



NAYA RAIPUR DEVELOPMENT AUTHORITY

**Tender Document for Supply, Installation, Testing and
Commissioning of HT/LT Distribution system of various
Villages in Naya Raipur**

(Following Three-Envelope Tender Procedure)

**Schedule – A
Price Tender
To be submitted in ENVELOPE-3**

NIT No. : 92/HT-LT-DS/ELECT /CE(E)/NRDA/2016-17, Raipur

Dated: 09.08.2016

Issued by: Chief Executive Officer,
Naya Raipur Development Authority (NRDA)
4th Floor, Paryavas bhawan, North block, Sector- 19,
Naya Raipur- 492 002, Chhattisgarh
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Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer
 (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)

Part (A)

- a) Press Notice
 b) Detailed NIT

Part (B)

a) Schedule-A

- (i) Cost Abstract
 (ii) Bill of Quantities

- b) Schedule-B –NIL
 c) Schedule-C –NIL
 d) Schedule-D

Section-I..... Technical tender forms

- (i) Letter of Technical Tender
 (ii) Tenderer's Information Sheet
 (iii) Annual Turnover
 (iv) Specific Construction Experience
 (v) Declaration
 (vi) Check list for Technical tender evaluation

Section –IIScope of work

Section –III..... Technical specifications of work

Section –IV..... Special Conditions of Contract

Section –V..... List of approved makes

Section –VI..... Drawings

- e) Schedule-E
 f) Schedule-F

2. PART TWO (NRDA F-2/3)-Standard form (Not Attached herewith, and not to be submitted along the tender)

Important note: - Link site <http://nayaraipur.com/documents/gcc.pdf>

1. General Guidelines
2. Tender
3. General rules and directions
4. Conditions of contract
5. Clauses of contract
6. Model rules relating to labour, water supply and sanitation in labour camps safety code
7. Contract forms
 - (a) Draft Format for Performance Security
 - (b) Earnest Money Deposit Form (Bank Guarantee)
 - (c) Format of Contract Agreement
 - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
 - (e) Indemnity Bond
 - (f) Indenture Bond
 - (g) Notice for Appointment of Arbitrator
8. Proforma of schedules (Schedule 'A' to Schedule 'F')

Naya Raipur Development Authority (NRDA) Raipur, Chhattisgarh

Document details

Name of work : “Supply, Installation, Testing and Commissioning of HT/LT Distribution system of various Villages in Naya Raipur”.

Name of Tenderer:

Details

- a) Cost of Tender Document : Rs
- b) EMD : Rs

Signature of Tenderer

Date:_____

Cost Abstract for Supply, Installation, Testing and Commissioning of HT/LT Distribution system of various Village in Naya Raipur			
Sr. No.	Description of Works	Total Amount in Rs.	Total Amount in Words (Rs)
A	33 KV system for BRTS		
B	Power supply to various pump house (11 KV system)		
C	Pump house building Electrification work		
D	Replacing of overhead 11 KV System through underground cable of various village		
	Total Amount in INR (Rs.)		

