

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40 MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

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

PART-I SCHEDULE-2A (FOR SUBSTATION)		SUBSTATION							
S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA,TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	TO BE QUOTED IN INR		
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							Excise Duty	VAT/Sales Tax	Other Levies (if any)
1	2	3	4	5	6=4X5	7	8	9	10
1	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15						
2	145 KV,1200A,31.5KA,ISOLATORS								
2.1	S/I WITH OUT EARTH SWITCH	NOS	8						
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2						
2.3	D/I WITHOUT EARTH SWITCH	NOS	2						
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6						
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12						
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3						
6	132 KV Bus Post Insulators	NOS	16						
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5						
8.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6						
8.2	36 KV,800-400-200,25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER(3 NOS PS CLASS & 1 NO. 0.2 CLASS)	NOS	18						
9	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	4						
10	36 KV,800A,25KA,ISOLATORS								
10.1	S/I WITH OUT EARTH SWITCH	NOS	9						

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10.2	D/I WITH SINGLE EARTH SWITCH	NOS	5						
10.3	D/I WITHOUT EARTH SWITCH	NOS	2						
10.4	S/I WITH BEAM MOUNTED	NOS	2						
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	27						
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3						
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8						
14	33 KV Bus Post Insulators	NOS	22						
15	BUS BAR & CIRCUIT MATERIALS								
15.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING								
15.1.1	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-132 KV	SET	18						
15.1.2	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-132 KV	SET	30						
15.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	18						
15.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	24						
15.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-132 KV	SET	9						
15.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	9						
15.2	ACSR MOOSE CONDUCTOR	LOT	1						
15.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1						
15.4	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1						
15.5	SUBSTATION EARTHING SYSTEMS								
15.5.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (<i>spacing maximum 5m both way</i>)	LOT	1						
15.5.2	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment,structure etc)	LOT	1						
15.5.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1						
15.5.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1						

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1	2	3	4	5	6=4X5	7	Excise Duty	VAT/Sales Tax	Other Levies (if any)
15.5.5	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1						
15.6	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES								
15.6.1	BAY MARSHALLING KIOSK (03 Nos 132 kv bay & 04 Nos 33 KV bay)	NOS	7						
15.6.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 Nos 132 kv bay & 01 No in 33KV bay)	NOS	2						
15.6.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (1 No near 132/33 KV power Transformer)	NOS	1						
15.6.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY (01 nos each on 132 & 33 kv bay)	NOS	2						
15.6.5	CT,PT & CVT Out Door Console Boxes	LOT	1						
16	SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.								
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS								
16.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	15						
16.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5						
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9						
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11						
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS								
16.2.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	13						
16.2.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	5						
16.2.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4						
16.2.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0						
16.2.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3						
16.2.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	9						
16.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2						
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	60						

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1	2	3	4	5	6=4X5	7	8	9	10
16.4	SWITCH YARD EQUIPMENT STRUCTURES (PIPE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.								
16.4.1	ISOLATORS-132KV	LOT	13						
16.4.2	ISOLATORS-33 KV	LOT	16						
16.4.3	CTS-132 KV	LOT	15						
16.4.4	CTS-33 KV	LOT	18						
16.4.5	CVTS-132 KV	LOT	6						
16.4.6	IVTS-132 KV	LOT	3						
16.4.7	IVTS-33 KV	LOT	3						
16.4.8	Surge Arrester-132 kV	LOT	12						
16.4.10	Wave Trap-132 KV	LOT	4						
16.4.11	BPI-132 KV	LOT	16						
16.4.12	BPI-33 KV	LOT	8						
16.4.13	NCTS	LOT	4						
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	45						
16.6	Total weight of GI Nuts and bolts for the above structures	MT	15						
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES								
17.1	POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)								
17.1.1	3.5 CX300 mm ²	LOT	1						
17.1.2	3.5 CX185 mm ²	LOT	1						
17.1.3	3.5 CX120 mm ²	LOT	1						
17.1.4	3.5 CX70 mm ²	LOT	1						
17.1.5	3.5 CX35 mm ²	LOT	1						
17.1.6	4 CX 16 mm ²	LOT	1						
17.1.7	4 CX 6 mm ²	LOT	1						
17.1.8	2CX 6 mm ²	LOT	1						

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17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)								
17.2.1	4 CX 2.5 mm ²	LOT	1						
17.2.2	5 CX 2.5 mm ²	LOT	1						
17.2.3	7CX 2.5 mm ²	LOT	1						
17.2.4	10 CX 2.5 mm ²	LOT	1						
17.2.5	12 CX 2.5 mm ²	LOT	1						
17.2.6	16 CX 2.5 mm ²	LOT	1						
17.2.7	19 CX 2.5 mm ²	LOT	1						
17.2.8	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1						
18	ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION								
18.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHz),Isc=31.5kA compatible to IEC 353 specifications	NOS	4						
18.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2						
18.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000						
18.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1						
18.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	1000						
18.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	500						
18.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300						
18.8	2 WIRE TELEPHONE SET	NO	20						
18.9	FAX MACHINE	NO	1						
18.10	PLANTE TYPE BATTERY 350 AH(FOR 48 V)	SET	1						
18.11	BATTERY CHARGER FOR 48 V, 350 AH 70 AMP FLOAT CUM BOOST CHARGER	SET	1						
18.12	48 V DCDB	SET	1						
19	SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION								

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19.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2						
19.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	2						
20	SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)								
20.1	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						
20.1	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).	LOT	1						

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20.2	<p>ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS:-</p> <p>> 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. (XLPE CABLES(3.5 CORE 120 SQMM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4C X 16 SQMM FROM OUTDOOR KIOSK TO THE STREET LIGHT POLES AND 4CX6 SQMM FROM POLE TO POLE AND 2CX6 SQMM FROM POLE TO LIGHTING FIXTURES.)</p> <p>> 1 NO. OUTDOOR KIOSK FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES.(XLPE CABLES(3.5 CORE 120 SQM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SQMM FROM KIOSK TO EACH QUARTER. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)</p> <p>> ALL THE STREET LIGHT POLE SHALL BE OF GI TUBULAR POLE AND PROVISION OF A GI JUNCTION BOX WITH SUITABLE COVERS AT A HEIGHT OF 1 METRE FROM THE GROUND. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS. (* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS AS INDICATED ABOVE)</p>	LOT	1						

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21	2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF AIR CONDITIONERS,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.(*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)	LOT	1						
22	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)								
22.1	FOAM TYPE-9 LTRS	NOS	4						
22.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4						
22.3	DRY POWDER TYPE - 5 KGS	NOS	4						
22.4	CO ₂ - 4.5 KGS	NOS	10						
22.5	CO ₂ - 9 KGS	NOS	10						
22.6	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	4						
22.7	Water type- 9 LTRS	NOS	4						
22.8	Foam type - 50 LTR	NOS	2						
22.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5						
23	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROT N PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC								
23.1	TIME SYNCH EQUIPMENT	NOS	1						
23.2	132 KV SIDE								
23.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2						
23.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2						
23.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1						
23.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2						

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23.2.5	TRANSFORMER RELAY PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2						
23.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1						
23.2.7	COMMON PANEL (KP-1)	NOS	1						
23.3	33 KV SIDE								
23.3.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5						
23.3.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2						
23.3.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1						
24	AC & DC SYSTEM								
24.1	AC SYSTEM								
24.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1						
24.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1						
24.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1						
24.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1						
24.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1						
24.1.6	INDOOR RECEPTACLE BOARD	SET	1						
24.2	DC SYSTEM								
24.2.1	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						
24.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1						
24.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1						
24.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1						
25	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1						
26	WALKIE TALKIE SET	SET /PAIR	2						

PART-I SCHEDULE-2A (FOR SUBSTATION)		SUBSTATION							
S. No.	DESCRIPTION OF ITEMS SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA,TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Ex-Works Price	Total Ex-Works Price	Mode of Transaction (Direct or Bought-out item)	TO BE QUOTED IN INR		
							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	VAT/Sales Tax	Other Levies (if any)
27	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2						
28	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1						
29	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1						
30	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1						
31	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1						
32	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER ANNEXURE - II ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	LOT	1						
33	OFFICE FURNITURE (AS PER ANNEXURE - III ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1						
34	BEST QUALITY & APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1						
TOTAL OF SUBSTATION-2A (PART-I)									

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.

- 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
- 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)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40 MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

(F&I For Supply of Equipment/Materials Price Break-up against MANIA,TANGI PACKAGE)

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
		UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA,TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
1	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
2	145 KV,1200A,31.5KA,ISOLATORS				
2.1	S/I WITH OUT EARTH SWITCH	NOS	8		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
6	132 KV Bus Post Insulators	NOS	16		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		
8.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		
8.2	36 KV,800-400-200,25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER(3 NOS PS CLASS & 1 NO. 0.2 CLASS)	NOS	18		
9	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	4		
10	36 KV,800A,25KA,ISOLATORS				
10.1	S/I WITH OUT EARTH SWITCH	NOS	9		
10.2	D/I WITH SINGLE EARTH SWITCH	NOS	5		
10.3	D/I WITHOUT EARTH SWITCH	NOS	2		
10.4	S/I WITH BEAM MOUNTED	NOS	2		
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	27		
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8		
14	33 KV Bus Post Insulators	NOS	22		
15	BUS BAR & CIRCUIT MATERIALS				

