



33KV RING MAIN SYSTEM INCLUDING 33/0.433KV SUBSTATIONS IN NIT, ROURKELA CAMPUS.

SECTION-IX : PROPOSAL EXHIBIT SHEETS

PART-II : PRICE

TITLE	Doc. No.	Section	Prepared by	Date	Rev. No.	Page no.
Tender Document for 33kV Ring Main including 33/0.433kV Substation in NIT Campus	NITRKL-33KVRM-TD-01	Proposal Exhibit Sheets, Part-II : Price	SKD	20.02.2010	0	1 of 19

PRICE PART

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Tender Document for 33kV Ring Main including 33/0.433kV S/S in NIT, Rourkela Campus	NITRKL-33KVRM-TD-01	IX : Proposal Exhibit Sheets	Part-II : Price	SKD	20.02.2010	0	2 of 19

ANNEXURE-I
PRICE TABULATION SHEET

SL. NO.	DESCRIPTION	PRICE IN INDIAN RUPEES (INR)
1.00.00	<p>Tenderer's lumpsum proposal price for Design, Engineering, Planning, Procurement, manufacture, fabrication, supply, painting testing at site & works, delivery at site, receiving, unloading, storage, insurance, handling, erection, final check-up, final testing, trial run, commissioning including Performance Testing including all taxes and duties for all equipment and services as per scope outlined in the specification including mandatory spares, maintenance spares, personal protective equipments, special tools & tackles, all accessories & auxiliary equipments and erection & commissioning spares including consumables.</p>	

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SL. No.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (BOTH IN WORDS & FIGURES)	TOTAL PRICE (BOTH IN WORDS & FIGURES)
A.	Design, Engineering, Planning, Procurement, manufacture, fabrication, supply, painting, testing at site & works, delivery at site, receiving, unloading, storage, handling, erection, final check-up, final testing, trial run, commissioning including Performance Testing including all taxes and duties for all plant, equipment and services as per scope outlined in the specification	Lot.	Lump sum		
B.	Mandatory Spares	One (1) Lot	Lump sum		
C.	Erection and Commissioning spares including consumables	One (1) Lot	Lump sum		
D.	Tools and Tackle	One (1) Lot	Lump sum		
E.	Freight charge inclusive of Non-Convertible Service Tax		%		
F.	Maintenance Spares	One (1) Lot	Lump sum		
2.00.00	Erection, Testing, Installation & Commissioning and Annual Comprehensive Maintenance charge				
A.	Erection charges		Lump sum		
B.	Testing charges		Lump sum		
C.	Installation & Commissioning charges		Lump sum		
D.	Annual Comprehensive		Lump		

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SL. No.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (BOTH IN WORDS & FIGURES)	TOTAL PRICE (BOTH IN WORDS & FIGURES)
	Maintenance charge		sum		

- NOTE:**
- 1) BOQ provided is indicative and for tender purpose only, based on typical system, conceived for the project. Bidder shall quantify the actual qty, based on the line of products offered taking into cognizance all accessories that may be required for completeness and successful execution of the job as per the tender requirement.
 - 2) Bidder shall ensure that variation up to 10% of the estimated qty of the major items and running meter qty of cables shall be included in the quoted price (Lump sum) in the BOQ. Bidder shall verify the actual qtys. of the items required during execution of the contract and variance if any shall be brought to the notice of the Owner for adjustment in terms of qty and price if the actual qty. variance exceeds +10% of major items shown in the typical configuration and above BOQ. Addition/Deletion clauses shall be clearly applicable to handle changes in the post award stages.

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SCHEDULE OF WORKS

ELECTRICAL

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Tender Document for 33kV Ring Main including 33/0.433kV S/S in NIT, Rourkela Campus	NITRKL-33KVRM-TD-01	IX : Proposal Exhibit Sheets	Part-II : Price	SKD	20.02.2010	0	6 of 19

Sl. No.	ITEM DESCRIPTION	QUANTITY													UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION, TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
A	BOQ OF MAJOR EQUIPMENT																	
1	33KV, 630A,25KA/3 SEC OUTDOOR VCB	NOS.	1	3										4				
2	33KV,400A,25KA/1 SEC CENTER ROTATING DOUBLE BREAK ISOLATOR WITH EARTH SWITCH	SETS		3	1	1	1	1	1	0	1		1	10				
3	33KV,400A,25KA/1 SEC CENTER ROTATING DOUBLE BREAK ISOLATOR WITHOUT EARTH SWITCH	SETS	2	4	2	2	3	3	4	1	6			27				
4	33KV,10KA LA, 1 PHASE	NOS.		9	3	3	3	3	3	3	3			30				
5	33KV, 2 SECONDARY WINDING LPT, 1 PHASE, WDG. 1 WITH 50VA, CL-0.5 & WDG. 2 WITH 50VA, CL-0.5	NOS.		3										3				
6	33KV, 3 CORE CT WITH 1 CORE OF 200/1A WITH CL-5P10, 1 CORE WITH 200/1A CL-0.5, 10VA & 1 CORE WITH 200/1A CL-0.5, 10VA, 1 PHASE FOR I/C BAY	NOS.		3										3				
7	33KV, 2 CORE CT WITH 1 CORE OF 200/1A WITH CL-5P10 & 1 CORE WITH 200/1A CL-0.5, 10VA, 1 PHASE FOR O/G BAY	NOS.	3	6										9				
8	33KV POST INSULATOR	NOS.	6	18										24				
9	33KV SINGLE TENSION STRING FOR ACSR DOG	NOS.		6										6				
10	33KV SINGLE TENSION STRING FOR ACSR RABBIT	NOS.		6	12	12	24	27	36		48			165				
11	33KV PIN INSULATOR	NOS.			9	6	12	9	15	3	18			72				
12	11M LONG LIGHTNING CUM LIGHTING POLE	NOS.		2										2				
13	33KV, 20A HORN GAP FUSE	SETS		1	1	1	2		1	1				7				
14	33KV, 32A HORN GAP FUSE	SETS						2	2		4			8				
15	33KV INDOOR SWITCHBOARD WITH LOAD BREAK SWITCH & FUSE AS PER SLD	SETS										1		1				
16	33/0.433KV, 100KVA 3PH, STATION SERVICE TRANSFORMER	NOS.		1										1				
17	33/0.433KV, 500KVA 3PH, DISTRIBUTION TRANSFORMER	NOS.			1	1	2		1	1				6				

(*) Inclusive of taxes and duties.