(A) Bill of quantity of Electrical supply to BRTS in Naya Raipur

Sr. No.	Items Description	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Total Amount in INR
A	For 33KV System					
1	Supplying, Receiving, Storage, Installation, Testing and Commissioning of approved make Motorized type Ring Main Unit (extendible type) for out door installation, rated for 36KV, 50Hz, 630A, STR of 25kA for 1sec with SF6 insulation having 2 sets of three position Load break Switch with earthing switch as Incomer and 1 set of three position Load break Switch with earthing switch for Tee-off. The units shall be complete with interconnections of both Power & Control, accessories, hardwares etc as required for completeness and as per direction of engineer, attached specification, CSPDCL standards and Electrical Inspectorate Standards. The accessories shall include: Fault passage indicator on both the sides 3 Set of ON/ OFF and Phase indicating lamps 3 Nos end termination kit for 3 core XLPE cable (2 nos for 300 sq mm and 1 no for 120 sq mm cable)	Set	1			Rs. -
2	Supplying and laying following sizes one number XLPE, steel armoured, aluminium conductor power cable of 33 KV grade in existing masonry open duct as required.					
a	3C X 120 sqmm	mtr	700			Rs. -
3	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 33 KV grade as required :					
a	300 sqmm	Each	2			Rs. -
b	120 sqmm	Each	5			Rs. -
4	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for following size of 3 core, XLPE aluminum conductor cable of 33 KV grade as required :					
a	120 sqmm	Each	6			Rs. -
5	Supplying and laying of 50mm x 6mm GI earth strip along with the 33kV cable and making connection with steel supports enroute and connecting firmly with the earthing systems of end stations complete with ferrules, other accessories, hardwares etc as required for completeness and as per direction of engineer, attached specification, CSPDCL standards and Electrical Inspectorate Standards. (length same as Cable)	mtr	700			Rs. -
6	Supplying, making Earth Pits of GI earthing pipe of 40 mm dia 3.04 mtr long with 12 mm hole at 18 places at equal distance tapered casing at lower end as per direction of engineer, attached specification, CSPDCL standards and Electrical Inspectorate standards	Set	20			Rs. -
7	Providing and fixing HT Danger Notice Plate of 250 mm x 200 mm 2mm thick, made of mild steel and vitreous enamelled white on both sides and inscription in signal red colour on front side as per IS:2551 with accessories, hardwares etc as per direction of engineer, CSPDCL standards and Electrical inspectorate standards. (@ 1 for each RMU).	Each	3			Rs. -
8	Supplying and laying following sizes one number PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required					
a	3.5x25 sq.mm	Meter	5000			Rs. -

Sr. No.	Items Description	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Total Amount in INR
9	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required					
a	3.5x25 sq.mm	Each	20			Rs. -
10	Supplying and making straight through joint with heat shrinkable joint kit including aluminium ferrules for following size of PVC insulated and PVC sheathed / XLPE aluminum conductor cable of 1.1 KV grade as required.					
a	3.5x25 sq.mm	Each	2			Rs. -
11	Supplying, fixing and cramping suitable size and all type aluminium ferule/ lugs to following size 1.1 KV grade power cable core / lead, pressed with high pressure cramping tool including connection to switch gear/ MCCB etc as required.					
a	25 sq .mm	Each	80			Rs. -
12	Construction of plinth for , RMU in RM-15 RCC construction for installation of RMU including excavation, laying of PCC, neatly dressed, plastered, supply of all materials as required for completeness, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	cum	1.6			Rs. -
13	Supplying and erecting chain link mesh fencing for electric sub-station switch yard of 2.5 m approx. height from ground level using angle iron size 50 X 50 X 6 mm erected in C.C. foundation 15 X 15 X 40 cm deep at every 2 metre fitted with flat iron support of size 25 X 6 mm on top, bottom and mid way and chain link mesh 50 x 50 mm aparture and 4 mm dia G.I. hard wire securing and screwing with 2mm dia G.I. wire, G.I. staples, G.I.U-nails or steel pins to the angle iron at every distance of 30 cms, by iron studs complete duly painted with one coats of red oxide and two coats of approved colour paint, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	sqm	30			Rs. -
14	Supplying and erecting MS gate of approx. size 3.0 m (W) x 2.0 m (H) in two laps for electric sub-station switch yard fencing frame made of angle iron size 50 X 50 X 6 mm on top bottom and sides fitted with flat iron support of size 25 X 6 mm on mid way horizontally and square bar of size 8 mm at every 100mm vertically including 3 sets of heavy duty MS hinges and aldrop complete duly painted with one coats of red oxide and two coats of approved colour paint.	sqm	6			Rs. -
15	Supplying/Receiving, Installation, Testing and Commissioning of Powder coated, 14 SWG CRCA sheet steel enclosed 33 KV H.T. Metering Panel complete with the following:					
	1set of 33/ 3KV / 110/ 3 Volt, 100 VA burden & accuracy class 0.5, single phase construction, dry type cast resin PT.	Each	1			Rs. -
	3 Nos. of dual core 10/5-5A, 15 VA burden, accuracy class 0.5, 33 KV cast resin CTs .					
	One Set of Phase Indicating Lamps.					
	Total Amount of 33kv system (in INR)					Rs. -