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
15.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING				
15.1.1	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-132 KV	SET	18		
15.1.2	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-132 KV	SET	30		
15.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	18		
15.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	24		
15.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-132 KV	SET	9		
15.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	9		
15.2	ACSR MOOSE CONDUCTOR	LOT	1		
15.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
15.4	EARTH WIRES & ITS HARDWARES & FITTING	LOT	1		
15.5	SUBSTATION EARTHING SYSTEMS				
15.5.1	EARTHING CONDUCTOR FOR BURRIAL : 75X10 mm GI Flat for laying (<i>spacing maximum 5m both way</i>)	LOT	1		
15.5.2	EARTHING CONDUCTOR: 50X6 mm GI Flat for Raiser from the burial earth mat to equipment,structure etc)	LOT	1		
15.5.3	EARTHING DEVICE & ASSOCIATED ACCESSORIES (50 mm heavy duty GI PERFORATED PIPE 3 mtrs long for treated earth pit)	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
15.5.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1		
15.5.5	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1		
15.6	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES				
15.6.1	BAY MARSHALLING KIOSK <i>(03 Nos 132 kv bay & 04 Nos 33 KV bay)</i>	NOS	7		
15.6.2	SWITCH YARD AC CONSOLE FOR LIGHTING <i>(01 Nos 132 kv bay & 01 No in 33KV bay)</i>	NOS	2		
15.6.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION <i>(1 No near 132/33 KV power Transformer)</i>	NOS	1		
15.6.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY <i>(01 nos each on 132 & 33 kv bay)</i>	NOS	2		
15.6.5	<i>CT,PT & CVT Out Door Console Boxes</i>	<i>LOT</i>	1		
16	SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS				
16.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	15		
16.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9		
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11		
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS				
16.2.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	13		
16.2.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	5		
16.2.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4		
16.2.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0		
16.2.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3		
16.2.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	9		
16.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2		
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	60		
16.4	SWITCH YARD EQUIPMENT STRUCTURES (PIPE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.4.1	ISOLATORS-132KV	LOT	13		
16.4.2	ISOLATORS-33 KV	LOT	16		
16.4.3	CTS-132 KV	LOT	15		
16.4.4	CTS-33 KV	LOT	18		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
16.4.5	CVTS-132 KV	LOT	6		
16.4.6	IVTS-132 KV	LOT	3		
16.4.7	IVTS-33 KV	LOT	3		
16.4.8	Surge Arrester-132 kV	LOT	12		
16.4.10	Wave Trap-132 KV	LOT	4		
16.4.11	BPI-132 KV	LOT	16		
16.4.12	BPI-33 KV	LOT	8		
16.4.13	NCTS	LOT	4		
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	45		
16.6	Total weight of GI Nuts and bolts for the above structures	MT	15		
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				
17.1	POWER CABLES,1.1KV,XLPE,ARMoured, ALUMINIUM CONDUCTOR (As per Specification)				
17.1.1	3.5 CX300 mm ²	LOT	1		
17.1.2	3.5 CX185 mm ²	LOT	1		
17.1.3	3.5 CX120 mm ²	LOT	1		
17.1.4	3.5 CX70 mm ²	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
		UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
17.1.5	3.5 CX35 mm ²	LOT	1		
17.1.6	4 CX 16 mm ²	LOT	1		
17.1.7	4 CX 6 mm ²	LOT	1		
17.1.8	2CX 6 mm ²	LOT	1		
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
17.2.1	4 CX 2.5 mm ²	LOT	1		
17.2.2	5 CX 2.5 mm ²	LOT	1		
17.2.3	7CX 2.5 mm ²	LOT	1		
17.2.4	10 CX 2.5 mm ²	LOT	1		
17.2.5	12 CX 2.5 mm ²	LOT	1		
17.2.6	16 CX 2.5 mm ²	LOT	1		
17.2.7	19 CX 2.5 mm ²	LOT	1		
17.2.8	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		
18	ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION				
18.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500KHZ),Isc=31.5kA compatible to IEC 353 specifications	NOS	4		
18.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
18.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000		
18.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1		
18.5	25 PAIR ARMOURED JELLY FILLED CABLE	MTRS	1000		
18.6	10 PAIR ARMOURED TELEPHONE CABLES	MTRS	500		
18.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300		
18.8	2 WIRE TELEPHONE SET	NO	20		
18.9	FAX MACHINE	NO	1		
18.10	PLANTE TYPE BATTERY 350 AH(FOR 48 V)	SET	1		
18.11	BATTERY CHARGER FOR 48 V, 350 AH 70 AMP FLOAT CUM BOOST CHARGER	SET	1		
18.12	48 V DCDB	SET	1		
19	SUPPLY OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION				
19.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
19.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	2		
20	SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)				
20.1	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		
20.1	STREET LIGHTING, IT INCLUDES SUPPLY OF GI TUBULAR POLE, WITH LED LIGHTING FIXTURES WITH LAMPS of reputed make (Philips/CGL/Bajaj)(TO BE PROVIDED IN THE SWITCH YARD, ALONG THE ROADS (APPROACH INSIDE YARD AND OTHER ROADS).	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
DESCRIPTION OF ITEMS		TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
20.2	<p>ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS:-</p> <p>> 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. (XLPE CABLES(3.5 CORE 120 SQMM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4C X 16 SQMM FROM OUTDOOR KIOSK TO THE STREET LIGHT POLES AND 4CX6 SQMM FROM POLE TO POLE AND 2CX6 SQMM FROM POLE TO LIGHTING FIXTURES.)</p> <p>> 1 NO. OUTDOOR KIOSK FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES.(XLPE CABLES(3.5 CORE 120 SQM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SQMM FROM KIOSK TO EACH QUARTER. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)</p> <p>> ALL THE STREET LIGHT POLE SHALL BE OF GI TUBULAR POLE AND PROVISION OF A GI JUNCTION BOX WITH SUITABLE COVERS AT A HEIGHT OF 1 METRE FROM THE GROUND. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS.</p> <p>REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE</p>	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
21	2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF AIR CONDITIONERS,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.(*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)	LOT	1		
22	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)				
22.1	FOAM TYPE-9 LTRS	NOS	4		
22.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4		
22.3	DRY POWDER TYPE - 5 KGS	NOS	4		
22.4	CO ₂ - 4.5 KGS	NOS	10		
22.5	CO ₂ - 9 KGS	NOS	10		
22.6	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	4		
22.7	Water type- 9 LTRS	NOS	4		
22.8	Foam type - 50 LTR	NOS	2		
22.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
23	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC				
23.1	TIME SYNCH EQUIPMENT	NOS	1		
23.2	132 KV SIDE				
23.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2		
23.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		
23.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1		
23.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2		
23.2.5	TRANSFORMER RELAY PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		
23.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1		
23.2.7	COMMON PANEL (KP-1)	NOS	1		
23.3	33 KV SIDE				
23.3.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5		
23.3.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2		
23.3.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
24	AC & DC SYSTEM				
24.1	AC SYSTEM				
24.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1		
24.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		
24.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1		
24.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1		
24.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1		
24.1.6	INDOOR RECEPTACLE BOARD	SET	1		
24.2	DC SYSTEM				
24.2.1	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		
24.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		
24.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
24.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
25	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
26	WALKIE TALKIE SET	SET /PAIR	2		
27	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2		
28	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1		
29	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		
30	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1		
31	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1		
32	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER ANNEXURE - II ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	LOT	1		
33	OFFICE FURNITURE (AS PER ANNEXURE - III ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1		
34	BEST QUALITY & APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		

PART-I, SCHEDULE-2B (FOR SUBSTATION)					
	DESCRIPTION OF ITEMS	TO BE QUOTED IN INR			
S. No.	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
	TOTAL OF SUBSTATION-2A (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 :

Place :

(Signature)

(Name)

(Designation)

(Common Seal)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

(F&I For Supply of Equipment/Materials Price Break-up against MANIA(TANGI) PACKAGE)

