	KM	0.5		
17.1.2	PVC 3.5 CX35 mm ²	KM	1.5		
17.1.3	PVC 4 CX 6 mm ²	KM	0.5		
17.1.4	PVC 2CX 6 mm ²	KM	1.5		
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
17.2.1	2 CX 2.5 mm ²	KM	4		
17.2.2	3 CX 2.5 mm ²	KM	0.5		
17.2.3	4 CX 2.5 mm ²	KM	9		
17.2.4	7CX 2.5 mm ²	KM	1.5		

PART-I, SCHEDULE-2B (FOR SUBSTATION- F & I)					
SL NO	DESCRIPTION OF ITEMS	UNIT	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	FREIGHT & INSURANCE CHARGES IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (AS PER TECHNICAL SPECIFICATION)			UNIT CHARGES	TOTAL PRICE
1	2	3	4	5	6=4X5
17.2.5	10 CX 2.5 mm ²	KM	4		
17.2.6	12 CX 2.5 mm ²	KM	1.5		
17.2.7	24 CX 2.5 mm ²	KM	0.5		
18.1	3 CoreX 400 Sq. mm Aluminium conductor XLPE insulation, armoured 33 KV HT cable confirming to IS 7098 or latest.	KM	0.7		
18.2	Cable Jointing & Termination Accessories for jointing of the above 33 KV HT XLPE cable(Termination at Transformer end, Termination at bus end & Mid span joint etc) & Suitable cable sockets.	LOT	1		
19	SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)				
19.1	SUB-STATION SWITCH YARD LIGHTING,IT INCLUDES SUPPLY OF FIXTURES & LAMPS (LED) of reputed make (Philips/CGL/Bajaj) with switch gear,GI Conduit etc.(Lighting fixtures are to be fixed rigidly on the Column at a suitable height so that the required lux can be maintained).	LOT	1		
20	FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)				
20.1	FOAM TYPE-9 LTRS	NOS	2		
20.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	1		
20.3	DRY POWDER TYPE - 5 KGS	NOS	2		
20.4	CO ₂ - 9 KGS	NOS	2		
20.5	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	1		
20.6	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	1		
21	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROT N PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC				
21.1	220 KV SIDE				
21.1.1	TRANSFORMER RELAY PANEL(FOR 220/33 KV TRANSFORMER)	NOS	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION- F & I)					
SL NO	DESCRIPTION OF ITEMS	UNIT	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	FREIGHT & INSURANCE CHARGES IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (AS PER TECHNICAL SPECIFICATION)			UNIT CHARGES	TOTAL PRICE
1	2	3	4	5	6=4X5
21.1.2	BUS BAR PROTECTION MODULES TO MATCH WITH THE EXISTING BUS-BAR PROTECTION & ALSO TO ACCOMMODATE THE PROPOSED 220 KV BAY EXTENSION FOR 220/33 KV,20 MVA TRANSFORMER.	LOT	1		
21.2	33 KV SIDE				
21.2.1	FEEDER CONTROL & RELAY PANEL	NOS	2		
21.2.2	TRANSFORMER CONTROL & RELAY PANEL-33 KV SIDE OF THE TRANSFORMER	NOS	1		
22	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
TOTAL (PART-I):2B (SS F & I)					

NOTE:

- 1 **BEFORE FILLING UP RATE/AMOUNT ETC. IN THE SCHEDULES BIDDERS ARE REQUESTED TO READ CAREFULLY THE INSTRUCTION GIVEN IN VOL-I OF BIDDING DOCUMENT**
- 2 **BIDDERS ARE REQUIRED TO FILL UP AMOUNT IN ALL COLUMN EXCEPT SHADED PORTION.**
- 3 **BIDDERS ARE REQUESTED NOT TO LEAVE ANY COLUMN BLANK. IF ANY COLUMN IS LEFT BLANK IT SHALL BE CONSIDERED THAT AMOUNT AGAINST THOSE ITEMS ARE INCLUDED IN ANY OTHER ITEM AND THE TOTAL AMOUNT FOR THAT ITEM SHALL BE CALCULATED AS FREE OF COST (ZERO VALUE). NO RATE SHALL BE FURNISHED/OBTAINED AFTER BID OPENING (REF CLAUSE NO 33.4.1 OF INB VOL-I)**
- 4 **KINDLY ENCLOSE SOFT COPY OF THE DULY FILLED SCHEDULE IN A CD WITH THE PRICED COPY OF BID.**
- 5 **BIDDER SHOULD BE QUOTED INCLUDING SERVICE TAX, NO SERVICE TAX SHALL BE PAID/REIMBURSED.**

DATE :
PLACE :

(SIGNATURE)
(NAME)
(DESIGNATION)
(COMMON SEAL)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 1 No. 220 KV Transformer Bay for 1x20 MVA, 220/33 KV & construction of 3 Nos 33 KV Bays at existing 220/33 KV Substation at LAXMIPUR & associated system.