Bill of Quantity						
(B)11 Kv Power supply to various pump house of Naya Raipur						
Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
B	11 kv Supply system					
1	Supply, Installation, Testing & Commissioning of floor mounted Oil type RMU (extendible type) comprising of 2 nos. 12 kv, 630 A LBS for loop in and 1 no fuse unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	Set	6			Rs. -
2	Supply, Installation, Testing & Commissioning of floor mounted SF6, motorized type RMU (extendible type) comprising of 2 nos. 12 kv, 630 A LBS for loop in and loop out to form ring main system and 1 no VCB unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	set	2			Rs. -
3	Supply, Installation, Testing & Commissioning of floor mounted SF6, motorized type RMU (extendible type) comprising of 3 nos. 12 kv, 630 A LBS for loop in and loop out to form ring main system and 1 no VCB unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	set	3			Rs. -
4	Supplying and laying following sizes one number XLPE, steel armoured, aluminium conductor power cable of 11 KV grade in existing RCC/ HUME/ STONEWARE/ METAL pipe as required					
i	3 x 70 sq mm	meter	6850			Rs. -
5	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 11 KV grade as required :					

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
i	70 sq.mm	Each	22			Rs. -
ii	240 sq.mm	Each	22			Rs. -
6	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for following size of 3 core, XLPE aluminum conductor cable of 11 KV grade as required					
	70 sq.mm	Each	12			Rs. -
7	Supplying and installation of outdoor type Transformer ONAN type with AL winding having following continuous KVA rating, 11 KV/415 Volts 3 Phase 50 Hz Vector group DY-11, tapings in steps of $\pm 2.5\%$, $\pm 5\%$, -7.5% with oil conservator, silica gel breather having connecting terminals on HV side suitable for bare conductor connection, cable end box on medium voltage side suitable for 1.1 KV 3 $\frac{1}{2}$ core UG cable, on double pole structure or Brick /CC/RCC platform with all fittings, accessories, filled with filtered transformer oil including testing and commissioning etc. complete as required					
i	63 KVA	Each	9			Rs. -
8	Construction of plinth for ,transformer , RMU in RCC construction for installation of RMU including excavation, laying of PCC, neatly dressed, plastered, supply of all materials as required for completeness, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	cmt	3.6			Rs. -
9	Supplying and laying 6 SWG G.I. wire at 0.50 Meter below ground level for conductor earth electrode, including soldering, excavation and refilling the trench etc. as required.	mtr	160			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
10	Supply and fixing of 11 kV Danger plates as per specification of Discom on the existing poles complete in all respect as per Discom specification.	Each	20			Rs. -
11	Supply and fixing of cable route markers of 100x100x5mm GI plate with inscription there on, bolted/welded to 35x35x6mm angle iron of 600mm long and fixing the same in the ground as per direction of Engineer, CGPWD standards and Electrical Inspectorate standards.	Each	110			Rs. -
12	Supply and laying of 25x6 mm GI strip along with cable and making connections firmly with accessories, hardwares etc. required for completeness and as per attached specification, direction of Engineer, CGPWD standards and Electrical Inspectorate standards and connection	Each	110			Rs. -
13	Earthing with G.I. earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	Set	33			Rs. -
14	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe, with charcoal and salt as required	Set	9			Rs. -
15	Supplying and erecting chain link mesh fencing for electric sub-station switch yard of 2.5 m approx. height from ground level using angle iron size 50 X 50 X 6 mm erected in C.C. foundation 15 X 15 X 40 cm deep at every 2 metre fitted with flat iron support of size 25 X 6 mm on top, bottom and mid way and chain link mesh 50 x 50 mm aperture and 4 mm dia G.I. hard wire securing and screwing with 2mm dia G.I. wire, G.I. staples, G.I.U-nails or steel pins to the angle iron at every distance of 30 cms, by iron studs complete duly painted with one coats of red oxide and two coats of approved colour paint, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	sqm	600			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
16	Supplying and erecting MS gate of approx. size 3.0 m (W) x 2.0 m (H) in two laps for electric sub-station switch yard fencing frame made of angle iron size 50 X 50 X 6 mm on top bottom and sides fitted with flat iron support of size 25 X 6 mm on mid way horizontally and square bar of size 8 mm at every 100mm vertically including 3 sets of heavy duty MS hinges and aldrop complete duly painted with one coats of red oxide and two coats of approved colour paint.	sqm	48			Rs. -
17	Supplying and laying following size RCC Hume pipe class NP-2 (in standard length of 2 metre) with collar in ground below road, path etc at a depth not less than 50 cm and upto 90 cm including excavation, dismantling of road if required and refilling the trench with excavated material, ramming and making the surface good etc. as required.					
i	150 mm dia	mtr	6800			Rs. -
18	Horizontal drilling: Horizontal directional drilling along roads for laying XLPE HT/ LT, UG cable, for communication cable along with suitable HDPE Duct at various locations as pointed out by departmental officers, includes Survey of site information collection regarding underground utilities, sensing of utilities by sensing equipment, pit making, pilot drilling, pre-reaming pulling HDPE duct of suitable size in single roll, pulling HT/ LT UG cable through installed HDPE duct, providing barricades and necessary signal lights, closing of pits with excavated earth including cost of HDPE pipe, consolidating pit are, including road restoration/supervision departments, cost of all materials, labour, conveyance, hire charges etc. complete preparation of pit by excavated soil/ hard morum & refilling compacting surface as it is position / horizontal drilling across road for cable laying propose with disturbing present installation as per instruction, Guide line Detail technical specifications as per direction of Engineer in charge	mtr	50			Rs. -
Total amount of 11 kv system						Rs. -