Sl. No.	ITEM DESCRIPTION	QUANTITY													UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION, TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
18	33/0.433KV, 750KVA 3PH, DISTRIBUTION TRANSFORMER	NOS.						2	2		4			8				
19	33KV 4 POLE STRUCTURE AS PER LAYOUT	NOS.			1	1	2	2	3		4			13				
20	33KV 2 POLE STRUCTURE AS PER LAYOUT	NOS.								1				1				
21	33KV (UE) CABLE TERMINATION KIT (OUTDOOR TYPE) FOR 3C-150 SQ. MM. AL XLPE CABLE	SETS	3	3	2		2	1	2		2		3	18				
22	33KV (UE) CABLE TERMINATION KIT (INOOR TYPE) FOR 3C-150 SQ. MM. AL XLPE CABLE	SETS										6		6				
23	ACSR DOG CONDUCTOR FOR 33KV BUS-BARS, BAYS & JUMPERS/DROPPERS/TERMINATIONS.	METER	70	220										290				
24	ACSR RABBIT CONDUCTOR FOR CONNECTION OF 33/433KV 100KVA STN. SER. TRAF0 & JUMPERS/DROPPERS/TERMINATIONS.	METER		20										20				
25	STRINGING, SAGGING & TENSIONING, JUMPER CONNECTION OF 33KV SINGLE CIRCUIT 3 PHASE OHL ON 11M LONG STEEL POLE STRUCTURE INCLUDING SUPPLY OF ACSR RABBIT	METER											2760	2760				
26	33KV CRP FOR I/C BAY	NOS.		1										1				
27	33KV CRP FOR O/G BAY	NOS.	1	2										3				
28	415V DB AS PER SLD	NOS.				1	1	1	1	1	2	1		8				
29	415V BAY MARSHALLING KIOSK FOR 33KV BAYS	NOS.		2										2				
30	11M HIGH SINGLE POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH TWO COATS OF PRIMER AND TWO COATS OF APPROVED SHADE, FOR LINE DEVIATION UPTO 0-5 DEG COMPLETE WITH ALL ACCESSORIES LIKE V-CROSS ARM, POLE TOP BRACKET, PIN INSULATOR, NUTS, BOLTS & FASTNERS, EARTHING MATERIALS, AND FOUNDATION MATERIALS INCLUDING FABRICATION AS PER GA DRAWING SUBJECT TO APPROVAL OF FINAL ROUTE SURVEY & PROFILE DRG.	NOS.											11	11				

(*) Inclusive of taxes and duties.

Sl. No.	ITEM DESCRIPTION	QUANTITY												UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION & TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS	
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN					TOTAL QTY
31	11M HIGH SINGLE POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH TWO COATS OF PRIMER AND TWO COATS OF APPROVED SHADE, FOR LINE DEVIATION ABOVE 5-90 DEG COMPLETE WITH ALL ACCESSORIES LIKE V-CROSS ARM, POLE TOP BRACKET, PIN INSULATOR, TENSION INSULATOR, REQUIRED NO. OF STAY SET,NUTS, BOLTS & FASTNERS, EARTHING MATERIALS AND FOUNDATION MATERIALS INCLUDING FABRICATION AS PER GA DRAWING SUBJECT TO APPROVAL OF FINAL ROUTE SURVEY & PROFILE DRG.	NOS.											4	4				
32	11M HIGH SINGLE POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH TWO COATS OF PRIMER AND TWO COATS OF APPROVED SHADE, WITH EXTENSION OF POLE HEIGHT VARYING 750-1500MM FOR MAINTAINING PROPER SAG TO MEET UP GROUND CLEARANCE BY ISMC 100X50X6 WITH ALL ACCESSORIES LIKE V-CROSS ARM, POLE TOP BRACKET, PIN INSULATOR, TENSION INSULATOR, REQUIRED NO. OF STAY WIRE ETC. AS PER GA DRAWING SUBJECT TO APPROVAL OF FINE ROUTE SURVEY & PROFILE DRG., ALL FITTINGS, FABRICATION, EARTHING MATERIALS AND FOUNDATION MATERIALS LIKE CONCRETE, SAND, STONE ETC.	NOS.											17	17				
33	11M HIGH DOUBLE POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF APPROVED SHADE, FOR TRANSITION POINTS FROM OHL TO UG CABLE COMPLETE WITH ALL ACCESSORIES LIKE BRACKET, PIN INSULATOR, TENSION INSULATOR, REQUIRED NO. OF STAY SETS, NUTS, BOLTS & FASTNERS, EARTHING MATERIALS AND FOUNDATION MATERIALS INCLUDING FABRICATION AS PER GA DRAWING SUBJECT TO APPROVAL OF FINE ROUTE SURVEY & PROFILE DRG.	NOS.											2	2				

(*) Inclusive of taxes and duties.

Sl. No.	ITEM DESCRIPTION	QUANTITY													UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION, TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
34	11M HIGH DOUBLE POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH TWO COATS OF PRIMER AND TWO COATS OF APPROVED SHADE, FOR OHL TENSION POINTS COMPLETE WITH ALL ACCESSORIES LIKE VERTICAL BRACKET, PIN INSULATOR, TENSION INSULATOR, REQUIRED NO. OF STAY SETS, NUTS, BOLTS & FASTNERS, EARTHING MATERIALS AND FOUNDATION MATERIALS INCLUDING FABRICATION AS PER GA DRAWING SUBJECT TO APPROVAL OF FINAL ROUTE SURVEY & PROFILE DRG.	NOS.											1	1				
35	11M HIGH FOUR POLE STRUCTURE WITH BEAM (UB152), PAINTED WITH TWO COATS OF PRIMER AND TWO COATS OF APPROVED SHADE, FOR LINE TAPPING COMPLETE WITH ALL ACCESSORIES LIKE VERTICAL BRACKET, PIN INSULATOR, TENSION INSULATOR NUTS, BOLTS & FASTNERS, EARTHING MATERIALS AND FOUNDATION MATERIALS INCLUDING FABRICATION AS PER GA DRAWING SUBJECT TO APPROVAL OF FINAL ROUTE SURVEY & PROFILE DRG..	NOS.											2	2				
B	BOQ OF 33KV CLAMPS & CONNECTORS																	
1	TERMINAL CONNECTOR FOR BREAKER PAD TO RECEIVE HORIZONTALLY																	
	a) ACSR DOG	NOS.		18										18				
	b) 1.5" AL TUBE	NOS.	6											6				
2	TERMINAL CONNECTOR FOR ISOLATOR TO RECEIVE HORIZONTALLY																	
	a) ACSR RABBIT	NOS.		6	18	18	24	24	30	6	42			168				
	b) ACSR DOG	NOS.	6	36										42				
	c) 1.5" AL TUBE	NOS.	6											6				
3	TERMINAL CONENCTOR FOR CT STUD/PAD TO RECEIVE HORIZONTALLY																	
	a) ACSR DOG	NOS.		18										18				
	b) 1.5" AL TUBE	NOS.	6											6				
4	TERMINAL CONNECTOR FOR PT STUD/PAD TO RECEIVE HORIZONTALLY																	
	a) ACSR DOG	NOS.		3										3				

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		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY					
5	TERMINAL CONNECTOR FOR LA TO RECEIVE HORIZONTALLY																		
	a) ACSR RABBIT	NOS.		3	3	3	3	3	3	3					24				
	a) ACSR DOG	NOS.		9											9				
6	TERMINAL CONNECTOR FOR PI TO RECEIVE VERTICALLY/HORIZONTALLY																		
	a) ACSR DOG	NOS.		18											18				
	b) 1.5" AL TUBE	NOS.	6												6				
7	TERMINAL CONNECTOR FOR 100KVA STATION SERVICE TRANSFORMER STUD/PAD TO RECEIVE VERTICALLY																		
	a) ACSR RABBIT	NOS.		3											3				
8	TERMINAL CONNECTOR FOR 500/750KVA DISTRIBUTION TRANSFORMER STUD/PAD TO RECEIVE VERTICALLY																		
	a) ACSR RABBIT	NOS.			3	3	6	6	9	3	12				42				
9	T -- CONNECTOR FOR																		
	a) ACSR DOG TO ACSR DOG	NOS.		9											9				
	b) ACSR RABBIT TO ACSR RABBIT	NOS.		3	9	9	15	15	21		27				99				
10	PG CLAMP FOR																		
	a) ACSR DOG TO ACSR RABBIT	NOS.		3											3				
11	TENSION STRING																		
	a)SINGLE TENSION STRING FOR ACSR DOG CONDUCTOR (WITH TENSION CLAMP & TURNBUCKLE)	NOS.		3											3				
	b)SINGLE TENSION STRING FOR ACSR DOG CONDUCTOR (WITH TENSION CLAMP & WITHOUT TURNBUCKLE)	NOS.		3											3				
	c)SINGLE TENSION STRING FOR ACSR RABBIT CONDUCTOR (WITH TENSION CLAMP)	NOS.		6	12	18	24	27	36	3	48				174				
12	TERMINAL CONNECTOR FOR 33KV CABLE TERMINATION KIT TO RECEIVE ACSR DOG VERTICALLY																		
		NOS.		9											9				
13	TERMINAL CONNECTOR FOR 33KV CABLE TERMINATION KIT TO RECEIVE ACSR RABBIT VERTICALLY																		
		NOS.			6	9	6	3	6		6				36				

(*) Inclusive of taxes and duties.