BID DOCUMENT No.: Sr.GM-CPC-TENDER-LAXMIPUR PACKAGE-11 / 2013-14

NOTICE INVITING TENDER-NIT NO. 11 /2013-14

(Equipment/Materials Supply Price Break-up of ERECTION & CIVIL WORKS Prices against LAXMIPUR PACKAGE)

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
A	ELECTRICAL WORKS				
1	245 KV, 1200-600-300A, 40KA, 5CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	3		
2	245 KV, 2000A, 40KA, ISOLATORS				
2.1	WITH OUT EARTH SWITCH	NOS	2		
3	245KV, 3150A, 40KA, SF6, CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	1		
4	216 KV, METAL OXIDE SURGE ARRESTOR, 10 KA, class III	NOS	3		
5	220 KV Bus Post Insulators	NOS	5		
6	36 KV, 800-400-200, 25KA, SINGLE PHASE CURRENT TRANSFORMER.				
6.1	36 KV, 800-400-200, 25KA, 4CORE SINGLE PHASE CURRENT TRANSFORMER(3 PS CI & 1 0.2 CI)	NOS	3		
6.2	36 KV, 800-400-200, 25KA, 3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
7	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV SIDE: 1 NO)	NOS	2		
8	36 KV, 800A, 25KA, ISOLATORS				
8.1	S/I WITH OUT EARTH SWITCH	NOS	3		
8.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
8.3	D/I WITHOUT EARTH SWITCH	NOS	1		
9	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	9		
10	36KV, 1250A, 25KA, VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	3		
11	33 KV Bus Post Insulators	NOS	9		
12	BUS BAR & CIRCUIT MATERIALS				
12.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING				
12.1.1	160 kN ANTIFOG INSULATOR STRINGS for <i>twin Moose cond</i> (TENSION)-220 KV	SET	6		
12.1.2	160 kN ANTIFOG INSULATOR STRINGS for <i>single Moose cond</i> (TENSION)-220 KV	SET	6		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
12.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	6		
12.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	6		
12.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-220 KV	SET	6		
12.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	15		
12.2	ACSR MOOSE CONDUCTOR	KM	0.5		
12.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
12.4	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1		
12.5	4" IPS Aluminium Tube (114±5 mm),8.5 mm thick)	MTRs	100		
12.5.1	CI;amps & connectors for 220 KV side CT(6 Nos),Isolators(12 Nos) & Circuit Breakers(6 Nos) suitable for 4" IPS Aluminium Tube (114±5 mm),8.5 mm thick).	Nos	24		
13	SUBSTATION EARTHING SYSTEMS				
13.1	EARTHING CONDUCTOR FOR BURIAL : 75X10 mm GI Earth Flat for laying (<i>spacing maximum 5m</i>) (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 75X10 mm GI Flat as per the approval of Engineer in charge, excavation, welding/jointing of ground conductors along with risers (a) up to Finished level from the mat size 75X10 mm GI Flat with back filling and good compaction,The spacing between the earth conductor not more than 5 mtrs (both way) and to be buried at depth of 700 mm from the finished ground level as per the practice and as per specification.	LOT	1		
13.2	EARTHING CONDUCTOR: 50x6 mm GI Flat for Raiser from the burial earth mat to equipment,structure including proper welding, bending and anti corrosive painting etc from the finished ground level to the top of the structure and equipment shall be with 50X6 mm GI Flats, as per approved drawing and specification.	LOT	1		