Bill of Quantity						
(C) Building electrification work for 12 no's Pump House at various location of Naya Raipur						
Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
C	Electrification works					
	Building Electrification works					
1	Wiring for light/ fan/ exhaust fan / call bell point with 1.5 sqmm FR PVC insulated stranded copper conductor single core cable in concealed PVC conduit, with 5 amp piano type switch, phenolic laminated sheet, suitable size M.S. box and earthing the point with same size cable etc as required.					
i	Short Point	Point	55			Rs. -
ii	Medium Point	Point	44			Rs. -
iii	Long Point	Point	44			Rs. -
2	Wiring for light plug point with 2x2.5 sq mm FR PVC insulated stranded copper conductor cable in concealed PVC conduit along with piano type 6 amp switch and 3 pin 6 amps socket outlet with suitable size M.S. box, phenolic laminated sheet, earthing the switch box and socket outlet with same size cable etc. as required.					
i	Medium Point	Point	22			Rs. -
ii	Long Point	Point	33			Rs. -
3	Wiring for power plug point with 2x4 sq mm FR PVC insulated stranded copper conductor cable in concealed PVC conduit along with piano type 16 amp switch and 6 pin 16 amps socket outlet with suitable size M.S. box, phenolic laminated sheet, earthing the switch box and socket outlet with same size cable etc. as required.					