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS ERECTION,TESTING & COMMISSIONING INCLUDING CIVIL WORKS OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
A	ELECTRICAL WORKS				
1	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	15		
2	145 KV,1200A,31.5KA,ISOLATORS				
2.1	S/I WITH OUT EARTH SWITCH	NOS	8		
2.2	D/I WITH SINGLE EARTH SWITCH	NOS	2		
2.3	D/I WITHOUT EARTH SWITCH	NOS	2		
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER	NOS	6		
4	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III	NOS	12		
5	145 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
6	132 KV Bus Post Insulators	NOS	16		
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	5		
8.1	36 KV,800-400-200,25KA,3 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	6		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
	ERECTION, TESTING & COMMISSIONING INCLUDING CIVIL WORKS OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)		Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
8.2	36 KV,800-400-200,25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER(3 NOS PS CLASS & 1 NO. 0.2 CLASS)	NOS	18		
9	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)	NOS	4		
10	36 KV,800A,25KA,ISOLATORS				
10.1	S/I WITH OUT EARTH SWITCH	NOS	9		
10.2	D/I WITH SINGLE EARTH SWITCH	NOS	5		
10.3	D/I WITHOUT EARTH SWITCH	NOS	2		
10.4	S/I WITH BEAM MOUNTED	NOS	2		
11	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II	NOS	27		
12	36 KV ,2 CORE,SINGLE PHASE,IVT	NOS	3		
13	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE	NOS	8		
14	33 KV Bus Post Insulators	NOS	22		
15	BUS BAR & CIRCUIT MATERIALS				
15.1	TENSION & SUSPENSION ANTI FOG TYPE INSULATOR STRING				
15.1.1	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-132 KV	SET	18		
15.1.2	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-132 KV	SET	30		
15.1.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	18		
15.1.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	24		
15.1.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-132 KV	SET	9		
15.1.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	9		
15.2	ACSR MOOSE CONDUCTOR	LOT	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
15.3	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS	LOT	1		
15.4	EARTH WIRES & IT'S HARDWARES & FITTING	LOT	1		
15.5	SUBSTATION EARTHING SYSTEMS				
15.5.1	EARTHING CONDUCTOR FOR BURRIAL : 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		
15.5.2	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		
15.5.3	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		
15.5.4	EARTHING DEVICE & ASSOCIATED ACCESSORIES 40mm MS rod 3 mtrs long for non treated earth pit)	LOT	1		
15.5.5	G.I Cable Trays including support GI angle suitable for different sections i.e. Section:1-1,2-2,3-3 & 4-4 along with its accessories as per TS.	LOT	1		
15.6	SUB STATION SWITCHYARD BMK, AC CONSOLE & OTHER MARSHALLING BOXES				
15.6.1	BAY MARSHALLING KIOSK (<i>03 Nos 132 kv bay & 04 Nos 33 KV bay</i>)	NOS	7		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
15.6.2	SWITCH YARD AC CONSOLE FOR LIGHTING <i>(01 Nos 132 kv bay & 01 No in 33KV bay)</i>	NOS	2		
15.6.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION <i>(1 No near 132/33 KV power Transformer)</i>	NOS	1		
15.6.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY <i>(01 nos each on 132 & 33 kv bay)</i>	NOS	2		
15.6.5	CT,PT & CVT Out Door Console Boxes	LOT	1		
16	SWITCH YARD STRUCTURES COLUMN & BEAM (LATTICE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				
16.1	DIFFERENT TYPES OF COLUMNS WITH DETAILS				
16.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)	NOS	15		
16.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)	NOS	5		
16.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)	NOS	9		
16.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)	NOS	11		
16.2	DIFFERENT TYPE OF BEAMS WITH DETAILS				
16.2.1	G1 - 132 KV(NOMINAL UNIT WT- 0.62 MT)	NOS	13		
16.2.2	G1X - 132 KV (NOMINAL UNIT WT- 1.4 MT)	NOS	5		
16.2.3	G2 - 132 KV(NOMINAL UNIT WT- 0.91 MT)	NOS	4		
16.2.4	G1,2 - 132 KV(Each two beams of G1 type) (NOMINAL UNIT WT- 1.25 MT)	NOS	0		
16.2.5	G6 - 33KV (NOMINAL UNIT WT- 0.53 MT)	NOS	3		
16.2.6	G4 - 33KV(NOMINAL UNIT WT- 0.4 MT)	NOS	9		
16.2.7	G4X - 33KV (NOMINAL UNIT WT- 0.4 MT)	NOS	2		
16.3	TOTAL WEIGHT OF COLUMN & BEAM	MT	60		
16.4	SWITCH YARD EQUIPMENT STRUCTURES (PIPE TYPE) FOR 132/33 KV CLASS INCLUDING FOUNDATION BOLTS & NUTS.				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
16.4.1	ISOLATORS-132KV	LOT	13		
16.4.2	ISOLATORS-33 KV	LOT	16		
16.4.3	CTS-132 KV	LOT	15		
16.4.4	CTS-33 KV	LOT	18		
16.4.5	CVTS-132 KV	LOT	6		
16.4.6	IVTS-132 KV	LOT	3		
16.4.7	IVTS-33 KV	LOT	3		
16.4.8	Surge Arrester-132 kV	LOT	12		
16.4.10	Wave Trap-132 KV	LOT	4		
16.4.11	BPI-132 KV	LOT	16		
16.4.12	BPI-33 KV	LOT	8		
16.4.13	NCTS	LOT	4		
16.5	TOTAL WEIGHT OF EQUIPMENT STRUCTURE	MT	45		
16.6	Total weight of GI Nuts and bolts for the above structures	MT	15		
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES				
17.1	POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR (As per Specification)				
17.1.1	3.5 CX300 mm ²	LOT	1		
17.1.2	3.5 CX185 mm ²	LOT	1		
17.1.3	3.5 CX120 mm ²	LOT	1		
17.1.4	3.5 CX70 mm ²	LOT	1		
17.1.5	3.5 CX35 mm ²	LOT	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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1	2	3	4	5	6=4X5
17.1.6	4 CX 16 mm ²	LOT	1		
17.1.7	4 CX 6 mm ²	LOT	1		
17.1.8	2CX 6 mm ²	LOT	1		
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)				
17.2.1	4 CX 2.5 mm ²	LOT	1		
17.2.2	5 CX 2.5 mm ²	LOT	1		
17.2.3	7CX 2.5 mm ²	LOT	1		
17.2.4	10 CX 2.5 mm ²	LOT	1		
17.2.5	12 CX 2.5 mm ²	LOT	1		
17.2.6	16 CX 2.5 mm ²	LOT	1		
17.2.7	19 CX 2.5 mm ²	LOT	1		
17.2.8	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	LOT	1		
18	ACCESSORIES FOR PLCC SYSTEM AS PER TECHNICAL SPECIFICATION				
18.1	132 kV Line Trap for Pedestal mounting with complete accessories :800A, 0.5 mH, (90-500kHz),Isc=31.5kA compatible to IEC 353 specifications	NOS	4		
18.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	2		
18.3	12.5 mm OD armoured Co-axial Cable; Impedance: 75 ohms, Insulation Resistance: 100 Meg Ohms Dielectric strength: 5 kV, Signal attenuation: 6 dB/KM (Max) at 500 kHz	MTRS	1000		
18.4	EPAX standard complied to ITU-T, G-711,G-712,Q507,Q-517 capacity 16lines/Trunks, specification transducers and interfacing cards for Analog input and Digital output (Optional)	NO	1		
18.5	25 PAIR ARMoured JELLY FILLED CABLE	MTRS	1000		
18.6	10 PAIR ARMoured TELEPHONE CABLES	MTRS	500		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
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1	2	3	4	5	6=4X5
18.7	4 PAIR NON ARMOURED TELEPHONE CABLES	MTRS	300		
18.8	2 WIRE TELEPHONE SET	NO	20		
18.9	FAX MACHINE	NO	1		
18.10	PLANTE TYPE BATTERY 350 AH(FOR 48 V)	SET	1		
18.11	BATTERY CHARGER FOR 48 V, 350 AH 70 AMP FLOAT CUM BOOST CHARGER	SET	1		
18.12	48 V DCDB	SET	1		
19	ERECTION OF STATION TRANSFORMER & OTHER MATERIALS FOR MEETING THE AUXILIARY SUPPLY OF THE SUB-STATION AS PER TECHNICAL SPECIFICATION				
19.1	STATION TRANSFORMER 33KV/433V,315 KVA (AS PER SPECIFICATION)	NOS	2		
19.2	33 KV AB SWITCH IN 33 KV SIDE(600AMP),HG FUSE, DP STRUCTURE(preferably by using 200X100 mm RS Joist),ANGLE FOR BRACING OF DP STRUCTURE,POWER CABLES, CHANEL, FOR ERECTION OF TRANSFORMER INCLUDING INSULATORS, CONDUCTOR, CLAMPS & CONNECTOR, JUMPERING AND OTHER ACCESSORIES FOR COMMISSIONING OF THE STN TRANSFORMER.IT INCLUDES LT OUT DOOR KIOSK MADE OUT OF 14 SWG GI MARSH-ALLING BOX OR BETTER , HAVING CABLE TERMINATING FACILITY FOR INCOMING & OUT GOING TO THE BOX. THE RATING OF THE BUS BAR, TERMINAL BOX & STUDS TO BE USED SHALL HAVE CONTINEOUS RATING OF 1000 AMP. MARSHALLING BOXES ARE TO BE INSTALLED NEAR TO THE AUXILIARY STATION TRANSFORMERS.	SETS	2		
20	SUB STATION LIGHTING (AS PER SPECIFICATION AND APPROVED DRAWINGS)(Switch yard and other street area)				
20.1	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		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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1	2	3	4	5	6=4X5
20.2	ERECTION,TESTING & COMMISSIONING INCLUDING CIVIL WORKS OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)	LOT	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
20.3	<p>ELECTRICAL SUPPLY TO STREET LIGHTING, COLONY QUARTERS:-</p> <p>> 1 NO. OUTDOOR KIOSK FOR STREET LIGHTING PURPOSE HAVING 2 NOS 200 AMP SWITCH FUSE UNITS AND , 6 NOS.OUT LETS OF 32 AMP MCB FOR STREET LIGHTING. (XLPE CABLES(3.5 CORE 120 SQMM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. XLPE CABLE OF 4C X 16 SQMM FROM OUTDOOR KIOSK TO THE STREET LIGHT POLES AND 4CX6 SQMM FROM POLE TO POLE AND 2CX6 SQMM FROM POLE TO LIGHTING FIXTURES.)</p> <p>> 1 NO. OUTDOOR KIOSK FOR COLONY SUPPLY PURPOSE HAVING 2 NOS. 200 A SWITCH FUSE UNITS, 6 NOS.OUT LETS OF 32 AMP MCB FOR COLONY QUARTES.(XLPE CABLES(3.5 CORE 120 SQM) FROM MAIN ACDB FROM CONTROL ROOM TO THE OUT DOOR KIOSK. 4CX16 SQMM FROM KIOSK TO EACH QUARTER. PROVISION OF CABLE(2C/4C-6 SQM) FROM THE OUT DOOR KIOSK INSTALLED NEAR THE QUARTER TO THE RESPECTIVE QUARTERS UP TO THE SWITCH FUSE UNIT PROVIDED INSIDE THE QUARTERS. INDIVIDUAL CABLES FOR INDIVIDUAL QUARTERS. IT ALSO INCLUDES PROPER EARTHING OF THE QUARTER AS PER THE STANDARD PRACTICE AND SPECIFICATION.)</p> <p>> ALL THE STREET LIGHT POLE SHALL BE OF GI TUBULAR POLE AND PROVISION OF A GI JUNCTION BOX WITH SUITABLE COVERS AT A HEIGHT OF 1 METRE FROM THE GROUND. (LT UNDER GROUND POWER CABLES OF 4CX6/16 SQMM SHALL BE CONNECTED TO THE JUNCTION BOX.) THE JUNCTION BOX SHALL HAVE PROVISION OF FUSES, BUSES, CONNECTORS FOR CABLE IN AND OUT. THIS INCLUDES SUPPLY OF ALL MATERIALS(EXCEPT CABLES) AS PER APPROVED DRAWING AND SPECIFICATION TO COMPLETE THE STREET LIGHTING SYSTEM. PROPER EARTHING AS PER STANDARD PRACTICE FOR STRRET LIGHT POLES AND OUTDOOR KIOSKS ARE ALSO INCLUDED IN THE SCOPE OF WORKS. THE STREET LIGHT SHALL BE OF LED LAMP FITTINGS INCLUDING LAMPS.</p> <p>(* REMARKS : FOR SUPPLY OF ALL THE CABLES AS INDICATED ARE COVERED IN THE CABLE ITEMS AS INDICATED ABOVE)</p>	LOT	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
21	2 TR CAPACITY SPLIT AIR CONDITIONING UNITS WITH REMOTE CONTROL FACILITY: INCLUDING SUPPLY OF AIR CONDITIONERS,VOLTAGE STABILISER,CONTROL BOXES ETC FOR COMPLETING THE A.C SCHEME.(AS PER SPECIFICATION) FOR CONTROL ROOM, CARRIER ROOM & CONFERENCE ROOM.(*SUPPLY OF CABLES ARE COVERED IN CABLE ITEMS AS INDICATED ABOVE)	LOT	1		
22	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)				
22.1	FOAM TYPE-9 LTRS	NOS	4		
22.2	DRY CHEMICAL POWDER(TROLLEY MOUNTED)- 22.5 KGS	NOS	4		
22.3	DRY POWDER TYPE - 5 KGS	NOS	4		
22.4	CO ₂ - 4.5 KGS	NOS	10		
22.5	CO ₂ - 9 KGS	NOS	10		
22.6	CO ₂ (TROLLY MOUNTED)- 22.5 KGS	NOS	4		
22.7	Water type- 9 LTRS	NOS	4		
22.8	Foam type - 50 LTR	NOS	2		
22.9	FIRE BUCKET (6 NOS IN EACH STAND) WITH STAND	SET	5		
23	PROTECTION,CONTROL METERING, EVENT LOGGER,BUS BAR PROTN PAN,COMM PAN, RELAY TOOL KITS AS PER TECH SPEC				
23.1	TIME SYNCH EQUIPMENT	NOS	1		
23.2	132 KV SIDE				
23.2.1	FEEDER CONTROL PANEL(CPF-1M)	NOS	2		
23.2.2	TRANSFORMER CONTROL PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
23.2.3	BUSCOUPLER CONTROL PANEL (CPB-1M)	NOS	1		
23.2.4	FEEDER RELAY PANEL(RPF-1M)	NOS	2		
23.2.5	TRANSFORMER RELAY PANEL(CPL-1M)(02 NOS FOR 132 KV SIDE OF 132/33 KV POWER TRANSFORMER)	NOS	2		
23.2.6	BUSCOUPLER RELAY PANEL (RPB-1M)	NOS	1		
23.2.7	COMMON PANEL (KP-1)	NOS	1		
23.3	33 KV SIDE				
23.3.1	FEEDER CONTROL & RELAY PANEL(CPF/RPF-0M)	NOS	5		
23.3.2	TRANSFORMER CONTROL & RELAY PANEL(CPL/RPL-0M)	NOS	2		
23.3.3	BUSCOUPLER CONTROL & RELAY PANEL (CPB/RPB-0M)	NOS	1		
24	AC & DC SYSTEM				
24.1	AC SYSTEM				
24.1.1	MAIN AC DB,(HAVING 800 A,50KA,DRAWOUT TYPE ACB WITH 3 O/C,E/F,U/V RELAYING FACILITY INDOOR TYPE AS PER SPECIFICATION.(MAIN DB-1,MAIN DB-2 WITH B/C)	SET	1		
24.1.2	ACDB (HAVING 400A MCCB) AS PER SPECIFICATION (AC DB-1,AC DB-2 WITH B/C)	SET	1		
24.1.3	MAIN LIGHTING DISTRIBUTION BOARD (HAVING 250A MCCB AS INCOMER)AS PER SPECIFICATION (WITH DB-1,DB-2 & B/C)	SET	1		
24.1.4	INDOOR LIGHTING DISTRIBUTION BOARD AS PER SPECIFICATION. (WITH DB-1,DB-2 & B/C)	SET	1		
24.1.5	EMERGENCY LIGHTING DISTRIBUTION BOARD	SET	1		
24.1.6	INDOOR RECEPTACLE BOARD	SET	1		
24.2	DC SYSTEM				
24.2.1	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		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
	ERECTION, TESTING & COMMISSIONING INCLUDING CIVIL WORKS OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)		Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
24.2.2	220 V DC EMERGENCY DISTRIBUTION BOARD	SET	1		
24.2.3	BATTERY (350 AH PLANTE TYPE) FOR 220 V DC	SET	1		
24.2.4	BATTERY CHARGER FOR 220 V, 350 AH BATTERY (FLOAT AND FLOAT CUM BOOST)	SET	1		
25	DISTLED WATER PLANT OF 10 LTR/HR FOR BATTERY BANKS	SET	1		
26	WALKIE TALKIE SET	SET /PAIR	2		
27	PORTABLE ALUMINIUM LADDER EXTENDABLE TYPE OF ADEQUATE HEIGHT TO BE USED FOR MAINTENANCE OF EQUIPMENT INSIDE SWITCH YARD.	NOS	2		
28	PEDESTAL MOUNTED WHEEL FITTED DERRICK FOR LIFTING/ LOWERING OF MATERIALS UP TO 1.5 TON CAPACITY.	SET	1		
29	POWER WINCH NEAR STORE SHED FOR HANDLING MATERIALS UPTO 5 TON CAPACITY.	SET	1		
30	WATER COOLER WITH WATER PURIFIER SYSTEM	NOS	1		
31	MAINTENANCE TESTING EQUIPMENT (AS PER ANNEXURE - I ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OF MAINTENANCE EQUIPMENT)	LOT	1		
32	OTHER TOOLS AND PLANTS (T&P's) REQUIREMENT (AS PER ANNEXURE - II ,INDICATED IN TS-TIMK-SCHEDULE OF REQUI-REMENTS OTHER T&P's)	LOT	1		
33	OFFICE FURNITURE (AS PER ANNEXURE - III ,INDICATED IN TS-TIMK-SCHEDULE OF REQUIREMENTS OFFICE FURNITURE)>PLACING IN CONTROL ROOM,CONFERENCE ROOM,OFFICE ROOMS,LIBRARY,TESTING LAB,etc.	LOT	1		
34	BEST QUALITY &APPROVED MAKE RUBBER MAT TO BE KEPT INFRONT OF ALL PANELS,BOARDS ETC.	LOT	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
35	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. 132/33 KV 40 MVA: 02 Nos	Nos	2		
36	ERECTION OF PLCC EQUIPMENT SUPPLIED BY OWNER INCLUDING DISMANTLING FROM EXISTING SUBSTATION (AS PER THE DETAILS SLD GIVEN IN TS) AND TRANSPORTATION AS REQUIRED	LOT	1		
TOTAL of ELECTRICAL WORKS Part-I (A)					
B	CIVIL WORKS				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
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				
1.1.1	T1S - 132 KV(NOMINAL UNIT WT- 1.2 MT)				
1.1.2	T4S - 132KV (NOMINAL UNIT WT- 0.95 MT)				
1.1.3	T8S - 33KV(NOMINAL UNIT WT- 0.8 MT)				
1.1.4	T9S - 33KV(NOMINAL UNIT WT- 0.6 MT)				
1.2	Equipment foundations :				
1.2.8	145 KV,800-400-200 A,31.5 KA,4CORE SINGLE PHASE CURRENT TRANSFORMER				
1.3	145 KV,1200A,31.5KA,ISOLATORS				
1.3.1	S/I WITH OUT EARTH SWITCH				
1.3.2	D/I WITH SINGLE EARTH SWITCH				
1.3.3	D/I WITHOUT EARTH SWITCH				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
1.4	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER				
1.5	120 KV METAL OXIDE SURGE ARRESTOR, 10 KA, Class III				
1.6	145 KV ,2 CORE,SINGLE PHASE,IVT				
1.7	132 KV Bus Post Insulators				
1.8	145KV,3150A,40KA,SF6,CIRCUIT BREAKER WITH SUPPORTING STRUCTURE				
1.9	36 KV,800-400-200,25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER				
1.10	36 KV CLASS NCT FOR POWER TRANSFORMER REF PROTECTION (RATIO 800-400-200 A) & HAVING TWO CORE (PS CLASS) (IN EACH POWER TRANSFORMER 132 KV SIDE: 1 NO, & 33 KV SIDE:1 NO)				
1.11	36 KV,800A,25KA,ISOLATORS				
1.11.1	S/I WITH OUT EARTH SWITCH				
1.11.2	D/I WITH SINGLE EARTH SWITCH				
1.11.3	D/I WITHOUT EARTH SWITCH				
1.12	30 KV, METAL OXIDE SURGE ARRESTOR, 10KA, class II				
1.13	36 KV ,2 CORE,SINGLE PHASE,IVT				
1.14	36KV,1250A,25KA,VACUUM CIRCUIT BREAKER WITH SUPPORTING STRUCTURE				
1.15	33 KV Bus Post Insulators				
1.16	SUB STATION SWITCHYARD BMK,AC CONSOLE & OTHER MARSHALLING BOXES				
1.16.1	BAY MARSHALLING KIOSK (03 Nos 132 kv bay & 04 Nos 33 KV bay)				
1.16.2	SWITCH YARD AC CONSOLE FOR LIGHTING (01 Nos 132 kv bay & 01 No in 33KV bay)				
1.16.3	SWITCH YARD RECEPTACLE BOARD FOR TFR OIL FILTERATION (1 No near 132/33 KV power Transformer)				
1.16.4	SWITCH YARD RECEPTACLE BOARD FOR WELDING & OTHER EMERGENCY (01 nos each on 132 & 33 kv bay)				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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1	2	3	4	5	6=4X5
1.17	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.				
1.17.1	Normal Soil(SOFT/LOOSE)	Cum	400		
1.17.2	Compact/Hard Soil	Cum	1500		
1.17.3	Soft Rock not required blasting	Cum	900		
1.17.4	Hard Rock(Requiring Blasting Using breaker machinery)	Cum	50		
1.17.5	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	200		
1.17.6	Open cast foundation for the above column/equipment/marshalling 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 (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	1200		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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1	2	3	4	5	6=4X5
2	<p>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.</p> <p>(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.</p> <p>(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.</p> <p>(3) Open cast foundation for the cable trench with RCC: 1:1.5:3 (Grade M-20 Nominal mixing),including supplyofLabourallmaterialslikeMSRod,Cement,coarseand 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.</p> <p>(4) Brickwork with KB brick ,plastering (!:6 Ratio) & curing, wherever required including the supply of labour,material, cement, etc.</p> <p>(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.</p> <p>(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.</p> <p>(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)}.</p>				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
2.1	Section 1-1	Mtrs	300		
2.2	Section 2- 2	Mtrs	200		
2.3	Section 3-3	Mtrs	200		
2.4	Section 4-4	Mtrs	500		
3	Rain water harvesting system as per Technical specification and approval of drawing and as per the direction of the Engineer in charge.	LOT	2		
4	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)				
4.1	Section 1-1	Lot	1		
4.2	Section 2- 2	Lot	1		
4.3	Section 3-3	Lot	1		
5	Boundary wall : Soil investigation,Design, engineering, procurement of material, labour including all associated works for construction of boundary-wall along the property line of the sub-station as per technical specification and instruction of the Engineer in Charge. Brick work shall be using fly ash brick (the size of the bricks shall be 250mm 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 , approved drawing and as per technical specification.				
5.1	Approximate length of the boundary walls in mtrs	RM	640		