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		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
14	TERMINAL CONNECTOR FOR 33KV CABLE TERMINATION KIT TO RECEIVE 1.5" AL TUBE VERTICALLY	NOS.	9											9				
C	BOQ OF CABLE TRAY & RACK																	
1	450MM WIDE G.S. PRE-FABRICATED LADDER TYPE CABLE TRAY	METER		140	25	30	90			40			150	475				
2	600MM WIDE G.S. PRE-FABRICATED LADDER TYPE CABLE TRAY	METER		0	0	0	0	75	85		90	50		300				
3	300MM WIDE PERFORATED CABLE TRAY	METER		45	25	15	45	35	40	20	40	30		295				
4	ISA 50x50x6 GS CABLE TRAY SUPPORTING RACK	Kg.		350	60	110	280	260	310	150	360	400		2280				
D	BOQ OF EARTHING (FOR SWITCHYARD)																	
1	50X8 mm GS FLAT EARTH GRID CONDUCTOR	METER	200	1500	220	220	340	340	610	130	810	50		4420				
2	50x6 G.S. FLAT ALONG CABLE TRENCH.	METER		150	10	70	105	105	100	75	140	150		905				
3	32mm DIA, 3M LONG M.S. ROD ELECTRODE IN UNTREATED PIT	NOS.	2	9	5	7	8	8	12	3	14			68				
4	40mm DIA, 3M LONG PERFORATED G.I. PIPE ELECTRODE IN TREATED PIT FOR LA,LPT, TR. NEUTRAL, TOWER WITH PEAK AND GRID CORNER AS APPLICABLE.	NOS.	4	18	5	5	7	7	8	5	10	3		72				
5	EQUIPMENT EARTHING CONDUCTOR BY 35X6mm. G.S. STRIP FOR CRP,ACDB,BATTERY CHARGER,SLDB, OLDB ETC. AS APPLICABLE	METER		60	10	30	30	40	40	30	60	30		330				
	B.O.Q. OF ELECTRONIC EARTHING FOR CONTROL BUILDING & DB ROOM																	
1	40mm DIA, 3M LONG PERFORATED G.I. PIPE ELECTRODE IN TREATED EARTH PIT.	NOS.		2	2	2	2	2	2	2	2	2		18				
2	1C-35 SQMM XLPE CU FRLS CABLE FROM EARTH GRID CONDUCTOR TO EARTH BUS.	METER		25	25	25	25	25	25	25	25	25		225				

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		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
3	400X100X10 THK GS ELECTRONIC EARTH BUS WITH MOUNTING INSULATORS	NOS.		1	1	1	1	1	1	1	1	1	1	9				
E B.O.Q OF LIGHTNING PROTECTION FOR SWYD & CONTROL BUILDING / DB ROOM																		
1	25X6 mm GS FLAT HORIZONTAL AIR TERMINATION	METER		35	25	25	25	35	30	25	50			250				
2	32X6 mm GS FLAT DOWN CONDUCTOR	METER		75	40	50	70	75	90	30	115			545				
3	BOLTED TEST LINK CONSISTING OF 32X6 MM G.S. FLAT & HARDWARE	METER		1	1	1	1	1	1	1	2			9				
4	32mm DIA, 3M LONG PERFORATED MS ROD ELECTRODE IN TREATED EARTH PIT	NOS.		1	1	1	1	2	1	1	2			10				
6	VERTICAL SPIKE, 50? G.I. PIPE , 2M LONG	NOS.		-	4	4	6	6	8	2	10			40				
7	VERTICAL SPIKE, 50? G.I. PIPE , 1.5M LONG	METER		6										6				
F BOQ OF HV & LV POWER CABLE																		
1	33kv(UE), 3C-150 sqmm AL XLPE	METER	250										3580	3830				
2	1.1kv, 3.5C-240 sqmm AL XLPE	METER		30	0	45	190	255	145	51	510	100		1326				
3	1.1kv, 4C-16 sqmm AL XLPE	METER		25	0	5	5	5	5	5	10	5		65				
4	1.1kv, 4C-10 sqmm AL XLPE	METER		0	0	10	10	10	10	10	20	10		80				
5	1.1kv, 2C-2.5 sqmm CU. XLPE	METER		20	0	25	65	60	25	25	120	30		370				
G BOQ OF CONTROL CABLE																		
1	1.1KV, 3C-1.5 sqmm CU PVC	METER		30	2	2	2	0	2	2	2	2		44				
2	1.1KV, 3C-2.5 sqmm CU PVC	METER		310	0	0	0	0	0	0	0	0		310				
3	1.1KV, 5C-1.5 sqmm CU PVC	METER		630	70	65	120	75	150	50	240	100		1500				
4	1.1KV, 5C-2.5 sqmm CU PVC	METER		380	0	0	0	0	0	0	0	0		380				

(*) Inclusive of taxes and duties.

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		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN				
5	1.1KV, 7C-1.5 sqmm CU PVC	METER		150	0	0	0	0	0	0	0	0	0	150			
6	1.1KV, 10C-1.5 sqmm CU PVC	METER		285	25	20	55	60	120	25	145	30		765			
H	BOQ OF LIGHTING MATERIAL																
1	Lighting fixtures																
1.1	Pendant mounted Indoor industrial rail type luminaire with reflector and suitable for 2x36W FTL (Bajaj type BJIE 236 or eqv.)	Nos.		7		4	5	6	6	4	10	20		62			Including supply of lamps
2	Pendant mounted indoor industrial vapour proof luminaire with 2 x 40W FTL (Bajaj type BJI 240VP or eqv.)	Nos.		1										1			-- do --
3	Pendant mounted Indoor industrial rail type luminaire suitable for 2x36W FTL (Bajaj type BJIR 236 or eqv.)	Nos.		2										2			-- do --
4	Road lighting luminaire with 2X36W CFL lamp (Bajaj type BJSFL 236 CFL or equivalent)	Nos.	3	12	4	7	9	9	10	5	14	6		76			-- do --
5	Post top lantern with 2X11W CFL (Bajaj type BJGLI 211 or equivalent)	Nos.		2	2	2	2	2	2	2	2			16			-- do --
6	DC emergency luminaire with 1X40W FTL with built in battery & charger (Prolite type PEL 140 M or eqv.)	Nos.		4		2	2	2	2	2	3	4		21			-- do --
2	Socket outlets																
1	240V, 5A, 3 pin, industrial switch socket outlet	Nos.		4		1	1	1	1	1	2	3		14			
2	240V, 15A, 3 pin, industrial switch socket outlet	Nos.		4		2	2	2	2	2	3	3		20			
3	1400 mm sweep ceiling fan with electronic regulator	Nos.		1	1	1	1	2	1	1	2	2		12			
4	300mm sweep exhaust fan	Nos.		1										1			
5	415V, 32A, 10KA for 1 sec, 3 phase, 4 wire Sub Lighting Distribution Board (SLDB) with the following feeders:	Nos.		1		1	1	1	1	1	1	1	1	9			For indoor lighting, wall mounted
	a) 32A TPN MCCB incomer = 1 no.																
	b) 10A SPN MCB outgoing = 12 nos.																