13.3	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		
13.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit) to be inserted directly inside the soil.	LOT	1		
14	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1		
15	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES				
15.1	BAY MARSHALLING KIOSK (<i>01 nos on 220 kV bay & 02 Nos 33 KV bay</i>)	NOS	3		
15.2	SWITCH YARD AC CONSOLE FOR LIGHTING (<i>01 nos on 220 kV bay & 01 No in 33KV bay</i>)	NOS	2		
15.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (<i>01 no. near 220/33 KV power Transformer</i>)	NOS	1		
16	SWITCH YARD STRUCTURES (LATTICE TYPE FOR TOWER COLUMN & BEAMS & PIPE TYPR FOR ALL EQUIPMENT COLUMN) FOR 220/132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS				
16.1.1	P1S-220 KV (NOMINAL UNIT WT- 4.5 MT)				
16.1.2	P2A-220 KV (NOMINAL UNIT WT- 1.5 MT)				
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)				
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)				
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS				
16.2.1	Q1-220KV (NOMINAL UNIT WT- 1.5 MT)				
16.2.2	Q3-220KV (NOMINAL UNIT WT-2.5 MT)				
16.2.3	Q4-220KV (NOMINAL UNIT WT- 0.9 MT)				
16.2.4	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)				
16.2.5	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)				
16.2.6	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)				
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	18		
16.4	EQUIPMENT SUPPORT STRUCTURES (lattice)FOR ALL 220KV & 33KV EQUIPMENTCLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.4.1	ISOLATORS-220KV				
16.4.2	ISOLATORS-33 KV				
16.4.3	CTS-220 KV				
16.4.4	CTS-33 KV				
16.4.5	Surge Arrester-220 Kv				
16.4.6	Surge Arrester-33 kV				
16.4.7	Wave Trap-220 KV				
16.4.8	BPI-220 KV				
16.4.9	BPI-33 KV				
16.4.10	NCTS				
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	12		
16.6	ERECTION OF A 4 POLE STRUCTURE INFRONT OF 33 KV SIDE OF 220/33 KV TRANSFORMER AS PER DRAWING AND SPECIFICATION AND AS PER THE DIRECTION OF ENGINEER IN CHARGE.				
16.6.1	HOT DIP GALVANISED STRUCTURES				
16.6.1.1	5.2 mtr long 100x50x5 mm GI pressure Channel 20 nos.	MT	0.99		
16.6.1.2	5.2 mtr long 75x40x5 mm GI channel 12 nos. for Belting	MT	0.43		
16.6.1.3	7.4 mtr long 65x65x6 mm GI Angle 8 nos. for bracings	MT	0.34		
16.6.1.4	Back Clamp for Power Channel, Belting Channel & Bracings	MT	0.13		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/83 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
16.6.1.5	17 MTRS LONG RS JOIST POLE (4 NOS) 200x100 mm, 25.4kg/mtr	MT	1.73		
16.6	Total weight of GI Nuts and bolts for the above structures	MT	2		
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				
17.1	POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)				
17.1.1	XLPE 3.5 CX120 mm ²	KM	0.5		
17.1.2	PVC 3.5 CX35 mm ²	KM	1.5		
17.1.3	PVC 4 CX 6 mm ²	KM	0.5		
17.1.4	PVC 2CX 6 mm ²	KM	1.5		
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
17.2.1	2 CX 2.5 mm ²	KM	4		
17.2.2	3 CX 2.5 mm ²	KM	0.5		
17.2.3	4 CX 2.5 mm ²	KM	9		
17.2.4	7CX 2.5 mm ²	KM	1.5		
17.2.5	10 CX 2.5 mm ²	KM	4		
17.2.6	12 CX 2.5 mm ²	KM	1.5		
