

**VOLUME-II**

**BILL OF QUANTITIES**

# **PREAMBLE TO BILL OF QUANTITIES**

## **PREAMBLE TO BILL OF QUANTITIES**

### **1. SCOPE**

The scope incorporated in the BOQ of the present tender schedule is provisional and includes "Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India".

- 1.1 This Section deals with prices to be paid for supply and/or erection of various items of work in accordance with the accepted rates and the terms and conditions of payment mentioned herein and in the Bill of Quantities. This is a composite works contract. The total prices for the completed items of work are the actual prices payable to the contractor as per the terms and conditions of the contract.
- 1.2 The price quoted also include MSETCL/RITES/RDSO/PGCIL representative inspection and testing charges unless otherwise specified in the bill of quantities or Technical Specification. In case of change of inspection from MSETCL/RDSO/RITES/PGCIL to RVNL/CONSIGNEE, 1% of the cost of material will be deducted by RVNL as inspection charges.
- 1.3 The unit prices indicated under "Supply" in the Schedules are inclusive of prices of materials and all incidental charges for transport, loading/unloading, handling, commission for arranging dispatch direct from manufacturers' works and completing all formalities in this regard. The prices also include taxes, duties, levies (including octroi) applicable on works contract, insurance/bank guarantee/indemnity bond/stamp duty charges etc. The prices also include provision for losses and wastages in transit and erection. The prices also include inspection charges for PGCIL/MSETCL/RITES/Railway Adviser/RDSO/ Employer inspection.
- 1.4 The unit prices indicated under "Erection" in the Schedules are inclusive of the cost of erection and testing and also include all costs of administration of the contract, insurance premium, banker's charges, cost of stamps/storage/ loading/unloading and handling of materials and also include the cost of any transport which the contractor may use for carriage of material between his depot and site of work. The unit prices also include cost of works and adjustments that may become necessary during or after the commissioning tests.
- 1.5 The Bill of Quantities (BOQ) shall be read in conjunction with the Instructions to Bidders, General Conditions of Contract, Particular Conditions of Contract, Works Requirements, Technical Specifications, Explanatory Notes, Payment Conditions, pre-bid clarifications and Addenda & Corrigenda if any

### **2. PAYMENT PROCEDURE FOR SCHEDULE A, B, C, D & E**

#### **2.1 On Account Payment Against Supply of Material of schedule A & schedule C**

On Account Payment' shall be made to the extent of **80% of** the accepted supply rate, after receipt of material at site and its acceptance by the Engineer against items under Schedule – A & Schedule-C. for which direct supply rates are available.

On Account payment' will be subject to the following:

- 2.1.a No 'On Account payment' will be made on supply of concreting materials
- 2.1.b "On account payment" against schedule – A & schedule C shall only be considered after receipt of tower structural as per the approved bill of materials at Contractor's Depot/s, its account Al, proper storage and protection against loss, damage or deterioration
- 2.1.c All invoices shall be accompanied with the following for the purpose of arranging 'On Account Payment' against the Contract:
  - 2.1.c.i Supplier's Challans.
  - 2.1.c.ii Inspection certificate granted by the authorized approved agency/Purchaser's representative.
  - 2.1.c.iii Certificate of receipt of material at Contractor's depot/s duly accepted by the Engineer.
  - 2.1.c.iv Comprehensive Insurance Policy for supply and safe custody of material.
  - 2.1.c.v Indemnity bond for any loss, damage or deterioration of material for equivalent amount towards materials supplied for which On Account Payment is claimed.
  - 2.1.c.vi Quality assurance documents.
- 2.1.d On Account Payment for supply shall be made to the extent of **15%** of the accepted supply rate, after erection of equipment's/towers/conductor at site and its acceptance by the Engineer.

## **2.2 PROGRESS PAYMENTS FOR ERECTION Schedule B,D & E**

- 2.2.a On completion of foundations, the Contractor shall receive payments to the extent of 95% of the accepted prices for foundations.
- 2.2.b For erection other items, the contractor shall receive payment to the extent of 95% of the accepted prices for erection.

## **2.3 PAYMENT ON PROVISIONAL ACCEPTANCE**

On issue of Provisional Acceptance Certificate, the Contractor shall receive payment of balance 5% of the accepted price for supply and erection & ERS work.