(*) Inclusive of taxes and duties.

Sl. No.	ITEM DESCRIPTION	QUANTITY													UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION, TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
6	415V, 32A, 10kA for 1 sec, 3 phase, 4 wire Outdoor Lighting Distribution Board (OLDB)(double door design) with auto/manual changeover contactor circuit by time switch/photocell and having following feeders: a) 32A TPN MCCB incomer = 1 no. b) 6A SPN MCB outgoing = 6 nos.	Nos.		1	1	1	1	1	1	1	1	1	1	9			For indoor lighting, wall mounted	
7	Switchboard (normal supply) :																	
a)	Type-A (3 switch, 1 socket)	Nos.		1										1			Piano type switch and 5A, 3 pin socket	
b)	Type-B (4 switch, 1 socket)	Nos.		2										2			Piano type switch and 5A, 3 pin socket	
c)	Type-C (4 switch, 1 electronic regulator,1 socket)	Nos.		1										1			Piano type switch and 5A, 3 pin socket	
d)	Type-D (5 switch, 1 electronic regulator,1 socket)	Nos.			1	1	1	1	1	2	2			9			Piano type switch and 5A, 3 pin socket	
8	Point wiring :																	
a)	Type-1 : Mains wiring starting from SLDB upto JB/switchboards by 2 nos. 1C-2.5 mm ² CU PVC wire including supply and installation of 25mm GI conduit, conduit accessories, pull boxes, JB's, 16 SWG GI earthing wire, hardwares etc. (Average length = 10m)	Meter		4	1	1	1	1	1	2	2			14				
b)	Type-2 : Point wiring starting from SLDB/Switchboard upto lighting fixtures/ceiling fans/exhaust fans by 2 nos. 1C-2.5 mm ² Cu PVC wire including supply and installation of 20 mm GI conduit, conduit accessories, pull boxes, JB's, 16 SWG GI earthing wire, down rods, supporting channels, hardwares etc.	Meter		16	1	7	8	9	9	7	15	32		104				
c)	Type-3 : Point wiring starting from OLDB upto JB for outdoor lighting fixtures by 1 no. 2C-2.5 mm ² CU PVC cable laid partly in trench and partly buried (Average length = 15m)	NOS.	3	5	1	2	3	5	4	2	6			28				

(*) Inclusive of taxes and duties.

Sl. No.	ITEM DESCRIPTION	QUANTITY													UNIT RATE OF SUPPLY & DELIVERY (*)	UNIT RATE OF SITE STORAGE INSURANCE, SITE TRANSPORTATION, ERECTION, TESTING & COMMISSIONING (*)	TOTAL PRICE	REMARKS
		UNIT	WESCO TAPPING	MRS	SS-1	SS-2	SS-4	SS-5	SS-6 & 9	SS-7	SS-8	SS-10	33KV RING MAIN	TOTAL QTY				
d)	Type-4 : Point wiring starting from Outdoor JB to outdoor lighting fixtures by 1 no. 2C-2.5 mm ² CU PVC cable laid along structure (Average length = 15m)	NOS.	3	12	4	7	9	9	10	5	14			70				
I	BOQ of control cable gland and lugs.																	
1	Heavy duty tinned copper lug with insulated sleeves suitable for multi wire copper conductors with a cross section of 1.5/2.5 sqmm.	Nos.												1600	1600			
2	Nickle plated brass , double compression heavy duty cable gland suitable for CU PVC armoured control cable.	Nos.												230	230			
J	BOQ of LV power cable gland and lugs.																	
a)	Heavy duty tinned copper lug with insulated sleeves suitable for XLPE single/stranded wire aluminium conductors of following sizes:																	
1	240 mmsq.	Nos.												420	420			
2	16 mmsq.	Nos.												90	90			
3	10 mmsq.	Nos.												130	130			
4	2.5 mmsq. CU	Nos.												130	130			
b)	Nickle plated brass , double compression heavy duty cable gland suitable for AL XLPE armoured LV power cable.																	
1	240 mmsq.	Nos.												140	140			
2	16 mmsq.	Nos.												25	25			
3	4 mmsq.	Nos.												35	35			
4	2.5 mmsq. CU	Nos.												60	60			
K	SHOCK TREATMENT CHART	NOS.												9	9			
L	RUBBER MAT 1.1KV	M												200	200			
M	FIRE EXTINGUISHER, SAND BUCKETS	Nos.												LOT	LOT			

(*) Inclusive of taxes and duties.

SCHEDULE OF WORKS

CIVIL AND STRUCTURAL

TITLE	Doc. No.	Section	Sub section	Prep. by	Date	Rev	Page no.
Tender Document for 33kV Ring Main including 33/0.433kV S/S in NIT, Rourkela Campus	NITRKL-33KVRM-TD-01	IX : Proposal Exhibit Sheets	Part-II : Price	SKD	20.02.2010	0	7 of 19

SCHEDULE OF QUANTITIES & RATES - CIVIL & STRUCTURAL WORK						
SUBSTATIONS & POWER DISTRIBUTION FOR NIT (ROURKELLA)						
	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
1.0	EARTHWORK					
1.1	Earthwork in excavation in the following types of soil and rock upto and including 2.00 metres lift including bailing/pumping out any water accumulating inside the excavated pit/trench, shoring, strutting (as directed by the Engineer) adequate protection during excavation/drilling/ blasting, transporting the excavated soil for 100 m lead & stacking selectively including disposing off the rubbish, rock fragments, excess spoils, etc. in the area as directed by the Engineer, all complete as per drawing, specification and direction of the Engineer. Shoring shall be paid under relevant items.					
	a) Ordinary & Hard soil	1700	Cu.M			
1.1a	Extra over item no. 1.1(d) above for more than 2.0 m lift upto 4.0 m lift.	100				
1.2	Earthwork in backfilling including watering and compaction at all elevations around foundations, walls, wells, tunnels, pits, culverts, trenches, road approaches and in plinth filling & area filling as per specs. & drawings and as directed by the Engineer with selected spoil within a lead of 100 m (filling in layers not exceeding 250 mm in loose thickness. Watered as necessary, each layer of filling to be compacted to achieve a dry density of not less than 95% of the Proctor density).	500	Cu.M			
1.2a	Extra over item no. 1.1 or 1.2 above for more than 100 m lead upto 1.0 km lead	100	Cu.M			
1.3	Supplying, filling and compacting morum with needle vibrator for a maximum depth of 1.0 m in each layer in flooded condition in foundations, walls, plinths and in other areas as per drawing, specification and direction of Engineer.	50	Cu.M			
1.3a	Supplying, filling and compacting sand for a maximum depth of .3 m in each layer in flooded condition in foundations, walls, plinths, trench and in other areas as per drawing, specification and direction of Engineer.	150	Cu.M			
	Note: Sand fill will be placed in trenches carefully before and after cable laying without disturbing/damaging cables					
1.4	Providing shoring in foundations, tunnels, pits, trenches etc. as required including supply of all materials and removal of shoring after completion of the work.					
	a) Open timbering	Rate Only	Sq.M			
	b) Close timbering	Rate Only	Sq.M			
	NOTE:-					