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
i	Long Point	Point	22			Rs. -
4	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in concealed PVC conduit as required.					
i	3 X 1.5 sq. mm in 20mm conduit	Mtr	250			Rs. -
ii	3 X 2.5 sq. mm in 20mm conduit	Mtr	250			Rs. -
iii	3 X 4 sq. mm in 25mm conduit	Mtr	330			Rs. -
5	Supplying and fixing metal box of following sizes (nominal size) in recess with suitable size phenolic laminated sheet cover in front including painting etc. as required.					
i	75mmX75mmX60mm deep	Each	33			Rs. -
ii	100mmX100mmX60mm deep	Each	22			Rs. -
6	Supplying and fixing following piano type switch, socket, other accessories on the existing switch box/ cover including connections etc. as required.					
i	Bell push	Each	11			Rs. -
ii	Fan regulator electronic, step type moving all round	Each	22			Rs. -
7	Supplying and fixing polycarbonate batten/ angle holder including connection etc. as required.	Each	77			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
8	Supplying and fixing call bell/ buzzer suitable for single phase, 230 volts A.C. supply, complete as required.					
i	Ordinary (simple)	Each	11			Rs. -
9	Providing and fixing round/ hexagonal fan box (125mm dia) depth 75mm (max.) with 12mm dia steel bar hook, 1.6mm thick MS sheet cover, in RCC slab etc. as required.	Each	22			Rs. -
10	Supplying, installation, testing and commissioning of following sizes ceiling fan with resistance type regulator, including wiring the down rods of standard length up to 30 cm with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, earthing etc. complete as required.					
i	1200 mm sweep	Each	22			Rs. -
11	Supplying, installation, testing and commissioning of following sizes heavy duty (continuous running) exhaust fan in existing opening in wall including earthing etc. complete as required.					
i	300 mm sweep	Each	33			Rs. -
12	Supplying, installation, testing and commissioning of following 230/250 volts LED light fitting					
i	18W LED Tube Light with decorative pattern and Lumens should not less than 1900	Each	99			Rs. -
13	Supplying and fixing 3 pin, 5 amp ceiling rose of approved make and ISI quality on the existing metal box including connections along with accessories, hardwares etc as required for completeness and as per attached specification, direction of Engineer, CGPWD standards and Electrical Inspectorate standards.	Each	77			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
14	Supplying and fixing on surface/ recess following way, 240 volts SP&N, MCB distribution board consumer unit of sheet steel phosphatized and powder painted complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, including interconnections, earthing etc. as required. (But without MCB/ RCCB/ Isolator)					
i	2 + 4 way	Each	11			Rs. -
15	Supplying and fixing SP MCB , 240 volts, ' B' series, suitable for lighting and other loads in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
i	6 amps to 32 amps	Each	44			Rs. -
ii	40 amps	Each	22			Rs. -
16	Supplying and fixing DP MCB , 240 volts, ' C' series, suitable for lighting and other loads in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
i	6 amps to 32 amps	Each	22			Rs. -
17	Earthing with G.I. earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	Set	22			Rs. -
18	Supplying and laying 6 SWG G.I. wire at 0.50 Meter below ground level for conductor earth electrode, including soldering, excavation and refilling the trench etc. as required.	mtr	110			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
19	<p>Fabrication, supply, installation, testing and commissioning of cubicle type compartmentalized wall/ floor mounted power cum control panel board of specified size and depth above 300 mm and upto 450mm made out of not less than 2 mm thick CRCA MS sheet with suitable size compartments for bus bars, switchgears and necessary cutouts for digital voltmeters, ameters ets as per specifications including powder coating painting ,busbars, switchgears and other accessories etc complete as required.</p> <p>MAIN LT PANEL: Incoming One (1) No. 200A, 4P MCCB (30 KA) with thermal based releases & Shunt release. With External ELR.</p> <p>Metering & Indication: 1 Set of (0-200A) 96 x 96mm CT operated digital ammeter with 3 way selector switch and 125/5A, CL-1, 10VA CT. 1 Set of (0-500V) 96 x 96mm digital voltmeter with MCB and 3 way selector switch. 1 Set of phase indicating lamps with control MCBs. Bus Bar: 415V, 50HZ, 200A, 25KA, TP+N Al. Bus Bar of suitable length (Neutral shall be fully rated). Outgoings: 1 No. 32A, 2P MCB 4 Nos. 32A, 4P MCB. 4 Nos. 63A, 4P MCB (16KA). 2 Nos. 63A, 4P MCB (16KA). Spare 1 No 4 pole 100 A MCCB ,35 KA as D.G supply incommer 1no 4 pole 100 A auto changeover switch</p>	nos	11			Rs. -
20	Providing and fixing following rating motor starter on metal board including, connections, testing and commissioning etc. as required.					
i	DOL three phase 16 amps	Each	22			Rs. -
ii	DOL three phase 32 amps	Each	44			Rs. -
21	Supplying and drawing following sizes of FR PVC insulated copper conductor, single core cable in the existing surface/ concealed, steel/ PVC conduit/ PVC casing capping as required.					