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1	2	3	4	5	6=4X5
6	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.				
6.1	Contour survey of the entire sub-station area including Supply of all labour & T&P by contractor.	SQM	10000		
6.2	Cutting of sub-station area of the as per the direction of Engineer in Charge.	Cum	400		
6.3	Filling with borrowed earth beyond 30 mtrs lead as per the direction of Engineer in Charge.	Cum	1500		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
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			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
7	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. CONTROL ROOM BUILDING:(one building): A) Area of the Ground floor with portico at front side, stair case to first floor and top of the building. The details of rooms to be provided are as per the Tech spec. B) Area of the first floor. 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 : 38mtrsX13 mtrs (494 sq mtrs) & Area of first floor 19 mtrsX13mtrs (247 sq mtrs), Only Fly ash brick is to used for brick work.				
7.1	RCC volume including MS rods(including column ,Beams and roofs etc) as per technical spec & approved drawings.	Lot	1		
7.2	Brick masonry with Fly ash brick work in cement sand mortar 1: 6 with bricks of class designation 75 as per technical spec & approved drawings.	Lot	1		
7.3	Flooring with vitrified tiles with dado in all the rooms,Bath and toilets shall be provided with anti skid ceramic tiles(wall of the same also to be provided with ceramic tiles),Acid proof industrial tiles to be provided on the floor and wall of the battery room as per technical spec & approved drawings.	Lot	1		
7.4	External and internal wall and ceiling paintings as per technical spec mentioned in the civil section. The left over portion of walls and ceiling of Battery room shall be acid proof paints as per specification & approved drawings.	Lot	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
	ERECTION, TESTING & COMMISSIONING INCLUDING CIVIL WORKS OF FOLLOWING EQUIPMENTS ALONG WITH CIVIL WORKS (As per Technical Specification)		Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
7.5	Provision of ceiling in the control room area as per specification mentioned in the civil section & approved drawings.	Lot	1		
7.6	Doors and windows shall be of sliding type with locking facility and shall be of aluminium with glaze of 6mm & windows shall have aluminium grills. As per technical spec & approved drawing.	Lot	1		
7.7	Provision of PHD and other fittings of reputed make, provision of rain water discharge pipes at different locations and etc as per requirement and approved drawing. There shall be septic tank and soak pit of required capacity including complete sewage system as per approved drawing & technical specification & as per instruction of Engg- in-Charge. It includes supply of all types of materials of reputed make, labour etc to complete the work.	Lot	1		
7.8	Internal concealed wiring, fixing of lighting fixtures, fans and regulators, exhaust fan, D.C emergency lighting as per spec & approved drawing.	Lot	1		
7.9	Provision of smoke and fire detection system of the building.	Lot	1		
8	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)				
8.1	3.75 mtrs Concrete road with shoulder at both the side as per technical specification indicated in the civil section.	Mtrs	600		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
8.2	7 mtrs wide Concrete roads(infront of Transformers) with shoulder as per specification indicated in the civil section & 7 Mtrs wide road inside the switchyard to be connected to switch yard main gate.	Mtrs	105		
8.3	7 mtrs wide Bituminus roads with shoulder as per specification indicated in the civil section.(for main and approach roads).	Mtrs	150		
9	Drainage system:Collection of rainfall data , Design, construction of storm water drainage scheme, road-culverts, and drains crossing cable trenches etc. as per specification and approved drawing.This also includes excavation in all types of soil or rocks,backfilling,and disposal of excess earth as per the direction of Engineer In charge.All the switcyard bays , roads water drainage shall be connected to the mainsurface drain.As per approved drawing and specification.				
9.1	Storm water drain	Lots	1		
9.2	Road-culverts, drain crossings	Lots	1		
9.3	Cable trench crossing	Lots	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
10	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 7 mtrs concrete road). This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. 1. 132/33 KV 40 MVA Transformer (2 Nos)				
10.1	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		
10.2	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) 20/40 MVA,132/33 KV: 26500 ltrs.	Nos	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
11	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		
12	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		
13	PROVISION OF PLANTATIONS: Provision of plantation of 100 nos fruit bearing plants and 100 nos decorative plants at different locations, a garden in front of the control room including supply of plants,soil treatment and its plantation including materials,labour and T&P.As per the instruction of Engineer in Charge and specification.	Lot	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
14	STONE PITCHING & TOE WALL: Stone pitching including making of toe walls both at top and bottom, including surface drain both at top and bottom and partition wall in every 10 mtrs by using boulders and RR masonry walls respectively. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth and supply of materials and labour as per the direction of Engineer In charge and as per approved drawing and specification.				
14.1	Excavation in Soft & Loose Soil	Cum	800		
14.2	P.C.C (1:3:6): Lean Concrete Grade M-10	Cum	90		
14.3	RR Masonry (1:5)	Cum	500		
14.4	P.C.C (1:2:4): Lean Concrete Grade M-15	Cum	8		
15	Switch yard fencing: Providing and fixing of G.I Goat mesh (2.5 mm dia) fencing(the posts and links shall be of HD Galvanized) in switch yard and other areas of the substation with a total fence height complete as per specification and approved drawings, and as required under the safety regulation of local, state and central government bodies and as per instruction of the Engineer-in-Charge.(The PCC work for grouting the post shall be 1:2:4 and a continuous Brick masonry work with ratio 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		
16	Fire wall: Design, engineering, procurement of labour, material including all associated works for construction of fire-walls as per technical specification and approved drawings(column shall be RCC ratio1:1.5:3 and the walls are of fire resistant bricks).This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. As per approved drawing and specification. Painting of the walls as per direction of the Site In charge	Nos	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
17	Any other civil work to be included in the schedule by the Bidder if required essential for successful completion of project, including supply of labour, material, cement reinforcement steel, form work etc. Bidder shall also quote the unit rate for the following items of works.(Rate shall be inclusive of supply of labour, material, cement, reinforcement steel, form work etc.)				
17.1	Excavation This also includes excavation in all types of soil or rocks, back filling,and disposal of excess earth as per the direction of Engineer In charge.	Cu.m.	1		
17.2	PCC: M10(1: 3 : 6)	Cu.m.	1		
17.3	RCC M 15(1:2:4)	Cu.m.	1		
17.4	RCC: M 20(1:1.5:3)	Cu.m.	1		
17.5	Brick masonry work in cement sand mortar 1: 6 with fly ash bricks of class designation 75.	Cu.m.	1		
17.6	12 mm thick plaster in cement sand mortar (1: 6).	Sq.m.	1		
17.7	Cutting,bending,binding(supply of binding wires) and fixing of reinforcement(including supply of reinforcement).	M.T.	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
18	Construction of township/colony (residential quarters) for staff and employees of the employer. Layout, design, survey, leveling, site dressing and clearing of the area, soil investigation, excavation, PCC, RCC, brick work, plastering ,flooring(flooring shall be with vitrified tiles of reputed make with a dado of minimum6 inches),fixing of doors windows and window grills, including all labour material like cement ,sand aggregate, bricks, reinforcements etc with all bought items required for completion of the quarters as per approved construction drawings with all facilities for supply of drinking water. The outer paint shall be applied with weather coat synthetic enamel paint as per the standard practice of application and the inner paint shall be applied with distemper of approved quality as per the instruction and approval of the same by OPTCL. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrical wiring with fixing of light fixtures and fans with electronic regulators and exhaust fans as per technical specification and approved drawing. Construction of over head RCC tank(1000 ltrs capacity one for each quarters), sewerage disposal and connection with main sewerage/ septic tank and soak pit, storm water and surface drainage, culverts, roads, with suitable radius on the curves and its connection with main road the substation, street lighting, internal lighting, internal plumbing and sanitation including internal/external finishing of quarters etc. required for completion of the town ship.				
18.1	"D" type Quarter As per technical specification	SQ MTRS	120		
18.2	"E" type Quarter As per technical specification (one no. two storied flat. Each flat shall be with 2 nos quarters on ground floor & 2 Nos quarters on 1st floor).(There shall be 4 Nos quarters to be accommodated in one flat as E1,E2,E3 & E4)				