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	Items 1.4 shall be paid only for protecting existing structures directed by the engineer.					
2.0	CONCRETE WORK PLAIN AND REINFORCED					
2.1	Supplying and laying in position plain cement concrete of following nominal mixes (by volume) using graded crushed stone (40 mm down) as coarse aggregate including mixing , conveying, laying, compacting and curing etc.complete as per drawings, specifications and directions of the Engineer.					
	a) M5/M10/M15	Rate Only	Cu.M			
2.2	Supplying and laying in position plain cement concrete of following nominal mixes (by volume) using graded crushed stone (20 mm down) as coarse aggregate including mixing , conveying, laying, compacting and curing etc.complete as per drawings, specifications and directions of the Engineer.					
	a) M - 10	70	Cu.M			
2.2(a)	Supplying and laying in position design mix of cement concrete of following grades for reinforced concrete work in foundation (including slab on grade) & substructure in all kinds of work using graded crushed stones as coarse aggregate including mixing, conveying, laying, compacting and curing etc. complete as per drawings specifications and directions of the Engineer.					
	(i) & (ii) Deleted					
	(iii) M-25 (with 40 mm down coarse agg.)	Rate Only	Cu.M			
	(iv) M-25 (with 20 mm down coarse agg.)	500	Cu.M			
2.2(b)	Supplying and laying in position design mix cement concrete of following grades for reinforced concrete work in superstructure in all kinds of work using graded crushed stones (20 mm down) as coarse aggregate including mixing, conveying laying, compacting and curing etc.complete as per drawings, specifications and direction of the Engineer					
	(i) M - 20	Rate Only	Cu. M			
	(ii) M - 25	280	Cu. M			
2.3	Deleted					
2.4	Supplying, cutting, bending and binding with 18 gauge annealed soft iron wire and placing in position following types of reinforcements, of all diameters to RCC members as per drawings, specifications and direction of the Engineer.					
	(a) MS round bar	Rate Only	Tonnes			
	(b) High yield strength steel deformed bars	70	Tonnes			

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
2.5	Supplying , installing dismantling and removing following classes/class of formworks for foundation and sub-structures below elevation (+) 0.00 in all kinds of work including necessary rendering of concrete surfaces after exposure as per drawings, specification and direction of the Engineer					
	(a) Ordinary	750	Sq.M			
2.6	Supplying, installing, dismantling and removing following classes/class of formwork for super structures in all kinds of work including necessary rendering of concrete surface after exposure as per drawings, specifications direction of the Engineer.					
	(a) Plywood/steel (for formed surface)	1900	Sq.M			
2.7	Making & supply, fix in position and remove forms for pockets & opening less than 0.1 Sq.m in area including necessary rendering of concrete surface after exposure. (Maximum depth of pocket will be 0.5 m)	10	R.M			
2.8	Supplying, fabricating and installing following embedded items in cement concrete, as per drawings and specifications including all necessary templates as required					
	(a) Anchor bolt assembly complete with sleeves, nuts, washers, anchor plates etc.	200	Kgs			
	(b) Insert plates, edge protection angles, pipe sleeves, hangers, conduits and other miscellaneous embedded fixtures of MS items.	1800	Kgs			
2.9	Forming expansion/isolation joints in concrete as per drawings and specifications using Bitumen boards/ Expanded polystyrene boards complete with bitumen sealing compound including supply of all materials					
	(a) 25 mm Thick	Rate Only	Sq.M			
2.10	Forming Isolation joint with 1mm th. alkathene sheets as per drawing & specification including supply of all materials.	Rate Only	Sq.M			
2.11	Supplying and filling the expansion joints of following dimensions with bitumen/other joint sealing compound including thorough cleaning of the joints, as per manufacturer's specification and as directed by Engineer.					
	(a) 25 mm x 12 mm	5	Sq.M			
2.12	Supplying and providing grout under base plate of structures, column bases, base plate of equipment, pockets of foundations etc, with non-shrink free flow cementitious grout (shrinkkomp or equivalent) including mixing, surface cleaning, backing, furnishing side					

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	forms for exposed surfaces with chamfering and curing complete as per manufacturers specifications and direction of the Engineer.	0.5	Cu.M			
2.13	Supply and laying 50 thick precast reinforced cement concrete elements of following grade of concrete at various elevations in all kinds of works including supply of materials, formwork, mixing, laying, compacting and curing, storing, handling, transporting, erection without damage, setting in position with cement sand mortar (1:2 by volume), grouting / welding etc. complete as per drawings, specifications and direction of Engineer. (Cost of reinforcement to be paid sepeately under reinforcement item)					
	(a) M - 25	30	Sq.M			
2.14	Supplying, fabricating and installing in concrete following rungs as per specification, drawings and direction of the Engineer.					
	(a) 20 mm dia MS Rung	Rate Only	Tonnes			
2.15	Providing and mixing water proofing admixture of approved quality in concrete/ mortar to make the concrete waterproof for underground structure like basement, tunnels etc. as per manufacturer's specifications and with manufacturer's supervision as decided by the Engineer.	Rate Only	Kg			
2.16	Extra over item no. 2.2(a) for integral neat cement finish with floating & trowelling	400	Sq.M			
3.0 STRUCTURAL STEEL AND SHEETING WORK						
3.1	Supply, fabricate, transport and erect structural steel work of following categories including all necessary connection materials and connections (including welding and bolting, nuts, washers, gussets, etc. complete), & a shop coat of red-oxide primer (ready mixed paint conforming to IS: 2074) and two coats of final finish painting (aluminium paint conforming to IS:2339) as per Drawings, Specifications and direction of the Engineer.					
	a) Steel work using rolled sections only with or without end cleats/plates for connections.	14	Tonne			
	b) Steel work in latticed/battened structures for beams and columns	20	Tonne			
	c) Same as a) but with tubular sections	15	Tonne			
	Note: Connecting material shall be measured under 3.1b)					
	d) Miscellaneous steel work in ladders, hand railing gratings sag/tie rods, platforms/walk-ways					

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	using chequered plates/gratings.	4	Tonne			
4.0	MASONRY AND ALLIED WORK					
4.1	Supply, mix, place in position compact and cure 40 mm thick damp proof coarse with cement concrete 1:1.5:3 nominal mix by volume (1 cement:1.5 sand: 3 graded stone aggregate with 10 mm down aggregates) including an admixture or waterproofing compound like "PLASTOCRETE-N" of Sika Qualcrete (at the rate of 0.5% by weight of cement) or equivalent with all materials and labour complete as per drawings and specifications and direction of Engineer.	15	Sq.M			
4.2	Supply and laying in position brickwork with locally available best quality bricks (minimum crushing strength 50 kg/Sq.cm in foundation, substructure & trenches at all levels upto plinth in cement -sand mortar including mixing mortar, laying bricks, raking joints, curing and including supply and erection of necessary scaffolding & working platform complete with all materials as per drawings and specifications.	90	Cu.M.			
4.3	Same as 4.2 but for superstructure	260	Cu.M.			
4.4	Same as above item 4.2 but brickwork in half brick thick panels in cement mortar 1 :4 (1 cement : 4 coarse sand)	50	Sq.M			
4.5	18 mm thick (minimum) cement-sand plastering (in two layers) under layer 12 mm thick cement plaster 1 : 5 (cement : coarse sand) finished with top layer of 6 mm thick cement plaster of MIX 1: 6 (cement : fine sand) to exterior faces of wall, beams, columns & other structures at various elevations including mixing, laying, finishing, curing, necessary scaffolding work, working platforms complete with all materials as per drawings, specifications and instructions of the Engineer.	1500	Sq.M.			
4.6	12 mm thick (minimum) cement - sand plaster (1:6) (1 cement:6 coarse sand) to interior faces of walls, beams, columns, drains, RC channels, in roof & other structures at various elevations including mixing, laying, finishing, curing and necessary scaffolding work, working platforms, complete with all materials as per drawings, specifications and instructions of the Engineer.	700	Sq.M.			
4.7	Providing 20 mm x 12 mm drip course at various elevations to chajja, window & door heads, parapets and all other projections etc. with all materials, labour etc. complete as per drawings, specifications and instruction of the Engineer.	20	R.M.			
5.0	DOORS, WINDOWS, LOUVRES ETC.					
5.1	Supplying, fabricating and fixing in position 45 mm thick hollow metal flush door including pressed steel frame (pressed steel frame shall be as per itemno. 5.1)					

DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
			Rs. in Words	Rs. in Figures	Rs. in Figures
shutter shall be 1.25 mm thick MS sheet with both faces plain flushed form approved manufacturer including shop coating with approved Red lead primer and final painting in position with a coat of approved primer and two coats of synthetic enamel paint of approved make and shade etc. complete with all materials, labour as per drawing, specification and instruction of the Engineer.					
a) Single leaf doors	40	Sq.M.			
b) Double leaf doors	9	Sq.M.			
Note: All fittings and fixtures (except mortice lock and door closures which will be paid as per item 5.2) to be included.					
5.2 Supplying, fabrication and erecting in position, pressed steel frames manufactureed from commercial steel sheet 1.25 mm thick including hinges jamb lock jambs, beads, angle threshold of mild steel angle of section 50 x 25 mm for external doors or base ties with 1.25 mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split tail to each jamb including steel butt hinges 2.5 mm thick with mortar guards, lock, strike plate, shock absorbers, shop coating with approved Red lead primer after pretreatment of the surface and finally painting in position with a coat of approved white metal primer and two coats of synthetic enamel paint of approved make and shade, complete with all materials, fittings labour as per drawing, specification and instruction of the Engineer :					
a) For 105 mm profile	140	RM			
5.3 Providing and fixing the following with all fittings and fixtures					
a) 6 lever 100 mm Mortice latch and pair of lever handles, all parts brass, suitable for single/double shutter as per drawings, specification & instruction of Engineer	6	Each			
j) Hanging Floor door stopper	2	Each			
k) Overhead bright finished brass hydraulic door closure of approved brand (Oil sealed best quality)					
i) For door weighing 61 - 80 Kg	6	Each			
5.4 Supplying, including assembly, fitting and fixing in position steel windows (openable, fixed or partly-openable type), louvres,					

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	ventilators (top, bottom or central hung) conforming to IS:1361at various elevations including frames, shutters, transom, mullions, couplings, brass pegs & handle, still lugs, all fittings & fixtures, caulking with mastic, grouting the frames in masonry or concrete, a shop coat of approved Red lead primer, and final painting in position with a coat of approved primer and two (2) coats of synthetic enamel paint of approved make and shade etc. complete as per drawings, specifications and instructions of the Engineer. (Glass will be measured and paid separately under relevant item)	120	Sq.M.			
5.5	Supplying, fitting and fixing clear sheet glass (superior quality first grade) to metal windows, doors, vision panels, partitions etc. at various elevations including supplying putty, mastic cement etc. cleaning after fixing, with all materials etc. complete as per drawings and specifications.					
	a) 4 mm thick clear sheet glass	120	Sq.M.			
	b) 5.5 mm thick clear sheet glass	Rate Only	Sq.M.			
6.0	FLOOR FINISH AND ALLIED WORK					
6.1	Supply and laying 40 mm thick grey patent stone flooring consisting of (1 : 1.5 : 3) cement - sand - stone chips underbed and 6 mm thick (1:1) cement - sand topping, top finished with neat cement with 6 mm thick glass dividing strips (panels size 1M x 1M on an average, except in stairs), complete including curing.	Rate Only	Sq.M.			
6.2	Supply and laying 20 mm thick grey patent stone sill, skirting and dado to match floor finish with 1:3 cement-coarse sand underbed and 6 mm thick topping (1 part cement and 1 part sand by volume), finished with neat cement including rounding off corners and junctions, curing, etc. complete.	38	Sq.M.			
7.0	ROOF WATER PROOFING & ALLIED WORK					
7.1	Providing two coats of polymer modified waterproof flexible cement slurry layer like SIKA Topseal as per manufacturer's specifications (including corrections of roof slope) on roof surface & parapets	700	Sq.M			
7.2	Supplying and laying 40 mm average thickness concrete 1:2:4 (1 cement: 2 sand: 4 6mm down stonechips) with at various elevations including fillet 150 x 150 mm and other work with integral cement waterproofing compound (0.2% Plastocrete Plus or equivalent) & 3% polyurethane fibers including sprinkle sand and finished smooth by hard trowelling.	700	Sq.M			

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
8.0	PAINTING, WHITE WASHING & POLISHING					
8.1	Supplying and finishing with three or more coats for a uniform finish with water proof cement paint of approved brand and shade to surfaces of concrete, masonry, plastered surfaces, etc. at all elevations and including preparation of surface, necessary scaffolding work etc., complete with all materials and labour.					
	a) "Super Snowcem" or equivalent	1500	Sq.M.			
8.2	Supplying and applying three (3) coats of white wash to walls, ceiling etc., at various elevations including preparation of surfaces, cleaning etc. complete with all materials, labour, scaffolding work as per specifications.	1150	Sq.M.			
8.3	Similar to item 8.2 but for providing two (2) coats of cement wash instead of white wash.	Rate Only	Sq.M			
9.0	MISCELLANEOUS WORK					
9.1	Providing & laying 50 mm thick cement concrete to plinth protection and pavement over a layer of dry brick ballast or stones 40 mm nominal size well rammed and consolidated grouted with fine sand 75 mm thick with (1:2:4) (1 cement : 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including a floating coat of neat cement finish with making chequers of approved pattern over pavement.	180	Sq.M			
9.2	Supplying and laying 100 mm thick bed of well compacted and consolidated brick ballast (nominal size 40 mm) mixed with surki in the proportion of 6:1 under ground floor slab, pavement or similar items (150 mm thick dry bed shall be rammed and consolidated by pavement vibrators or other means to the desired thickness of 100 mm).	35	Cu.M			
9.3	Providing & laying 150 mm hard soling at ground floor level with 40 mm down graded stone chips and interstices filled with sand and compacted by vibrating rollers.	Rate Only	Cu.M			
9.4	Providing and laying class NP-3 concrete pipes on class B bedding including trench excavation, backfilling, jointing collars with 1:2 cement: sand mortar all complete of the following diameters					
	i) 150 mm	120	RM			
	ii) 250 mm	60	RM			