17.2.7	24 CX 2.5 mm ²	KM	0.5		
18.1	3 CoreX 400 Sq. mm Aluminium conductor XLPE insulation, armoured 33 KV HT cable confirming to IS 7098 or latest.	KM	0.7		
18.2	Erection of Cable Jointing & Termination Accessories for jointing of the above 33 KV HT XLPE cable(Termination at Transformer end,Termination at bus end etc)	LOT	1		
19	ERECTION OF SUB-STATION SWITCH YARD LIGHTING ,SUPPLY,LAYING & FIXING OF GI CONDUIT FOR CABLES (Lighting fixtures are to be fixed rigidly on the Column at a suitable height so that the required lux can be maintained).	LOT	1		
20	FIRE FIGHTING SYSTEM(PORTABLE AND WHEEL MOUNTED SETS FOR CONTROL ROOM,EQUIPMENT LIKE TRANSFORMER AND OTHER AREAS AS PER TECH SPEC(REFER TS-INST TO BIDDER BEFORE DESIGN-SL NO 16-ANNEXURE - I)				
20.1	FOAM TYPE-9 LTRS	NOS	2		
20.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	1		
20.3	DRY POWDER TYPE - 5 KGS	NOS	2		
20.4	CO ₂ - 9 KGS	NOS	2		
20.5	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	1		
20.6	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	1		
21	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC				
21.1	220 KV SIDE				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02,TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
21.1.2	TRANSFORMER RELAY PANEL(RPL-2D)(FOR 220/33 KV TRANSFORMER)	NOS	1		
21.1.3	BUS BAR PROTECTION MODULES TO MATCH WITH THE EXISTING BUS-BAR PROTECTION & ALSO TO ACCOMMODATE THE PROPOSED 220 KV BAY EXTENSION FOR 220/33 KV,20 MVA TRANSFORMER.	LOT	1		
21.2	33 KV SIDE				
21.2.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	2		
21.2.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	1		
22	BEST QUALITY & APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		
23	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 ERECTION INCLUDING T&P's. 1. 220/33 KV 20 MVA: 01 Nos	NOS	1		
TOTAL of Part-I (A)					
B	CIVIL WORKS				
1	<i>Foundations : Design, engineering, supply of all labour, material (Cement-OPC-43 Grade,MS Rod(FE 500), coarse and fine aggregates(Sand and Metal Chips) etc) for construction of RCC (1:1.5:3) & PCC (1:3:6), RCC footings of any depth, pedestal and piling as per requirement including soil investigation, excavation,concreting, shuttering, grouting, underpinning and back filling of foundations etc complete for the following switch yard gantry/ portal structures and equipment support & others as per the technical specification and approved drawings.(RCC RATIO 1:1.5:3). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge.</i>				
1.1	Switch yard gantry/portal structure foundations				
1.1.1	P1S-220 KV				
1.1.2	P2A-220 KV				
1.1.3	T8S – 33KV				
1.1.4	T9S – 33KV				
1.1.5	RS Joist Pole for 4 pole structure				
1.2	Equipment foundations :				
1.2.1	245 KV,1200-600-300A,40KA,5CORE SINGLE PHASE CURRENT TRANSFORMER				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
1.2.2	245 KV,2000A,40KA,ISOLATORS				
1.2.2.1	WITH OUT EARTH SWITCH				
1.2.3	245KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE				
1.2.4	216 KV, METAL OXIDE SURGE ARRESTOR,10 KA, class III				
1.2.5	220 KV Bus Post Insulators				
1.2.6	36 KV,800-400-200,25KA, SINGLE PHASE CURRENT TRANSFORMER.				