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
18.3	"E" type Quarter As per technical specification: 2 nos quarters on ground floor & the quarters to be accommodated in ground floor E1 & E2 (Each quarter size plinth area shall be 73 Sq Mtrs(appox))	SQ MTRS	146		
18.4	"E" type Quarter As per technical specification: 2 nos quarters on first floor & the quarters to be accommodated in ground floor E3 & E4(Each quarter size shall be 73 Sq Mtrs(appox))	SQ MTRS	146		
19	MAIN & SWITCH YARD GATES: Design, engineering, procurement of labour, material including all associated works for construction and fixing of of a main gate and one no. switch yard gates with men gates as per specification and approved drawing. This also includes excavation in all types of soil or rocks,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		
20	COLOUR CODING, BAY MARKING Etc: Design, engineering, procurement of labour, material including all associated works for the followings. This should be as per direction of site In charge. a)Color coding (red,Yellow & Blue) for equipments, Bus gantry & column of entire switch yard. Good quality weather proof sticker may be used for identification. b)Each bay should be identified with the help of bay marker sign board, suitably grouted. MS sign board with stand to be installed. Proper painting and lettering to be done of the entire switch yard area.	Lot	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
21	STATION TRANSFORMER: Design, engineering, procurement of labour, material including all associated works for construction of foundation and DP structure for station transformers 33/0.415 KV,315 KVA STN TRANSFORMER as per approved drawing and specification. {33 KV AB Switch (600A),HG Fuse,DP Structure & Angles (duly painted),Channels,Plinth for erection of the transformer, including fixing and laying of (insulators,surge arresters, XLPE armoured power cables 3.5 core 300 sq mm,LT out door kiosk near transformers and other accessories for complete installation of transformer as per standard) and instruction of Engineer In charge. As per the specification and approved drawing. (* REMARKS : FOR SUPPLY OF ALL THE CABLES ,AB Switch etc AS INDICATED ARE COVERED IN THE supply)}	Lot	1		
22	SECURITY SHED & CUM VISITOR ROOM: Design, engineering, procurement of labour, material including all associated works for construction of Security shed near main gate,watch tower shed at the corners of switch yard as per the approved drawing and instruction of Engineer in charge. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the direction of Engineer In charge. Internal electrification including supply of lighting fixtures,fan with regulators and provision of incoming AC supply from the main ACDB/outdoor kiosks installed for street light or colony quarters. Also includes painting of the building (in side and out side) as per recommended for colony building in the specification.				
22.1	SECURITY SHED: The size of the security shed shall be 3.5 mtrsX5mtrs and height of 3.5mtrs RCC roof,brick masonry works,plastering and painting and fixing of MS doors and windows.	Nos	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
23	BORE WELL & PUMP HOUSE: Design, engineering, procurement of labour, material including all associated works for construction of two nos. bore wells for control room building including switch yard and colony quarters as per specification and approved drawing and instruction of Engineer in charge. This includes supply and fixing and commissioning of two nos 5 HP submersible water pump with starter and other protection. Construction of two nos pump house at ideal location for fixing of the electrical starter units. The pump house be of RCC roof and having walls of Brick masonry and plastering and painting with MS door having locking arrangement. The size of the room shall be 2.5mtrsX2.5 mtrs having height of 3 mtrs. as per approved drawing and specification. There shall be approach road to the pump house. This includes supply of materials,labours and T&P & excavation of all type of soils including rock and disposal of excess materials as per instruction of Engineer In charge Supply & laying of LV XLPE 3.5CX.35 sqmm cable from ACDB to pump house, control gear & earthing of the system etc to complete the scheme as per approved drawing & instruction of Engineer-in charge.	Lot	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
24	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.				
24.1	Excavation for laying of EARTHING CONDUCTOR (75x10mm for laying (spacing maximum 5m) (GI FLAT)	Lot	1		
24.2	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)	Lot	1		