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
10.0	SANITARY AND PLUMBING					
10.1	Supplying, fitting and installing cast iron pipes and fittings (conforming to IS:1230) for roof drainage and floor drainage, with all bends, junctions, offset shoes, inspecting doors, roof/ floor gratings etc. including caulking the joints with lead as per specification, fixing in position with clamps, nails, spacers etc. and painting with one coat of approved metal primer and two coats of synthetic enamel paint of approved make & shade, for the following diameter of pipes :					
	a) 75 mm - diameter	Rate Only	RM			
	b) 100 mm - diameter	10	RM			
	c) 150 mm - diameter	30	RM			
10.2	Supplying, fitting and fixing Roof drain heads with CI high domed gratings, as per drawing including fabricating roof drainhead from 6 mm thick MS plates at various elevations, including connection to roof drain pipes, lead caulking, supports, hangers etc. painted with one (1) coat of Red lead paint and finally painted with two coats of synthetic enamel paint over a coat of white metal primer paint, complete with all materials, labour etc. as per drawings & specifications for:					
	a) 75 mm - diameter roof drain pipe	Rate Only	Each			
	b) 100 mm - diameter roof drain pipe.	4	Each			
	c) 150 mm - diameter roof drain pipe.	8	Each			
11.0	ROADS & DRAINS					
11.1	Excavation in Ordinary Soil upto 1.5mts depth by mechanically / manually for all types of foundation & disposal of same upto 1km.	Rate Only	CuM			
11.2	Backfilling with Morum brought from outside with a lead of 1km.(This item includes levelling, compaction etc as per requirement of site engineer incharge)	Rate Only	CuM			
11.3	Providing & laying Subbase 225 mm loose compacted to 150 mm with vibratory roller inclusive of filling of joint, watering, compaction, preparation of subgrade & necessary formation of camber	550	SqM			
11.3	Providing & laying WBM in two layers 110 mm loose compacted to 80 mm with vibratory roller inclusive of filling of joint, watering, compaction & necessary formation of camber (total thickness 160 mm)	Rate Only	SqM			
11.4	Providing & laying M30 grade road of 250mm thick concrete with 75 micron LDPE film with 20mm					

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	downsize aggregate	500	SqM			
11.5	Providing 300 mm wide brick drain upto 600 mm depth with 230 mm brickwork and 20 mm thick plastering 125 th. M-10 baseincluding excavation etc. complete	300	RM			
12.0	MISCELLANEOUS ITEMS					
12.1	Dismantling of following works with care (to recover as much serviceable material as possible), store serviceable material, remove unusable material and thus making the site clear for further construction.					
	a) PCC including flooring	Rate Only	Cu.M			
	b) RCC work	Rate Only	Cu.M			
	c) Masonry works	5	Cu.M			
12.2	Design, supply, fabricate, transport and erect structural steel grilled Gates for entrance as per approved design and drawing, and dierction of the Engineer.	500	Kg			
	Note: The gate shall be painted with a shop coat of red-oxide zinc-chromate primer (ready mixed paint conforming to IS:2074) over and two coats of final finish painting (synthetic enamel paint conforming to IS:2932 & IS:2933). The gate shall be supported on close fitting of the Enguneer and shall be provided with approved locking arrangements					
12.3	Supplying, fitting and fixing of galvanized barbed wire having 3-10 g mm twisted bars with 2 points barbs 2 600 mm on L 65 X 65 X 6 (Y-type) fixed on top of RCC columns, including supplying, fitting & fixing of standard hook, eye hook & turn-buckle all complete as per drawings, specifications and direction of the Engineer.(There are 3 lines of barbed wire- each line will be measured, L shall be separately measured)	950	RM			
12.4	Providing and fixing "Chain Link Fencing" made of hot dipped galvanised steel wire of 6 gauge conforming to IS :2721 including fixing to any type of post and struts, including providing and securing with galvanised staples or steel pins etc. as directed.	220	SqM			
	Note: Mesh size shall be 75 mm square; Supports shall be separately measured.					
12.5	Providing 50 mm size gravel filling 200 mm thick in Substation areas including preparation of subgrade, clearing of weeds	1050	SqM			

	DESCRIPTION	APPROX QTY.	UNIT	Rate		Amount
				Rs. in Words	Rs. in Figures	Rs. in Figures
	GRAND TOTAL					

SCHEDULE OF ITEMS FOR CIVIL CONSTRUCTION

NOTES :

1. Details of the items under this Schedule shall be read in conjunction with corresponding specifications, drawings and other tender documents.
2. The work shall be carried out as per drawings, specifications, the description of the items in this schedule and/or instructions by the Engineer.
3. Items of work provided in this Schedule but not covered in the Specification shall be executed strictly as per instructions of the Engineer.
4. Unless specifically mentioned otherwise in the contract, the Tenderer shall quote for the finished items and shall provide for the complete cost towards labour, materials, erection and dismantling of necessary scaffolding, levies, taxes, insurance, transport, storage, repairs, rectifications, maintenance till handing over, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
5. The quantities are approximate and some of the items may not be needed for construction while extra items may be added. The rates shall be firm for any variation in quantity if the total price remains within \pm of 25% of quoted price.
6. In case of discrepancy in the Schedule of Items, Specifications & Tender Drawings the order of preference shall be as follows :
 - a) Description of work in the Schedule of Items.
 - b) Civil engineering specification in the tender
 - c) Tender Drawings

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Signature of the Tenderer

TITLE	Doc. No.	Section	Sub section	Prep. by	Date	Rev	Page no.
Tender Document for 33kV Ring Main including 33/0.433kV S/S in NIT, Rourkela Campus	NITRKL-33KVRM-TD-01	IX : Proposal Exhibit Sheets	Part-II : Price	SKD	20.02.2010	0	8 of 19

SCHEDULE OF WORKS

DATA ACQUISITION SYSTEM (DAS)

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SCHEDULE OF WORKS FOR DAS SYSTEM

SL. No.	DESCRIPTION	QNTY	UNIT	UNIT RATE-SUPPLY	UNIT RATE-ETC	TOTAL AMOUNT
A.	DAS System	One (1)	Lump sum			
01.	DAS Server (Web enabled) in Hot Stand By mode with mouse, keyboard ,monitor and all accessories	1	No.			
02.	Metering Server (Web enabled) in Hot Stand By mode with mouse, keyboard ,monitor and all accessories	1	No.			
03.	Engineering Work Station/Operator Work Station with mouse, keyboard and monitor and with the all accessories	1	No.			
04.	A3 Size Laser Jet Printer with connecting cable and other accessories	1	No.			
05.	Ethernet Switch with necessary accessories	1	No.			
06.	DAS Software for data collection from meters connected locally or that are located in remote locations, through modem communication and local retrieval and access from the existing Server etc, as per the tender requirement	1	No.			
07.	Remote Terminal Unit (RTU) complete with DI,DO,AI,AO modules and communication ports viz. RS485,RS232 and complete with all necessary software for configuration and reporting facility at the Server, as per the tender requirement	10	No.			
08.	Portable Configuration and Maintenance Tool for RTU	1	Set			

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SL. No.	DESCRIPTION	QNTY	UNIT	UNIT RATE-SUPPLY	UNIT RATE-ETC	TOTAL AMOUNT
09.	GSM/GPRS modem with SIM card,optical cord, RS232 serial cable, Antenna and RF Coaxial cable.	10	Set			
10.	Uninterrupted Power Supply with 30 mins back up for DAS and Metering Server and Master RTU	1	No.			
11.	Uninterrupted Power Supply with 30 mins back up for all RTU except at Master RTU	9	No.			
12.	Firewall system between DAS Server and existing NIT Server	1	Set			
13.	Shielded 2 core twisted pair cable for connecting the MFM/TVM to Modem		Lot			
14.	STP CAT6 cable for connecting RTU		Lot			

Note : All prices shall be in Rupees and shall be inclusive of all taxes and duties.

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ANNEXURE -III

MANDATORY SPARES (ELECTRICAL)

The Bidder shall quote Mandatory spares excluding packing / forwarding, freight and taxes and duties The prices shall remain valid for one year from the date of opening of Price Part.