## **3. PAYMENT PROCEDURE FOR Right of Way (ROW):**

- 3.1 Resolving of issues related to Right of Way (ROW), if any, will be sole responsibility of the contractor. Though, RVNL will extend possible assistance, if required. Notwithstanding above, contractor will be responsible for sorting out ROW issues.
- 3.2 In the proposed transmission line work towers of different types are required to be erected of 500 KV HVDC & 400 KV PGCIL transmission lines. The payment for Forest clearance fee, Tree cutting compensation, Crop Compensation, Land compensation etc will be reimbursed on actual basis of total compensation paid by contractor to land owners for Transmission Line work, after submission of documentary proof of payment duly signed by PGCIL/MSETCL/RVNL/PMC supervisor, land owner, contractor and concern department.

**The actual amount will be reimbursed to contractor for payment made towards** Forest clearance, Tree cutting compensation, Crop Compensation & Land compensation as per the rates fixed by the respective District authorities. The payment will be reimbursed to the contractor on actual basis after submission of documentary proof of actual payment made duly signed by state/revenue authority after evaluation of land compensation charges.

3.3 All the payments related with ROW issues such as State government fees, Court fee charges, arranging meetings with District authorities etc. will be paid by the contractor. This amount will also be reimbursed on submission of documentary proof supported by "Government Receipts" and/or receipts of "Authorized Government Bodies".

#### **4. PAYMENT ON PROVISIONAL ACCEPTANCE**

On issue of Provisional Acceptance Certificate and submission of the approved completion drawings for Materials and Works the Contractor shall receive balance payment differently for different schedules so as to make the payment against each schedule.

#### **5. FINAL SETTLEMENT**

On expiry of the defect liability period and issue of the Taking-over certificate by PGCIL/MSETCL of the entire transmission line and installations, the Performance security will be refunded or Bank Guarantee released to the contractor after adjustment of any dues payable by the contractor.

#### **6. SURPLUS MATERIAL**

The material found surplus beyond the quantity required for actual execution of the work and specified in the bid document as a requirement for spares, if any, will be the property of contractor and he has to take them back provided on account payment paid to him during execution of the contract has been fully adjusted against progress payment wherever required, otherwise balance ONA amount yet to be adjusted will be recovered from the contractor before they take back to the material for their use.

#### **7. RECOVERIES FROM THE CONTRACTOR**

All the recoveries for materials supplied and services rendered by the Purchaser to the Contractor and other refunds due from the Contractor shall ordinarily be made by deductions from payments due to the Contractor covering the value of supply and erection in the progress payment for erection, and from payment on provisional Acceptance.

#### **8. TAXES AND DUTIES**


8.1 While quoting the rates, Bidders shall consider the various provisions of the Central Goods and Service Tax Act 2017 (CGST) / Integrated Goods and Service Tax Act 2017 IGST / Union territory Goods and Service Tax Act (UTGST) / Respective states State Goods and Service Act (SGST) also, as notified by central / state government and as amended from time to time and all taxes, duties and levies applicable to the contract. Bidders shall also ensure full benefit of Input Tax Credit (ITC) likely to be admissible to them is duly considered while quoting rates.

8.2 The successful bidder who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to the employer within 28 days from date of award of the contract, without which no

payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority. In case the successful bidder is not liable to be registered under CGST/IGST/UTGST/SGST Act, the employer shall deduct the applicable GST from his/their bills under Reverse Charge Mechanism (RCM) and deposit the same to the concerned authority.

8.3 Inspection and testing charges through the nominated agencies will be deemed to be included in the accepted rates, unless otherwise specified in the Bill of Quantities or Technical Specifications.