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
25	STORE SHED:Design, engineering, procurement of labour, material including all associated works for construction of store shed as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no store shed of floor size 10X10 mtr having brick walls and plastering with RCC roof. The flooring shall be of 75 mm thickness PCC (mix ratio1:2:4) over RR masonry works (as per standard practice of flooring). Provision of adequate nos of MS racks (proper paintings also to be done as per the direction of site in charge) for keeping the spare materials. The height of the shed shall be 4mtrs above the plinth.	Lot	1		
26	PLATFORM FOR STORING EQUIMENTS:Design, engineering, procurement of labour, material including all associated works for construction of a platform for storing of bushings,Instrument transformers etc, as per specification and approved drawing. This also includes excavation in all types of soil or rocks,back filling,and disposal of excess earth as per the specification,approved drawing and direction of Engineer In charge. One no platform outside the store shed RR masonry (compacted) with PCC at the top for storing the transformer bushings, Instrument transformers, transformer oil drums etc. The floor size of the platform shall be 15mtrX10 mtr with Galvanised Corrugated Sheet (Tata Make) top cover and associated MS supporting structure duly painted.	Lot	1		
27	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 Part-I (B) (Evaluated)					

PART-I, SCHEDULE-2C (FOR SUBSTATION)					
S. No.	DESCRIPTION OF ITEMS	UNITS	Erection & Civil Works charges IN INR		
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI (132 KV BAYS:02 FDR,02 TFR,01 B/C) &(33 KV BAYS: 05 FDR,02 TFR,01 B/C).	Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
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)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILo on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

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

PART-II SCHEDULE-2A (FOR LINE)									
DESCRIPTION OF ITEMS			LINE		TO BE QUOTED IN INR				
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)	UNITS	132 KV D.C. Transmission Line (LILo on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.))	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=4X5	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 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	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	3						
1.2	TEMPLATES								
1.2.1	PC (Nominal unit weight 0.904 MT)	Nos.	1						
1.3	WEIGHT OF THE STRUCTURES (including Tower stubs, Templates & Foundation Nut and Bolts)	MT	20						
1.4	Weight of different type G.I Nuts and Bolts	MT	2						
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.	3						
2.2	DANGER BOARD	Nos.	3						
2.3	NUMBER PLATE	Nos.	3						

PART-II SCHEDULE-2A (FOR LINE)										
DESCRIPTION OF ITEMS			LINE		TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)		UNITS	132 KV D.C. Transmission Line (LILo on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	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=4X5	7	8	9	10
2.4	PHASE PLATE		Nos.	18						
2.5	BIRD GUARD		Nos.	0						
2.6	ANTICLIMBING DEVICE		Nos.	3						
2.7	CIRCUIT PLATE		Nos.	6						
3.0	Supply of following POWER CONDUCTORS in the proposed 132 kV lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.									
3.1	ACSR Panther (30/7/3.0 mm)		Kms.	6.1						
4.0	POWER CONDUCTOR ACESSORIES									
4.1	For ACSR PANTHER									
4.1.1	VIBRATION DAMPER		Nos.	36						
4.1.2	MID SPAN JOINT		Nos.	5						
4.1.3	Repair Sleeve		Nos.	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 and as per the direction of Engineer in charge.		Kms.	1.05						
6.0	EARTH CONDUCTOR ACESSORIES									
6.1	VIBRATION DAMPER		Nos.	7						
6.2	FLEXIBLE EARTH BOND		Nos.	7						
6.3	SUSPENSION CLAMP		Nos.	0						
6.4	TENSION CLAMP		Nos.	8						
6.5	MID SPAN JOINT		Nos.	2						
6.6	Repair Sleeve		Nos.	2						
7.0	Supply of the following Anti fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.									
7.1	90 KN Insulator (taking 5% extra towards wastage)		Nos.	90						

PART-II SCHEDULE-2A (FOR LINE)										
DESCRIPTION OF ITEMS			LINE		TO BE QUOTED IN INR					
S. No.	SUPPLY OF FOLLOWING EQUIPMENTS (As per Technical Specification)		UNITS	132 KV D.C. Transmission Line (LIL) on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	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=4X5	7	8	9	10
7.2	120KN Insulator (taking 5% extra towards wastage)		Nos.	400						
8.0	Supply of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.									
8.1	For ACSR PANTHER									
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.		Nos.	9						
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.		Nos.	0						
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.		Nos.	42						
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.		Nos.	0						
8.1.5	"D" Shackle		Nos.	2						
8.1.6	Hanger		Nos.	9						
TOTAL (Part-II)-2A-LINE										

Note:

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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 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)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

(F&I For Supply of Equipment/Materials Price Break-up against MANIA,TANGIPACKAGE)

PART-II, SCHEDULE-2B (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR	
		UNITS	132 KV D.C. Transmission Line (LILo on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
1	SUPPLY of Following type tested Lattice type Galvanized steel tangent / Angle tower with stubs and cleats , different type of G.I HT Nuts & Bolts, washer, spring washer for the towers ,hanger and all accessories, tower super structure complete including step bolts. Supply of black bituminous paint for three coats up to a height of 500mm above the cooping(legs & bracing members). All Supply should confirm to the Technical Specification.				
1.1	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	3		
1.2	TEMPLATES				
1.2.1	PC (Nominal unit weight 0.904 MT)	Nos.	1		
1.3	WEIGHT OF THE STRUCTURES (including Tower stubs, Templates & Foundation Nut and Bolts)	MT	19.55		
1.4	Weight of different type G.I Nuts and Bolts	MT	1.30		

PART-II, SCHEDULE-2B (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
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.	3		
2.2	DANGER BOARD	Nos.	3		
2.3	NUMBER PLATE	Nos.	3		
2.4	PHASE PLATE	Nos.	18		
2.5	BIRD GUARD	Nos.	0		
2.6	ANTICLIMBING DEVICE	Nos.	3		
2.7	CIRCUIT PLATE	Nos.	6		
3.0	Supply of following POWER CONDUCTORS in the proposed 132 kV lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.				
3.1	ACSR Panther (30/7/3.0 mm)	Kms.	6.1		
4.0	POWER CONDUCTOR ACESSORIES				
4.1	For ACSR PANTHER				
4.1.1	VIBRATION DAMPER	Nos.	36		
4.1.2	MID SPAN JOINT	Nos.	5		
4.1.3	Repair Sleeve	Nos.	5		