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
i	4 x 2.5 sq. mm	Mtr	2200			Rs. -
22	Supplying and laying following sizes one number, steel armoured , aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray as required.					
i	2 x 6 sq. mm	Mtr	220			Rs. -
ii	3 x 16 sq. mm	Mtr	1650			Rs. -
iii	3.5 x 25 sq. mm.	Mtr	1100			Rs. -
iv	3.5 x 35 sq. mm.	Mtr	1100			Rs. -
23	Supplying and laying following sizes one number PVC insulated, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade in existing RCC/ HUME/ STONEWARE/ METAL pipe as required.					
i	3.5 x 70 sq. mm.	Mtr	275			Rs. -
24	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					
i	2 x 6 sq. mm	Each	110			Rs. -
ii	3 x 16 sq. mm	Each	44			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
iii	3.5 x 25 sq. mm.	Each	44			Rs. -
iv	3.5 x 35 sq. mm.	Each	44			Rs. -
v	3.5 x 70 sq. mm.	Each	44			Rs. -
25	Supplying, fixing and cramping suitable size and all type aluminium ferule/ lugs to following size 1.1 KV grade power cable core/ lead, pressed with high pressure cramping tool including connection to switch gear/ MCCB etc as required.					
i	6 sq. mm	Each	198			Rs. -
ii	16 sq. mm	Each	132			Rs. -
iii	25 sq. mm.	Each	176			Rs. -
iv	35 sq. mm.	Each	176			Rs. -
v	70 sq. mm.	Each	88			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
26	Supply of silent type Diesel Generating Set alongwith having prime power of 25 KVA, 3 Phase, 50HZ, 415 Volt at 1500 RPM and consisting of the followings					
a	Engine :-water cooled diesel engine of suitable BHP for rated alternator at 1500 rpm, turbo charged, direct injection type, 4 stroke, 4/6 cylinder including specified size fuel tank of approved design and shape duly calibrated and painted with one coat of primer and two coats of synthetic enameled paint of approved colour, residential type silencer with exhaust MS pipe (upto 2 metre beyond silencer) duly wrapped with asbestos rope of legging of specified quality and specification.	Each	11			Rs. -
b	Alternator: rated at 25 KVA, 415 volts at 1500 RPM,suitable for 50 Hz 3-Phase system, AC Supply with 0.8 lagging power factor					
c	AMF Panel :Cubical, compartmentalized, AMF panel board with all suitable size power and control contactors, switches,meters and other accessories, internal wiring, connection,inter-connection etc. for trouble free smooth functioning of DG Set with power pack of 12V/24 DC as required.					
d	Base Plate : Common base plate of required size for mounting of engine alternator set fabricated from MS channel and vibration damping arrangement with cushy foot mounting i/c painting etc. as required					
e	Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of engine and alternator, extraction, discharging hot air in to the atmosphere as per pecifications					
f	Fuel -level information :Fuel tank shall be install with remote sensing unit for fuel tank level					
g	2 year warranty and Quartly visit the D.G set for 2 year					
27	Supplying and installing following size powder coated, perforated M.S. cable trays with perforation not more than 17.5% rigidly suspended from the ceiling with M.S. suspenders at a distance not more than 2.5 metre and near every junction/ joint etc complete as required					
	225 mm width X 50 mm depth X 1.6 mm thickness	Meter	400			Rs. -
28	Supplying and fixing of following sizes powder coated,perforated, M.S. cable trays bends (horizontal) turning at 90° in same plane with perforation not more than 17.5% rigidly jointed with cable tray etc. complete as required					
a	225 mm width X 50 mm depth X 1.6 mm thick	each	25			Rs. -
29	Electric Insulating Rubber Mats: Providing, lowering, laying, aligning, fixing in position and jointing at all levels insulating mats safeguard life of Electricians & other Technicians, in case of any accidental current leakage while working on AC or DC installations as per IS: 15652 (2006) testing and commissioning and complete in all respect as per technical specification and as per direction of Engineer NRDA.					