**9. PRICE VARIATION:** Price Variation Clause is applicable

RAIL VIKAS NIGAM LIMITED								
Summary Sheet of Bill of Quantities								
E tender No				IFB No: RVNL/NGP/YTL-NED/MOD TL/PKG-6				
 रेल विकास निगम लिमिटेड Rail Vikas Nigam Limited				Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.				
S. No.	Bill No.	Description of Schedule	Estimated Cost as per SBOQ rates (in Rs.) with 18% GST	Updation % over SBOQ Rates	Estimated cost put to tender after updation of rates	Rate quoted by Contractor		Price in Rs.
						Percentage in Figures (over column 6)	Mention whether Percentage quoted in column 7 is above/below/at par over estimated rates	In Figures
1	2	3	4	5	6	7	8	9
1	Schedule-A	500 KV HVDC Transmission Line Supply Items	1,68,09,524.52	0.00%	1,68,09,524.52			
2	Schedule-B	500 KV HVDC Transmission Line Erection Items	96,65,661.09	0.00%	96,65,661.09			
3	Schedule-C	400 KV PGCIL Transmission Line Supply Items	6,85,00,359.40	0.00%	6,85,00,359.40			
4	Schedule-D	400 KV PGCIL Transmission Line Erection Items	2,75,40,805.12	0.00%	2,75,40,805.12			
5	Schedule-E	Site Facilities	7,11,183.04	0.00%	7,11,183.04			
		Total in Rs.	12,32,27,533.16		12,32,27,533.16			
<b>Note 1:</b>								
(a) Please refer to ITB 14 while filling the rates in the summary sheet.								
(b) Please mention in column 8 whether the percentage rate mentioned in columns 7 are above or below or at par over the estimated rates.								
(c) Bidder should ensure that the rates are filled with due care and caution so as not to lead to any omission or discrepancy or ambiguity.								
<b>Note 2:</b>								
(a) While quoting their rates, Bidders shall consider the various provisions of The Central Goods and Services Tax Act, 2017(CGST)/ Integrated Goods and Services Tax Act, 2017(IGST)/ Union Territory Goods and Services Tax Act, 2017 (UTGST)/ respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt & as amended from time to time and all taxes, duties, and levies applicable to the contract. Bidders shall also ensure that full benefit of Input Tax Credit (ITC) likely to be admissible to them is duly considered while quoting rates.								

S. No.	Bill No.	Description of Schedule	Estimated Cost as per SBOQ rates (in Rs.) with 18% GST	Updation % over SBOQ Rates	Estimated cost put to tender after updation of rates	Rate quoted by Contractor		Price in Rs.
						Percentage in Figures (over column 6)	Mention whether Percentage quoted in column 7 is above/below/at par over estimated rates	In Figures
1	2	3	4	5	6	7	8	9
(b)	The successful bidder who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to the Employer within 28 days from the date of the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority. In case the successful bidder is not liable to be registered under CGST/IGST/UTGST/SGST Act, the Employer shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.							
<b>Note 3:</b>	Column 5 to be updated by RVNL officials only.							



Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.

**SCHEDULE-A**

500 KV HVDC Transmission Line Supply Items

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
	<b>Tower material</b>				
1	Fabrication, Galvanising, Supply at site store of D/C, MC tower (Viz. 2 deg, 15 deg , 30 deg, 60 ded) of normal type, its extensions, including special towers for all type of crossings, with set of stubs, Superstructure, templates, step bolts, U-bolts, D'Shackles, Chain links etc, complete in ail respect as per approved design & drawings provided by the Purchaser Design & supply of special tower higher extension etc. (if required)	MT	75.68	115606.52	8749101.434
2	Supply of Galvanised Nuts & Bolts with Spring Washers, Plain washers, etc	MT	2.00	191179.10	382358.2
3	a) Danger Board	Nos	3	501.87	1505.61
4	b) Number Plate	Nos	3	421.24	1263.72
5	c) Circuit Plate (set of + ve & -ve)]	Set	3	480.04	1440.12
6	4) Anti-climbing devices with Barbed wire	Set	3	8123.84	24371.52
	<b>Insulator</b>				
7	160KN Antifog Disc insulator	No.	1824	1889.44	3446338.56
	<b>Hardware Suitable For 0.5 ACSR Bersimis Conductor</b>				
8	Quad tension string hardwares Assembly suitable for 0.5 ACSR Bersmis Quad bundled conductor (Including Dead end, jumper cone,etc with complete set)	Set	12.00	90569.60	1086835.2
	<b>Supply of conductor and accessories</b>				
9	0.5 ACSR Bersimis conductor including 2.5% Extra for Sag & Jumpering	KM	3.21	748459.54	2402555.123
10	Repair sleeves for 0.5 ACSR Bersimis Conductor	No.	4.00	1198.54	4794.16
11	Vibration dampers	Nos.	48.00	3008.70	144417.6
12	Quad rigid spacer for jumper	Nos.	18.00	2633.23	47398.14
13	Quadruple spacer cum damper	Nos.	38.00	4368.46	166001.48