PART-II, SCHEDULE-2B (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	132 KV D.C. Transmission Line (LILo on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
5.0	Supply of the GI earth wire of size 7/3.15 mm as per the technical specification, with 1.5% provision for Sag & Wastage and as per the direction of Engineer in charge.	Kms.	1.05		
6.0	EARTH CONDUCTOR ACESSORIES				
6.1	VIBRATION DAMPER	Nos.	7		
6.2	FLEXIBLE EARTH BOND	Nos.	7		
6.3	SUSPENSION CLAMP	Nos.	0		
6.4	TENSION CLAMP	Nos.	8		
6.5	MID SPAN JOINT	Nos.	2		
6.6	Repair Sleeve	Nos.	2		
7.0	Supply of the following Anti fog type disc insulators as per the technical specification and as per the instruction of the Engineer in charge.				
7.1	90 KN Insulator (taking 5% extra towards wastage)	Nos.	90		
7.2	120KN Insulator (taking 5% extra towards wastage)	Nos.	400		
8.0	Supply of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.				
8.1	For ACSR PANTHER				
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	9		
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	0		
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	42		

PART-II, SCHEDULE-2B (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	LINE		TO BE QUOTED IN INR	
	F&I TOWARDS SUPPLY OF FOLLOWING EQUIPMENT (As per Technical Specification)	UNITS	132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Unit F&I Charges	Total F&I Charges
1	2	3	4	5	6=4X5
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	0		
8.1.5	"D" Shackle	Nos.	2		
8.1.6	Hanger	Nos.	9		
TOTAL (Part-II)-2B-LINE					

Note:-

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

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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.

Note:-

Date :

Place :

(Signature)

(Name)

(Designation)

(Common Seal)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

(F&I For Supply of Equipment/Materials Price Break-up against MANIA,TANGI PACKAGE)

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
A	ELECTRICAL WORKS				
1.0	ERECTION,TESTING & COMMISSIONING of Following tested Lattice type Galvanized steel tangent / Angle tower with stubs and cleats , different type of G.I HT Nuts & Bolts, washer, spring washer for the above type towers ,hanger and all accessories, tower super structure complete with tightening, punching of bolts including step bolts. All other left out portion of the bolts above bottom cross arm shall be riveted by using suitable hammer. Painting of black bituminous paints three coats shall be provided up to a height of 500mm above the cooping(legs & bracing members. All Erection should confirm to the <u>Technical Specification laid there in the Tender Specification.</u>				
1.1	PC TYPE (60 deg ANGLE) TOWERS (Nominal unit weight 6.214 MT)	Nos.	3		
1.2	TEMPLATES				
1.2.1	PC (Nominal unit weight 0.904 MT)	Nos.	1		
1.3	WEIGHT OF THE STRUCTURES (including Tower stubs, Templates & Foundation Nut and Bolts)	MT	19.55		

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
1.4	Weight of different type G.I Nuts and Bolts	MT	1.30		
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.	3		
2.2	DANGER BOARD	Nos.	3		
2.3	NUMBER PLATE	Nos.	3		
2.4	PHASE PLATE	Nos.	18		
2.5	BIRD GUARD	Nos.	0		
2.6	ANTICLIMBING DEVICE	Nos.	3		
3.0	Erection of following POWER CONDUCTORS in the proposed 132 kV lines with 1.5% provision for sag and wastage as per the technical specification and as per the instruction of the engineer in charge.				
3.1	ACSR Panther (30/7/3.0 mm)	Kms.	6.1		
4.0	POWER CONDUCTOR ACESSORIES				
4.1	For ACSR PANTHER				
4.1.1	VIBRATION DAMPER	Nos.	36		
4.1.2	MID SPAN JOINT	Nos.	5		
4.1.3	Repair Sleeve	Nos.	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 and as per the direction of Engineer in charge.	Kms.	1.05		

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
6.0	EARTH CONDUCTOR ACESSORIES				
6.1	VIBRATION DAMPER	Nos.	7		
6.2	FLEXIBLE EARTH BOND	Nos.	7		
6.3	SUSPENSION CLAMP	Nos.	0		
6.4	TENSION CLAMP	Nos.	8		
6.5	MID SPAN JOINT	Nos.	2		
6.6	Repair Sleeve	Nos.	2		
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.				
7.1	90 KN Insulator (taking 5% extra towards wastage)	Nos.	90		
7.2	120KN Insulator (taking 5% extra towards wastage)	Nos.	400		
8.0	Erection of the following hard ware fittings suitable for ACSR Panther conductors as per the technical specification.				
8.1	For ACSR PANTHER				
8.1.1	Single suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	9		
8.1.2	Double suspension Hard wares fittings.(AGS type) suitable for 90 KN insulator.	Nos.	0		
8.1.3	Single tension Hard wares fittings suitable for 120 KN insulator.	Nos.	42		
8.1.4	Double tension Hard wares fittings suitable for 120 KN insulator.	Nos.	0		
8.1.5	"D" Shackle	Nos.	2		
8.1.6	Hanger	Nos.	9		
	TOTAL OF ELECTRICAL WORKS (A)				
B	CIVIL WORKS				

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
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/murum/sand shall be brought for filling and compaction, including supply of sand, all T&P, labour as required.				
1.1.1	Normal soil	CUM	30		
1.1.2	Dense/Compact Soil	CUM	40		
1.1.5	Soft/Disintegrated rock(Not requiring Blasting)	CUM	100		
1.1.6	Hard Rock(Requiring Blasting/Using breaker machinery)	CUM	3		
1.1.7	Soil Investigation as per specification	LOC	3		
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	10		

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
3	Design, Engineering and laying of reinforced cement concrete (RCC 1:1.5:3) of grade M20 for open cast foundation with supply of approved quality coarse aggregates(Nominal size 12mm to 20mm) ,fine aggregates, cement and steel of different size(as per design) with cutting,bending,binding of M.S.Rod including supply of binding wire in tower foundation and inclusive of labour charges for concrete mixing, supply and fixing of form boxes, curing,shoring, shuttering, testing of sample cement concrete cubes as per IS. The height of the coping shall be 350mm above the finished concrete level. The surrounding area shall be clear from materials. Damage of land if any by the contractor shall be repaired before measurement. This includes supply of all labourers, T&P and dewatering wherever required as per Technical specification and instruction of Engineer In charge.	Cum	60		
4	REVTMENT:(including Benching)Supply of all materials like cement,Late-rite stone (stone masonry) all type aggregates, labours, & T&P for construction of revetment walls as per requirement to protect the towers, where felt unsafe and as per approved drawing and the direction of Engineer in charge .				
4.1	Excavation in all type of soil including rock & back filling (including supply of sand for back filling).	CUM	30		
4.2	PCC in the ratio1:3:6 .	CUM	15		
4.3	PCC in the ratio 1:2:4 .	CUM	5		
4.4	Laterite Stone Masonary work in the ratio 1:5.	CUM	50		
5	Supply & painting of black bituminous paints three coats shall be provided up to a height of 500mm above the coping(both leg & bracing members).	LOC	3		

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
6	Supply of all materials for continuous welding of bolts & nuts (around the bolts) up to top of tower without cross arm, including welding rods, welding generator machine (diesel engine optd.), application of required zinc rich paints around the welding portion (two coats),fuel,lubricants,T&P and labours.	Nos.	1800		
7.0	SURVEY OF LINE & PREPARATION LAND SCHEDULE: Supply of required T&P's, Technical personnel's, labours for conducting				
7.1	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		
7.2	Check survey including supply of all labour, T&P as per instruction of Engineer in Charge and as per the approved profile.	Kms.	1		
7.3	Preparation of land schedule on revenue (if required)maps indicating alignment therein duly authenticated by Revenue Inspector & Tahasildar, enumeration of trees with the help of Forest officer and other prominent features required for alignment of the proposed 132 KV line. Final route to be plotted on 1:50000 topo sheet for approval.	Lot	1		

PART-II, SCHEDULE-2C (FOR LINE)					
S. No.	DESCRIPTION OF ITEMS	UNITS	LINE	TO BE QUOTED IN INR	
			132 KV D.C. Transmission Line (LLO on existing 132 KV S/C line from ICCL-SALIPUR (APPROX.LENGTH 1.0kms.)	Erection Charges	
				Unit Erection Rate	Total Erection Price
1	2	3	4	5	6=4X5
7.4	PTCC approval has to be obtained by submitting the required documents to the concerned department through OPTCL & any other charges are to be borne by the bidders. 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		
Total CIVIL Works (Part-B)-LINE-2C					
TOTAL OF LINE-2C (PART-II)(Part A + Part B)					

NOTE

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

5 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)

ODISHA POWER TRANSMISSION CORPORATION LIMITED

Construction of 2x40 MVA 132/33 KV GRID Sub-Station at MANIA,TANGI along with 132 KV D.C. Transmission Line (LILO on existing 132 KV S/C line from ICCL-SALIPUR) & Associated System