1.2.6.1	36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER				
1.2.6.2	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 220 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)				
1.2.7	36 KV,800A,25KA,ISOLATORS				
1.2.7.1	S/I WITH OUT EARTH SWITCH				
1.2.7.2	D/I WITH SINGLE EARTH SWITCH				
1.2.7.3	D/I WITHOUT EARTH SWITCH				
1.2.9	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE				
1.2.10	33 KV Bus Post Insulators				
1.3	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES				
1.3.1	BAY MARSHALLING KIOSK (01 nos on 220 kV bay & 02 Nos 33 KV bay)				
1.3.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 nos on 220 kV bay & 01 No in 33KV bay)				
1.3.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (01 no. near 220/33 KV power Transformer)				
1.4	EXCAVATION.:This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge.				
1.4.1	Normal Soil(SOFT/LOOSE)	Cum	1500		
1.4.2	Compact/Hard Soil	Cum	650		
1.4.3	Soft Rock not required blasting	Cum	150		
1.4.4	Hard Rock required blasting(USING CONCRETE BREAKER MACHINE)	Cum	100		
1.5	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	60		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION,TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
1.6	Open cast foundation for the above column/equipment/marshaling box foundations { SI No. 1.1 & 1.2} with RCC: 1:1.5:3 (Grade M-20),including supply of Labour all materials like Steel -FE 500 (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	300		
2	Cable Trenches: Design, engineering, and construction of RCC cable trenches and all associated works for cable trench and cable trench crossings as per technical specifications and approved drawings and as per direction of the Engineer in Charge. (1) This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. (2) Design, Engineering, Providing and laying of plain cement concrete (PCC 1:3:6) of grade M10 with approved quality coarse aggregates (Nominal size 12mm to 20mm) , fine aggregates, cement in column and equipment foundation as blind layer inclusive of labour charges for concrete mixing & curing. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.				
	(3) Open cast foundation for the cable trench with RCC: 1:1.5:3 (Grade M-20 Nominal mixing),including supply of Labour all materials like MS Rod(FE 500),Cement, coarse and fine aggregates,shuttering,cutting,bending,binding of M.S.Rod including supply of binding wire proper curing of the foundations/concrete and T&P in line with the Specification and as per direction of Engineer in Charge.				
	(4) Fly ash brickwork with Fly ash brick ,plastering (1:6 Ratio) & curing, wherever required including the supply of labour,material, cement, etc. (5)Supply,fabrication & Fixing of MS Angle(G.I) for cable tray support (as per specification). The cable tray support frame shall be pre fabricated GI angle as per requirement and to be welded with the plate fixed on the trench wall for better rigidity. The plate (6mm) fixed on the wall are also to be welded with the MS rods provided for the trench wall before concreting. (6) Precast of RCC covers (1:1.5:3) and its fixing on the cable trench as per spec and instruction of Engg. In Charge. (7) CABLE TRENCHES INSIDE THE CONTROL ROOM SHALL BE COVERED WITH M.S CHEQUERED PLATE(Duly painted as per instruction of Engg in charge) INCLUDING STANDARD SUPPORT STAND {HD Galvanised (M.S JOIST ,CHANNEL,ANGLE)}.				
2.1	Section 1-1	Mtrs	75		
2.2	Section 2- 2	Mtrs	100		
2.3	Section 3-3	Mtrs	100		
2.4	Section 4-4	Mtrs	100		
3	Cable trench crossing: Design,engineering,construction including supply of labour,materials,cement,reinforcement steel,formwork etc,and all associated works for construction of trench crossing as per technical specification and approved drawing.(Road crossing)				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
3.1	Section 1-1	Lot	1		
3.2	Section 2- 2	Lot	1		
3.3	Section 3-3	Lot	1		
4	Roads: Design, construction of roads and walkways/ shoulders within sub-station(Switch yard area, approach road, control room area, main gate to the switch yard gate etc) as per specification, layout and approved drawings complete. This also includes excavation in all types of soil or rocks, back filling, and disposal of excess earth as per the direction of Engineer In charge. Provision of drains on both the side of the roads for easy discharge of rain water. (Refer the indicative drawing of s/s layout)				
4.1	3.75 mtrs concrete road with shoulder at both the side as per technical specification indicated in the civil section & shall have drain on both side of the road.	Mtrs	50		
4.2	7 mtrs wide Concrete roads with shoulder as per specification indicated in the civil section. & shall have drain on both side of the road. 7 Mtrs wide road inside the switch yard to be connected to switch yard main gate.	Mtrs	50		
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, back filling, and disposal of excess earth as per the direction of Engineer In charge. All the switch yard bays, roads water drainage shall be connected to the main surface drain. As per approved drawing and specification.				