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
14	PA rod Set	No.	16.00	2775.30	44404.8
	<b>Supply of Earth-wire and accessories</b>				
15	7/3.66mm galvanised steel Earth wire including 2.5% extra for sag and wastages	kms	0.40	90566.18	36226.472
16	Tension clamps Assenably set for GI 7/3.66 mm Earthwire	Nos.	6	1361.35	8168.1
17	Vibration damper for GI-7/3.66 mm Earthwire	Nos.	8	710.63	5685.04
18	Copper Earth Bonds	Nos.	6	953.53	5721.18
	<b>Supply of OPGW &amp; Accessories</b>				
19	48C (DWSM) OPGW including 2.5% extra for sag and wastages	Kms	0.40	237004.49	94801.796
20	OPGW TENSION ASSEMBLY SET	Nos.	6	9976.64	59859.84
21	OPGW Vibration Damper	Nos.	12	884.65	10615.8
22	48 Core OPGW 2 way Joint Box	Nos.	3	13112.02	39336.06
	<b>Earthing material</b>				
23	Supply of Pipe Type Earthing Sets as per MSETCL's approved drawing and technical specification.	Sets	12	3860.38	46324.56
<b>Total (Schedule-A)</b>					<b>1,68,09,524.52</b>

Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.

**SCHEDULE-B**

500 KV HVDC Transmission Line Erection Items

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
1	Check survey to carry out the checks as per approved profiles with Digital Theodolite/total station/GPS etc. and location marking by fixing three pegs in alignment for suspension tower and by fixing five pegs in bisection for angle tower including bash cutting along the centre line of alignment and repeg marking if necessary etc complete in all respect. Chock survey including revision of profiles if required.	KM	5.00	19482.76	97413.80
	Foundation Work				
	Excavation of pits for tower footings in earth soil of all types including removing of excavated material beyond tower limits up to 50 mtrs. Lead and all lifts, shoring, shuttering, preparation of bed for foundation and back filling after stub setting, compacting, finishing and curing etc. complete as per drawing & direction of Engr. in charge.				
2	a) Normal soil/Yellow/Sandy/Loose soil with line and clay boulders	Cu m	83.31	260.85	21731.41
3	b) Hard Murum/Soft Rock/DFR	Cu m	83.31	1313.70	109444.35
4	c) B C Soil/Submerged soil	Cu m	1333.02	439.43	585768.98
5	d) Hard rock by chiseling	Cu m	83.31	1702.50	141835.28
6	e) Hard rock by blasting	Cu m	83.31	1702.50	141835.28
7	P&F Steel Bar Reinforcement, Mild Steel RCC Pile Providing and fixing in position steel bar reinforcement in concrete foundation including supply of TMT Bars of various diameters for RCC works like raft, footing of column etc as per drawing and directions which will be furnished by owner including cutting, bending hooking the bars, binding with bunding wires or tack welding etc complete as directed. (steel to be provided by contractor)	MT	8.59	114038.56	979591.23
	Concreting of foundation: Providing and casting in situ cement concrete of trap metal of size 20to-40 mm as applicable, including fixing of stub unit with bolt and nut with fixing of stub setting templates, form boxes, finishing, compacting, curing and curing for 21 days complete in all respect, as per drawing and direction of Engr. In-charge in the following grades.				
8	M20 1:1.5:3 metal size 20mm graded (7.10 bag of cement per CuM)	Cum	173.26	10007.14	1733837.08
9	M 7.5 (1.4:8) with graded metal for foundation/bedding(3.42bag of cement per CuM)	Cum	31.92	7759.46	247681.96
	<b>Tower Erection Work</b>				