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
a	Thickness=3mm, width=1000mm, length=10m colour coding=Black, Antiskid Rough Surface=Dimond plate, matting class=1, Dielectric test voltage 20,000V, Nominal maximum use voltage= 7,500V AC	Each	35			Rs. -
30	Supplying and fixing of 32mm dia x 2 metre long G.I pipe (light) bracket for mounting street light fittings of all types on poles including bending the pipe to the required shape, 2 Nos 40x3mm flat iron clamps with bolts and nuts including wiring with 1.5 sq. mm W.P /PVC wire etc. as required.	Each	22			Rs. -
31	Supplying and laying following sizes one number PVC insulated, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade in existing RCC/ HUME/ STONEWARE/ METAL pipe as required.					
a	2 x 6 sq. mm. (for area lighting)	Mtr	220			Rs. -
32	Supplying, installation, testing and commissioning of following 230/250 volts LED street light fitting with all accessories like driver, heat sink made of die cast aluminium with IP 66 protection and 5 KV surge protection on pole bracket complete as required and furnishing 2 Yrs Guarantee certificate from manufacturer					
a	25 Watt	Each	22			Rs. -
Total amount of work						Rs. -

Bill of Quantity

(D) Replacing of overhead 11 KV System through underground cable of various village in naya raipur

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
11 kv system Supply						
1	Supply, Installation, Testing & Commissioning of floor mounted Oil type RMU(extendible type) comprising of 2 nos. 12 kV, 630 A LBS for loop in and 1 no Fuse unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	Set	14			Rs. -
2	Supply, Installation, Testing & Commissioning of floor mounted Oil type RMU(extendible type) comprising of 3 nos. 12 kV, 630 A LBS for loop in and 1 no Fuse unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	Set	2			Rs. -
2	Supply, Installation, Testing & Commissioning of floor mounted SF6, motorized type RMU(extendible type) comprising of 2 nos. 12 kV, 630 A LBS for loop in and loop out to form ring main system and 1 no VCB unit shall controlled distribution transformer complete with accessories, hard wares etc. as required for completeness as per attached specification/ drawing, CSPDCL standards and direction of EIC.	set	4			Rs. -
3	Supplying and laying following sizes one number PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 11 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required					
i	3 x 95 sq mm	meter	10000			Rs. -
ii	3 x 240 sq mm	meter	3000			Rs. -
4	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 11 KV grade as required :					