5.1	Storm water drain	Lots	1		
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 Road). This also includes excavation in all types of soil or rocks, back filling, and disposal of excess earth as per the direction of Engineer In charge. 1. 220/33 KV, 20 MVA(1 Nos)				
6.1	220/33 KV, 20 MVA a) Overall dimension of transformer (approx) Length: 7200 mm X Width 6500 mm X Height 7500 mm b) Total weight with oil and tank: 106 MT (approx)	Nos	1		
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 approx. a) 20 MVA, 220/33 KV: 36000 ltrs.	Nos	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
SL NO	DESCRIPTION OF ITEMS	Unit	Quantity for: Construction of 1 No. 220 KV TRANSFORMER BAY EXTENSION FOR 1x20 MVA, 220/33 KV & 33 KV Bay Extension at LAXMIPUR: 220 KV BAY 01 NO for TFR & 33 KV BAY 03 NOS(FDR:02, TFR:01)	Erection & Civil Works charges IN INR	
	ERECTION, TESTING & COMMISSIONING OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)			Unit Rate	Total Price
1	2	3	4	7	8
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. After proper leveling of the switch yard area (after anti-weed treatment), spreading of plain cement concrete with mixing ratio 1:4:8 (M10) and maintaining proper sloping for easy discharge of storm water having concrete thickness of 75 mm. including rolling , dressing, compacting,the area. As per technical specification and approved drawing, and as per the instruction of the Engg-in-Charge . This also includes excavation in all types of soil or rocks,back-filling,and disposal of excess earth as per the direction of Engineer in charge and approved drawing. (Switch yard area)	Lots	1		
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 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.				
9.1	Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.	SQM	3000		
9.2	Cutting of sub-station area of the as per the direction of Engineer in Charge.	Cum	600		
9.3	Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.	Cum	600		
10	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.				
10.1	Excavation in Soft & Loose Soil	Cum	800		
10.2	P.C.C (1:3:6): Lean Concrete Grade M-10	Cum	90		
10.3	RR Masonry (1:5)	Cum	600		
10.4	P.C.C (1:2:4): Lean Concrete Grade M-15	Cum	8		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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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	7	8
11	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 Fly ash 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.	Lots	1		
12	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 Fly ash 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		
13	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.)				
13.1	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		
13.2	PCC: M10(1: 3 : 6)	Cu.m.	1		
13.3	RCC M 15(1:2:4)	Cu.m.	1		
13.4	RCC: M 20(1:1.5:3)	Cu.m.	1		
13.5	Fly ash brick masonry work in cement sand mortar 1: 6 with Fly ash bricks of class designation 75.	Cu.m.	1		
13.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		
13.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement- FE 500(including supply of reinforcement).	M.T.	1		
14	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)Colour coding (red,Yellow & Blue) for equipments.Bus gantry &column of entire switch yard. Good quality weather proof sticker may be used for identification. b)Each bay should be identified with the help of bay marker sign board, suitably grouted. MS sign board with stand to be installed. Proper painting and lettering to be done of the entire switch yard area. Sufficient Danger Boards as per requirement are to be supplied and fixed at the appropriate position of the bays.	Lot	1		
15	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				

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1	2	3	4	7	8
	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.				
15.1	Excavation for laying of EARTHING CONDUCTOR (75x10mm for laying (spacing maximum 5m) (GI FLAT)	Lot	1		
15.2	Excavation for putting the EARTHING DEVICE INCLUDING ITS ASSOCIATED ACCESSORIES(50 mm heavy duty GI PIPE 3.0 mtrs long for treated earth pit)	Lot	1		
TOTAL of Part-I (B) (Evaluated)					
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)