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
10	Complete Erection of tower (including special towers) with its extensions. Tigtning, punching, tack welding, fixing of tower accessories and anti climbing devices including fixing of bolts and uuts and transporattion of tower material from site stores to work site.	MT	66.98	9429.89	631614.03
11	Stringing of Double phase of both pole with 0.5 SqMM Bersimis Quad conductors for each pole and stringing of two 7/3.66 sq.mm earthwires 1 Earthwire + 1 OPGW) along with paving, rough & final sagging, clipping, fixing of all accessories, hoisting of msulators, hardwares, jumpering etc on tower complete in all respect including tree cutting if required as per dircetion of engineer ie-charge.	Route KM	4.60	258192.15	1187683.89
12	Stringing of 7/3,66mm G.1. Earthwire including transportation of earthwire and required material from site store to site locations, laying, fixing hardware fising accessories, paying out earth wire, jointing, tensioning, stringing and clamping etc.	KM	4.60	19199.28	88316.69
13	Stringing of 48 Core optical Fiber ground Wire (OPGW) alongwith all hardware & Acessories etc.	KM	4.60	27013.16	124260.54
14	Earthing of towers with pipe type earthing including excavation of pits/trenches, laying of earthing pipe, strips, flats etc and supply and laying of salt and coke as per drawing including back filling, complete in all respect as per direction of Engr Incharge	EA	12.00	7186.21	86234.52
15	Dismanthing and destringing of the conductor.	RMT	36520	77.66	2836143.20
16	Dismantling/Destringing of overhead earth wire & OPGW	RMT	9130	31.06	283577.80
17	Dismantling of tower including transportation to store as per direction	MT	29.59	7543.92	223224.59
18	Dismatling of tower foundation in Plain area	Per Leg	8.00	8478.33	67826.64
19	Splicing of OPGW	EG	3.00	25879.94	77639.82
	<b>Total (Schedule-B)</b>				<b>96,65,661.09</b>

Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.

SCHEDULE-C					
400 KV PGCIL Transmission Line Supply Items					
Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
	Fabrication, Galvanising, supply of towers & tower parts, leg extension, excluding stubs and Nuts & bolts but including hangers, D shakles, pack washers etc				
1	HT	MT	172.068	86906.56	14953837.97
2	MS	MT	115.981	82768.4	9599561.8
3	Nut & Bolts with step bolt & spring wasgers	MT	11.860	121467.84	1440608.58
	Febrication, Galvanising, supply of <b>STUBS</b> with cleats for various types of tower & tower extensions excluding supply of Nuts & bolts				
4	HT	MT	8.165	86906.56	709592.06
5	MS	MT	0.633	82768.4	52392.4
6	Bolt & Nuts fot stub with spring wasgers	MT	0.129	121467.84	15669.35
	<b>Earthing of towers</b>				
7	Counter Poise (120 Mtr Length)	Nos	10	10147.28	101472.8
8	Shield Wire Earthing Including PG clamps, downlead clamps but excluding earthwire bits i.e. shield wire earthing (Pipe type/counterpoise type) shall be as additional to item i.e. earthing of tower (Pipe type/counterpoise type)- <b>Pipe Type</b>	Set	1	22020.96	22020.96
9	Shield Wire Earthing Including PG clamps, downlead clamps but excluding earthwire bits i.e. shield wire earthing (Pipe type/counterpoise type) shall be as additional to item i.e. earthing of tower (Pipe type/counterpoise type)- <b>Counter poise Type</b>	Set	1	22480.64	22480.64
	<b>Tower Accessories</b>				

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
10	Danger Plate	Nos	10	316.16	3161.6
11	Number plate	Nos	10	316.16	3161.6
12	Phase Plate (Set of three)	Set	20	252.72	5054.4
13	Circuit Plate (Set of two)	Set	10	246.48	2464.8
14	Anti Climbing Device	Nos	10	11986	119860
15	BIRD GUARD (SET OF Three)	SET	6	5264.48	31586.88
	<b>Hardware fittings for 400 KV D/C Quad Moose Conductor</b>				
16	Single I Suspension Pilot Fitting	Set	18	38470.64	692471.52
17	Double I Suspension Fitting	Set	6	20031.44	120188.64
18	Quadruple Tension Fitting	Set	42	44330	1861860
	<b>Hardware fittings for 400 KV D/C Twin Moose Conductor</b>				
19	Single I Suspension Pilot Fitting	Set	10	29049.28	290492.8
20	Single I Suspension Fitting	Set	18	14592.24	262660.32
21	Double Tension Fitting	Set	60	26194.48	1571668.8
	<b>Conductor accessories for 400 KV D/C Quad Moose Conductor / 7/3.66 EW</b>				
22	Repair sleeves for conductor	Nos	5	640.64	3203.2