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
i	95 sq.mm	Each	62			Rs. -
ii	240 sq.mm	Each	5			Rs. -
5	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for following size of 3 core, XLPE aluminum conductor cable of 11 KV grade as required					
i	95 sq.mm	Each	10			Rs. -
ii	240 sq.mm	Each	6			Rs. -
6	Construction of plinth for ,transformer , RMU, Distribution Box , in RCC construction for installation of RMU including excavation, laying of PCC, neatly dressed, plastered, supply of all materials as required for completeness, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	cmt	18			Rs. -
7	Supplying and laying 6 SWG G.I. wire at 0.50 Meter below ground level for conductor earth electrode, including soldering, excavation and refilling the trench etc. as required.	mtr	80			Rs. -
8	Supply and fixing of 11 kV Danger plates as per specification of Discom with complete in all respect as per Discom specification.	Each	20			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
9	Supply and fixing of cable route markers of 100x100x5mm GI plate with inscripton there on, bolted/welded to 35x35x6mm angle iron of 600mm long and fixing the same in the ground as per direction of Engineer, CGPWD standards and Electrical Inspectorate standards.	Each	80			Rs. -
10	Supply, Installation, Testing & Commissioning of mesh earthing wire 50x6 mm GI strip S/S & Connection complete with earth electrode /plate/pipe in yard ,ground ,trench,control room with nut bolt spring and plain washer welding on edge with double length of strip anti rushting paint as per drawing ,design of sub station ,instruction ,guide line detail technical specification (Drg & Design to be approved by EIC)	Each	120			Rs. -
11	Supply, Installation, Testing & Commissioning of pipe Earthing 3.0 mtr long, 40mm with G.I. Connection etc, including complete with refilling of pit by chemical, coal, salt, black cotton soil including excavation in all type of soil providing and making brick masonry of chamber of suitable size with CI frame riser up to equipment as per instruction Guide line Detail technical specification (Drg & Design to be approved by EIC)	Set	64			Rs. -
12	Supplying and erecting chain link mesh fencing for electric sub-station switch yard of 2.5 m approx. height from ground level using angle iron size 50 X 50 X 6 mm erected in C.C. foundation 15 X 15 X 40 cm deep at every 2 metre fitted with flat iron support of size 25 X 6 mm on top, bottom and mid way and chain link mesh 50 x 50 mm aparture and 4 mm dia G.I. hard wire securing and screwing with 2mm dia G.I. wire, G.I. staples, G.I.U-nails or steel pins to the angle iron at every distance of 30 cms, by iron studs complete duly painted with one coats of red oxide and two coats of approved colour paint, as per attached specification/ drawing, CSPDCL standards and direction of EIC.	sqm	660			Rs. -
13	Supply Installation, testing & commissioning of copper plate earthing size 600x600x3.15 mm including complete with refilling of pit by chemical, coal, salt, black cotton soil packing of charcoal powder and salt as per IS 3043 specification 2.6 m deep watering pipe 20 mm dia G.I Connection etc complete with refilling of pit and making brick masonry of chamber of suitable size with CI frame riser up to equipment as per instruction Guide line Detail technical specification (Drg & Design to be approved by EIC)	Each	12			Rs. -

Sr. No.	Description of Item	Unit	Quantity	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount in Rs.
14	Supplying and erecting MS gate of approx. size 3.0 m (W) x 2.0 m (H) in two laps for electric sub-station switch yard fencing frame made of angle iron size 50 X 50 X 6 mm on top bottom and sides fitted with flat iron support of size 25 X 6 mm on mid way horizontally and square bar of size 8 mm at every 100mm vertically including 3 sets of heavy duty MS hinges and aldrip complete duly painted with one coats of red oxide and two coats of approved colour paint.	sqm	72			Rs. -
15	Horizontal drilling: Horizontal directional drilling along roads for laying XLPE HT/ LT, UG cable, for communication cable along with suitable HDPE Duct at various locations as pointed out by departmental officers, includes Survey of site information collection regarding underground utilities, sensing of utilities by sensing equipment, pit making, pilot drilling, pre-reaming pulling HDPE duct of suitable size in single roll, pulling HT/ LT UG cable through installed HDPE duct, providing barricades and necessary signal lights, closing of pits with excavated earth including cost of HDPE pipe, consolidating pit are, including road restoration/supervision departments, cost of all materials, labour, conveyance, hire charges etc. complete preparation of pit by excavated soil/ hard morum & refilling compacting surface as it is position / horizontal drilling across road for cable laying propose with disturbing present installation as per instruction, Guide line Detail technical specifications as per direction of Engineer in charge	Meter	500			Rs. -
Total amount of work						Rs. -