Sl. No.	Description	Quantity (Nos.)	Unit Price (Rs.)	Total Price (Rs.)
1.	DISTRIBUTION TRANSFORMER			
	a) H.T. Bushing with metal parts.	2 nos.		
	b) L.T. Bushing with metal parts.	2 nos.		
	c) Oil Level gauge for main tank conservator.	2 nos.		
	d) Oil Temperature Indicator (OTI).	2 nos.		
	e) Winding Temperature Indicator (WTI).	2 nos.		
	f) Buchholz Relay.	2 nos.		
	g) Silica gel Breather for main tank.	2 nos.		
	h) Oil Inlet/Outlet Valve	2 nos.		
	i) Water Inlet/Outlet Valve	2 nos.		
	j) Oil Sampling Valve	2 nos.		
	k) Gas Release device	2 nos.		
2.	33KV OUTDOOR VCB			
	a) Vacuum Bottle, 36kV,1250 Amp	2 Nos.		
	b) Spring Charging Mechanism	1 No.		
	c) Closing Coil 110V D.C	1 No.		
	d) Tripping Coil 110V D.C	1 No.		
	e) Breaker Control switch with pistol grip handle	2 Nos.		
	f) Local/Remote selector switch	2 Nos.		
	g) Control fuse 2A/6A/20A	6 Nos. each		
	h) H.T. Bushing with metal parts.	1 No.		
	i) Indicating lamps of each colour	2 sets		
3.	33kV ISOLATOR			
	a) Aux. switch with 6 NO + 6 NC contacts	3 nos.		
	b) Main contact assembly	2 nos.		

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Sl. No.	Description	Quantity (Nos.)	Unit Price (Rs.)	Total Price (Rs.)
	c) Interlocking coil 110V D.C	1 no.		
	d) H.T. Bushing with metal parts	3 nos.		
	e) Operating mechanism assembly	2 nos.		
4.	33kV INSULATORS			
	a) Post insulator, 2kN	2 nos.		
	b) Pin insulator	6 nos.		
	c) 11kV Disc insulator, 70kN	15 nos.		
5.	30kV LA			
	a) 30 kV LA	3 nos.		
	b) Surge Counter	3 nos.		
6.	33kV CONTROL & RELAY PANEL			
	a) Protective relay each type	1 no.		
	b) Auxiliary relay each type	1 no.		
	c) Ammeter each type	1 no.		
	d) Voltmeter (0-36kV)	1 no.		
	e) Ammeter selector switch	1 no.		
	f) Voltmeter selector switch	1 no.		
	g) HRC Control Fuse 2/6/20 Amp. rating	6 Nos. each		
	h) Indication lamps suitable for 240 Volt AC	12 Nos.		
	i) Local/Remote selector switch	1 No.		
	j) Push Button Station	2 Nos.		
	k) Miniature Circuit Breakers 2/16 Amp. rating	1 No. each		
	l) Breaker control switch, TNC	1 No.		
	m) Auxiliary contactor 2NO+2NC, 110 V DC coil	1 No.		
	n) Semaphore indicators	2 nos.		
	o) Digital multifunction meter	1 no.		
7.	BATTERY CHARGER AND DCDB			
	a) HRC fuse links of each rating	2 nos.		
	b) MCB of each rating	1 no.		
	c) Indicating lamps of each colour and size	1 no.		

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Sl. No.	Description	Quantity (Nos.)	Unit Price (Rs.)	Total Price (Rs.)
	d) Diode/Thyristor of each rating	1 no.		
	e) Pulse firing PCB	1 no.		
	f) Indicating type fuse for thyristor	6 nos.		
8.	415V DB			
	a) Closing coil for each rating of ACB	1 each		
	b) Tripping coil for each rating of ACB	1 each		
	c) Microprocessor based built in release each type with ACBs	2 nos. each		
	d) Control fuse of each rating	2 nos.		
	e) Indicating lamps of each colour/size	12 nos.		
	f) Thermo magnetic release each type with MCCBs	2 nos. each		
	g) Bus support insulators	6 nos. each type		
9.	LIGHTING SYSTEM			
	a) Normal lighting fixtures each type	6 nos.		
	b) Emergency lighting fixtures each type	2 nos.		
	c) MCB of each rating	4 nos.		
	d) Starters for 36W FTL	20 nos.		
	e) Ballast for 36W FTL	10 nos.		
	f) 240V, 20A, 3 pin receptacles	5 nos.		
	g) 5A kit kat switches	30 nos.		
	h) 5A, 240V socket	10 nos.		
		Grand Total (INR)		

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ANNEXURE-II

MANDATORY SPARES (DAS)

The Bidder shall quote Mandatory spares excluding packing / forwarding, freight and taxes and duties The prices shall remain valid for one year from the date of opening of Price Part.

SL. No.	ITEM	QUANTITY (NOS.)	UNIT PRICE (INR)	TOTAL PRICE (INR)
1.	DAS Server	1		
2.	Metering Server	1		
3.	RTU with all accessories	1		
4.	RTU DI Module	1		
5.	RTU Communication Module	1		
6.	RTU AI Module	1		
7.	RTU Power Supply Module	1		
8.	GSM/GPRS Modem with all accessories	1		
9.	Ethernet Switch	1		
10.	Any other item, deemed necessary to be included by the Contractor			
Grand Total (INR)				

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ANNEXURE-III

COMMISSIONING SPARES

The Bidder shall quote Commissioning spare parts for commissioning excluding all taxes and duties, freight.

SL. No.	DESCRIPTION	QUANTITY (NOS.)	UNIT PRICE F.O.R. (INR)	TOTAL PRICE (INR)
01.				
02.				
03.				
04.				
05.				
06.				
07.				
08.				
09.				
10.				
Grand Total (INR)				

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ANNEXURE-IV
MAINTENANCE SPARES

The Bidder shall quote Maintenance spare parts for operation and maintenance for a period of ten (10) years. The prices shall be excluding all taxes and duties, freight and quoted price shall remain firm after commissioning of the equipment for one year.

SL. No.	ITEM	QUANTITY (NOS.)	UNIT PRICE (INR)	TOTAL PRICE (INR)
01.				
02.				
03.				
04.				
05.				
06.				
07.				
08.				
09.				
10.				
Grand Total (INR)				

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ANNEXURE-V

TOOLS AND TACKLES PRICE SHEET

The Bidder shall quote below item wise prices to site for tools and tackles furnished by him for the operation and maintenance of equipment supplied under this specification. The price shall be exclusive of all taxes & duties, freight & transit insurance.

SL. No.	DESCRIPTION	QUANTITY (NOS.)	UNIT PRICE F.O.R. (INR)	TOTAL PRICE (INR)
01.				
02.				
03.				
04.				
05.				
06.				
Grand Total (INR)				

NOTES :

01. In case of discrepancy between prices in figures and prices in words, the prices in words shall prevail.
02. Prices are inclusive of all requirements as specified in the Bid document.
03. Quoted prices shall be net of discounts, if any. Conditional discounts, if offered, shall not be considered for evaluation.
04. In the un-priced copy of price schedule attached with the un-priced bid, bidder must indicate "Q" (for Quoted) or "NQ" (for not Quoted) against each item as applicable.
05. Bidder must quote their prices in this format only. This format shall not be changed. For any deviation to this format, offer shall be rejected.

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ANNEXURE-VI
DECLARATION SHEET

I, certify that all the above typed-in data and information pertaining to this specification are correct and are true representation of the equipment covered by our formal Proposal dated

I hereby certify that I am duly authorised representative of the supplier whose name appears above my signature.

Bidder's Name :

Authorised Representative's Signature :

Authorised Representative's Name (Typed) :

Manufacturer's Intent : The Manufacturer hereby agrees fully to comply with the requirements and intent of this specification for the price indicated.

Authorised Representative's Signature :

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