BID DOCUMENT No.: Sr. G.M-CPC- Tender-Package-24-03/2012-13

NOTICE INVITING TENDER-NIT NO. 23 /2012-13

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	TO BE QUOTED IN INR							
				Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
1	145 KV,(800-400-200 A),31.5KA,4CORE SINGLE PHASE CURRENT TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	2								
2	145 KV,1200A,31.5KA,ISOLATORS										
2.1	MALE & FEMALE CONTACTS	SET	1								
2.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
2.3	LIMIT SWITCH	SET	2								
2.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
2.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
2.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
2.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
2.8	POST INSULATOR SUPPORT	SET (3NOS. PER SET)	1								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR							
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
3	145 KV,6600pF,3CORE,SINGLE PHASE CAPACITOR VOLTAGE TRANSFORMER INCLUDING TERMINAL CONNECTOR	NOS	1								
4	120 KV,METAL OXIDE 10 KA, CLASS III SURGE ARRESTOR, COMPLETING WITH INSULATING BASE & SURGE MONITOR.	NOS	2								
5	145 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1								
6	132 KV Bus Post Insulators	NOS	2								
7	145KV,3150A,40KA,SF6,CIRCUIT BREAKER										
7.1	COMPLETE ONE POLE ASSEMBLY OF BREAKER	NOS	1								
7.2	SPRING CHARGING MOTOR	NOS	1								
7.3	BREKER AUXILIARY CONTACTS	SET	1								
7.4	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
7.5	DENSITY MONITORING SYSTEM (IF REQUIRED)	SET	1								
7.6	CLOSING COIL	NOS	4								
7.7	TRIPPING COIL	NOS	4								
7.8	SF6 GAS FILLING DEVICE	NOS	1								
7.9	SET OF GASKETS ,"O" RINGS,SEALS PER CIRCUIT BREAKER	SET	1								
8.1	36 KV,(800-400-200 A),25KA,3CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	2								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR							
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
8.2	36 KV,(800-400-200 A),25KA,4 CORE SINGLE PHASE CURRENT TRANSFORMER	NOS	1								
9	36 KV,800A,25KA,ISOLATORS										
9.1	MALE & FEMALE CONTACTS	SET	1								
9.2	POWER CONTACTOR,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS ETC AS PER APPROVED SCHEMATIC.	SET	1								
9.3	LIMIT SWITCH	SET	2								
9.4	MOTOR WITH GEAR ASSEMBLY & BEVEL GEAR ASSEMBLY COMPLETE.	SET	1								
9.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
9.6	EARTHING ROD & BLADE CONTACT SIDE	SET	1								
9.7	HINGE PINS,TERMINAL CONNECTOR,TERMINAL PAD	SET	1								
9.8	POST INSULATOR SUPPORT	SET (3NOS. PER SET)	1								
10	30 KV,METAL OXIDE, 10 KA, CLASS II SURGE ARRESTOR COMPLETE WITH INSULATOR BASE AND SURGE MONITOR	NOS	3								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR							
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
11	36 KV ,2 CORE,SINGLE PHASE,IVT INCLUDING TERMINAL CONNECTOR	NOS	1								
12	36KV, 1250A,25KA,VACUUM CIRCUIT BREAKER										
12.1	ONE COMPLETE POLE ASSEMBLY OF CIRCUIT BREAKER	SET	1								
12.2	TRIPPING CIOLS	NOS	4								
12.3	CLOSING COIL	NOS	4								
12.4	SPRING CHARGING MOTOR	NOS	1								
12.5	AUXILIARY SWITCH CONTACTS ASSEMBLY	SET	1								
12.6	SET OF GASKET,"O" RINGS,SEALING PER CIRCUIT BREAKER	SET	1								
12.7	POWER CONTACTORS,RELAYS,MCBs, SWITCHES,FUSES,PUSH BUTTONS,RESISTORS,PRESSURE SWITCHES,LIMIT SWITCHES, ETC AS PER APPROVED SCHEMATIC.	SET	1								
13	33 KV Bus Post Insulators	NOS	3								
14	BUS BAR & CIRCUIT MATERIALS										
14.1	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-132 KV	SET	2								
14.2	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-132 KV	SET	2								
14.3	120 kN ANTIFOG INSULATOR STRINGS <i>for Double Moose cond</i> (TENSION)-33 KV	SET	2								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR							
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
14.4	120 kN ANTIFOG INSULATOR STRINGS <i>for Single Moose cond</i> (TENSION)-33 KV	SET	2								
14.5	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-132 KV	SET	2								
14.6	90 kN ANTIFOG INSULATOR STRINGS <i>for Double/ Single Moose cond</i> (SUSPENSION)-33 KV	SET	2								
	SUB TOTAL OF 14										
15	ACSR MOOSE CONDUCTOR	MTRS	250								
16	HARDWARES & FITTINGS/SPACERS/CLAMP & CONNECTORS ETC. FOR 132 KV & 33 KV	SET (EACH TYPE THREE NOS.)	1								
17	GENERAL EQUIPMENT & SUBSTATION ACCESSORIES										
17.1	POWER CABLES,1.1KV,XLPE,ARMOURED, ALUMINIUM CONDUCTOR(As per Specification)										
17.1.1	3.5 CX300 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
17.1.2	3.5 CX185 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
17.1.3	3.5 CX120 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
17.1.4	3.5 CX70 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

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			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
17.1.5	3.5 CX35 mm ² (ONE PIECE OF MAXM. LENGTH OF CABLE USED)	PCS.	1								
17.1.6	4 CX 16 mm ²	MTRS	250								
17.1.7	4 CX 6 mm ²	MTRS	250								
17.1.8	2CX 6 mm ²	MTRS	250								
17.2	CONTROL CABLES,1.1 KV, PVC,STRANDED COPPER(As per specification)										
17.2.1	4 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
17.2.2	5 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
17.2.3	7 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
17.2.4	10 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 500 MTRS)	NOS.	1								
17.2.5	12 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
17.2.6	16 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
17.2.7	19 CX 2.5 mm ² (ONE DRUM HAVING LENGTH OF 250 MTRS)	NOS.	1								
17.2.8	1CX 120 mm ² BAT TO BAT CHARGER & CHARGER TO DCDB	MTRS	50								
17.3	CARRIER COMMUNICATION & OTHER MATERIALS										

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR							
			Quantity for: Construction of 2x40 MVA, 132/33 KV Sub-Station at MANIA, TANGI.	Unit Ex-works (Rs.)	Total Ex-works (Rs.)	Mode of Transaction/ (Bought out/Direct)	Excise Duty (Rs.)	Sales Tax/VAT (Rs.)	Other levies (if any)	Unit (F&I)	Total (F&I)
1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
17.3.1	132 KV,800 A,0.5mH,Pedestal Mounting WAVE TRAP	NOS	1								
17.3.2	LINE MATCHING UNIT & LINE MATCHING DISTRIBUTION UNIT	SET	1								
17.3.3	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 48 V)	NO	1								
17.3.4	PLANTE TYPE BATTERY 350 AH, ONE COMPLETE CELL ASSEMBLY OF BATTERY(FOR 220 V)	NO	1								
17.3.5	BATTERY CHARGER FOR 350 AH (48V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1								
17.3.6	BATTERY CHARGER FOR 350 AH (220V) ONE COMPLETE SET OF ELECTRONIC CARDS	SET	1								
18	PROTECTION, CONTROL METERING, EVENT LOGGER, BUS BAR PROTN PAN, COMM PAN, RELAY TOOL KITS AS PER TECH SPEC AND BOQ FOR PCM										
18.1	132 KV SIDE										
18.1.1	DISTANCE PROTECTION RELAY	NOS	1								
18.1.2	OVER CURRENT & EARTH FAULT RELAY	NOS	1								
18.1.3	MASTER TRIP RELAY	NOS	2								
18.1.4	DIFFERENTIAL PROTECTION RELAY	NOS	1								
18.1.5	TRIP SUPERVISION RELAY	NOS	3								
18.1.6	OTHER AUXILIARY RELAYS(EACH 1 NO. OF DIFFERENT TYPE)	SET	1								
18.1.7	ANNUNCIATOR	NOS	1								

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

Sl. No.	SUPPLY OF MANDATORY SPARES FOR THE FOLLOWING EQUIPMENTS. (As per Technical Specification)	Unit	MANDATORY SPARE	TO BE QUOTED IN INR								
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1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5	
18.1.8	DISCREPANCY CONTROL SWITCH											
	a) FOR CIRCUIT BREAKER	NOS	2									
	b) FOR ISOLATOR	NOS	2									
18.1.9	PROTECTION TRANSFER SWITCH	NOS	1									
18.1.10	AMMETER SELECTOR SWITCH	NOS	1									
18.1.11	VOLTMETER SELECTOR SWITCH	NOS	1									
18.1.12	AMMETER ALONG WITH TRANSDUCER	SET	1									
18.1.13	VOLTMETER ALONG WITH TRANSDUCER	SET	1									
18.1.14	MW METER ALONG WITH TRANSDUCER	SET	1									
18.1.15	MVAR METER ALONG WITH TRANSDUCER	SET	1									
18.2	33 KV SIDE											
18.2.1	OVER CURRENT & EARTH FAULT RELAY	NOS	1									
18.2.2	MASTER TRIP RELAY	NOS	2									
18.2.3	OTHER AUXILIARY RELAYS (EACH 1 NO. OF DIFFERENT TYPE)	SET	1									
18.2.4	ANNUNCIATOR	NOS	1									
18.2.5	CONTROL SWITCHES FOR											
	a) CIRCUIT BREAKER	NOS	2									
	b) ISOLATOR	NOS	2									
18.2.6	PROTECTION TRANSFER SWITCH	NOS	1									
18.2.7	AMMETER SELECTOR SWITCH	NOS	1									
18.2.8	VOLTMETER SELECTOR SWITCH	NOS	1									
18.2.9	AMMETER ALONG WITH TRANSDUCER	SET	1									
18.2.10	VOLTMETER ALONG WITH TRANSDUCER	SET	1									

(MANDATORY SPARE Equipment/Materials Supply Price Break-up of Ex-works Prices against MANIA,TANGI PACKAGE)

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1	2	3	4	5	6=4X5	7	8	9	10	11	12=11X5
18.2.11	MW METER ALONG WITH TRANSDUCER	SET	1								
18.2.12	MVAR METER ALONG WITH TRANSDUCER	SET	1								
	TOTAL OF SCHEDULE-3										

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

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

3 Bidders are requested to not leave any column blank. If any column is left blank it shall be considered that amount against those items are included in any other item and the total amount for that item shall be calculated as free of cost (Zero value). 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 Bidder should quoted F&I including service tax, no service tax shall be paid/reimbursed on this account.

Date :

Place:

(Signature).....

(Printed Name).....

(Designation).....

(Common Seal).....