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
23	Flexible AL Bond	Nos	9	481.52	4333.68
24	Quad Spacer damper	Nos	168	3134.56	526606.08
25	Line Spacer for conductor	Nos	0	1554.8	0
26	Rigid Spacer for Jumper	Nos	12	791.44	9497.28
27	VD for conductor	Nos	0	1538.16	0
28	VD for Earthwire	Nos	18	533.52	9603.36
29	Earth wire tension clamp	Nos	8	712.4	5699.2
30	Earth wire suspension clamp	Nos	1	774.8	774.8
31	MSCJ for Conductor	Nos	14	1752.4	24533.6
32	MSCJ for Earthwire	Nos	1	318.24	318.24
33	Design, Manufacturer & Supply of 400 KV D/C quad Moose Conductor and 400 KV D/C twin Moose Conductor (KM = Single Conductor per KM)	KM	55.461	554209.76	30737027.5
34	7/3.66 mm size- GS Earthwire	KM	3.602	62660	225707.59
	<b>Conductor accessories for 400 KV D/C Twin Moose Conductor / 7/3.66 EW</b>				
35	Repair sleeves for conductor	Nos	6	640.64	3843.84
36	Flexible AL Bond	Nos	13	481.52	6259.76
37	Line Spacer for conductor	Nos	336	1554.8	522412.8
38	Rigid Spacer for Jumper	Nos	108	791.44	85475.52

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
39	VD for conductor	Nos	312	1538.16	479905.92
40	VD for Earthwire	Nos	26	533.52	13871.52
41	Earth wire tension clamp	Nos	10	712.4	7124
42	Earth wire suspension clamp	Nos	3	774.8	2324.4
43	MSCJ for Conductor	Nos	17	1752.4	29790.8
44	MSCJ for Earthwire	Nos	1	318.24	318.24
	<b>Supply of Composite Long Rod Insulators</b>				
45	160 KN	Nos	291.00	9089.6	2645073.6
46	120 KN	Nos	58.00	8083.92	468867.36
	<b>OPGW &amp; Accessories</b>				
47	24-Fibre OPGW Fibre Optic Cable	KM	3.882	164481.2	638516.02
48	TENSION FITTINGS ASSEMBLY ON SUSPENSION TOWER FOR 24F OPGW INCLUDINGALL ACCESSORIES AT JOINT BOX (SPLICING) LOCATION	SET	1	5816.72	5816.72
49	Tension assembly (For Joint Box Locations)	SET	4	4935.84	19743.36
50	TENSION ASSEMBLY - DOUBLE TENSION PASS THROUGH ASSEMBLY FOR 24 FIBER OPGW	Set	7	4741.36	33189.52



Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
51	Suspension Assembly	SET	3	2150.72	6452.16
52	Vibration Damper	Nos	70	538.72	37710.4
53	Down Lead Clamps	Nos	160	219.44	35110.4
54	Joint Box for 24 fibre OPGW	Nos	4	7246.72	28986.88
	<b>Total (Schedule-C)</b>				<b>6,85,00,359.40</b>

Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.

**SCHEDULE-D**

400 KV PGCIL Transmission Line Erection Items

Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
1	Check Survey	KM	3.566	7674	27,366.00
	Transportation & Concreting (Including all asociated works releated to foundation not covered in Exacavation & reinforced				
2	Concreting (1:1:5:3)	CUM	742.45	10159	75,42,550.00
3	Lean Concrete (1:3:6)	CUM	77.51	9318	7,22,239.00
	<b>Excavation -</b>				
4	Dry Fissured Rock	CUM	1255	802	10,06,510.00
5	Wet Fissured Rock	CUM	1255	948	11,89,740.00
6	Supply & placement of Reinforcedment Steel	MT	59.715	83961	50,13,732.00
7	Transport & Installation of stubs including Nut & Bolts For Normal towers using templates <b>Stub installation</b>	MT	8.93	8039	71,789.00
	Transportation & Erection of various types of towers, tower parts, tower extensions, bolts & nuts, Hanger, D Shakles, Step Bolts, Pack Washers etc. including Tack welding & supply & application of Zinc rich Primer & RnameI paint.				
8	Normal Towers	MT	299.907	9471	28,40,424.00
	Transport & Installation Earthing of Towers				

400 KV PGCIL Transmission Line Erection Items					
Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
9	Counter Poise (30*4=120Mtr)	Nos	10	8817	88,170.00
10	Shield Wire Earthing Including PG clamps, downlead clamps but excluding earthwire bits i.e. shield wire earthing (Pipe type/counterpoise type) shall be as additional to item i.e. earthing of tower (Pipe type/counterpoise type)- <b>Pipe Type</b>	Set	1	15245	15,245.00
11	Shield Wire Earthing Including PG clamps, downlead clamps but excluding earthwire bits i.e. shield wire earthing (Pipe type/counterpoise type) shall be as additional to item i.e. earthing of tower (Pipe type/counterpoise type)- <b>Counterpoise Type</b>	Set	1	20412	20,412.00
	<b>Installation of tower accessories</b>				
12	Danger Plate	Nos	10	167	1,670.00
13	Number plate	Nos	10	167	1,670.00
14	Phase Plate (Set of three)	Nos	20	156	3,120.00
15	Circuit Plate (Set of two)	Nos	10	137	1,370.00
16	Anti Climbing Device	Nos	10	3759	37,590.00
17	BIRD GUARD (SET OF Three)	SET	6	906	5,436.00
18 a	INSTALLATION OF INSULATOR STRINGS COMPLETE WITH ARCING HORNS AND NECESSARY HARDWARE, INSTALLING AND STRINGING OF CONDUCTOR INCLUDING FIXING OF CONDUCTOR ACCESSORIES, INSTALLING AND STRINGING OF ONE EARTHWIRE/ OPGW INCLUDING FIXING OF EARTHWIRE ACCESSORIES FOR THE LINE. - 400 KV D/C Quad Moose Conductor with Earthwire	KM	1.01	666908	6,73,578.00

400 KV PGCIL Transmission Line Erection Items					
Sr. No	Description of Material	Unit	Qty	Rate	Total Amount
18 b	INSTALLATION OF INSULATOR STRINGS COMPLETE WITH ARCING HORNS AND NECESSARY HARDWARE, INSTALLING AND STRINGING OF CONDUCTOR INCLUDING FIXING OF CONDUCTOR ACCESSORIES, INSTALLING AND STRINGING OF ONE EARTHWIRE/ OPGW INCLUDING FIXING OF EARTHWIRE ACCESSORIES FOR THE LINE. - 400 KV D/C twin Moose Conductor with Earthwire	KM	2.556	780495	19,94,946.00
19	One peak OPGW Stringing for 400 kv D/C Tower	KM	2.556	73546	1,87,984.00
20	Installation of Joint box above ground (Including Splicing & Testing) : 24 fibres	Nos.	4	11081	44,324.00
21	ESTABLISHMENT OF LABOUR CAMPS AS PER PROVISION UNDER FACILITIES TO BE INCORPORATED FOR LABOURERS IN TECHNICAL SPECIFICATION	KM	2	115850	2,31,700.00
	<b>Dismantling</b>				
22	Dismantling of existing tower & transportation of dismantling to Powergrid store (No. & Type of towers)	MT	138.828	16998	23,59,791.00
23	Destringing of Line & transportation of dismantled material to Powergrid Store	KM	3.504	715024	25,05,445.00
24	Dismantling of Existing Stub up to 1.5 Meter including Blasting, Reaming, and levelling	EA	8	54251	4,34,008.00
	Cable bypass arrangement				
25	Cable bypass arrangement of 11KV line crossing	Nos.	5	60000	300000
26	Cable bypass arrangement of LT line crossing	Nos.	8	27500	220000
	<b>Total (Schedule-D)</b>				<b>2,75,40,805.12</b>

Supply, Erection, Testing and Commissioning of One number of 500 KV HVDC (MSETCL) and two numbers of 400 KV (PGCIL) Transmission Lines modification/diversion/shifting works which are infringing the Yavatmal-Nanded New Broad Gauge Line in the state of Maharashtra, India.

**SCHEDULE-E**

**SITE FACILITIES**

SOR ITEM	Description	Unit	Quantity	Rate	Amount	Total Amount
				Supply	Supply	
9006	Providing 150CC or higher Motor Bike Bajaj Pulsar/HondaCB Hornet 160R/ Hero Xtreme Sports/Suzuki Gixxer or Similar for the use of Engineer/Employer as per the Conditions mentioned in Clause 3.4.2 & 3.4.3, of Chapter 3 (Site Facilities for the Employer and the Engineer) of Section 5 Work's Requirement) of Tender Documents.	Bike Months	48	14552.98	698543.04	698543.04
9006 a	Extra for running and maintenance of Motor Bike for every additional km over and above 2500 kms as covered under item 9006	Per km	4000	3.16	12640	12640
	<b>TOTAL (Schedule-E)</b>					<b>7,11,183.04</b>