PART-II : TECHNICAL

TECHNICAL SPECIFICATION

OF

DIVERSION OF EXISTING 11 KV HT LINE OF

COAL TO AMMONIUM NITRATE (2000TPD) PLANT OF BCGCL, AT LAKHANPUR, JHARSUGUDA, ODISHA

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SCOPE OF WORK

FOR

DIVERSION OF EXISTING 11 KV HT LINE AT LAKHANPUR, JHARSUGUDA (ODISHA)

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1. Background

The proposed project at Lakhanpur, Jharsuguda (Odisha) is being developed by Bharat Coal Gasification and Chemicals Limited (BCGCL), a joint venture of Coal India Limited (CIL) and Bharat Heavy Electricals Limited (BHEL).

Presently, a 11 kV Overhead Distribution Line is passing through the Project Site and causing hindrance to the Construction Work which is going to be started very soon.

In view of above, it is proposed to relocate the existing 11 kV Overhead Distribution Line to new location (outside of Battery limit of Project Site), from Adhapada to Khandsa.

2. Broad Scope of Work

2.1 The Scope of Work shall include the following

- Route Survey and marking of Pole locations
- Supply of Poles, AAAC Conductor, DP Structure, AB Switch, Insulators, structural steel, base plate, stiffener, Joist, Line Guarding etc.
- Erection of Poles, AAAC Conductor, DP Structure, AB Switch, Insulators, structural steel, base plate, stiffener, Joist, Line Guarding etc.
- Conductor stringing, jumper connection etc.
- Earthing System
- Foundation for Poles, DP Structure etc.
- Testing, commissioning and charging
- Coordination with TPWODL for shutdowns and energization.
- Dismantling of Existing 11 kV Overhead Distribution Line with Poles and deposit of same to designated place of TPWODL (Contractor shall obtain receipt from TPWODL against deposit of material and submit to Owner).

The above are covered in SOR. However, any other items not specifically mentioned, but which are required for installation, testing, commissioning, and satisfactory operation as per the requirement of TPWODL and Indian standards/IE Rules/IE Act and other concerned authority regulations are deemed to be included in the scope of the specification and no deviation in this regard shall be accepted

2.2 The Bidder shall must visit the site to get acquainted with Site conditions, scope of work, ROW etc.

2.3 Contractor shall obtain ROW from local authorities and other concern authorities. as required and shall fix the Pole location.

2.4 The complete job shall be executed in line with latest Technical Speciation, Drawing/ document, QAP, GTP etc. of TPWODL. Contractor shall be solely responsible to obtain the same from TPWODL before start of execution of work.

2.5 All drawing / documents, QAP, GTP, GA Drawings etc. shall be got approved from TPWODL by Contractor. The costs incurred, if any, for taking such approval (s) shall be borne by the Contractor.

2.6 Latest Vendor List of TPWODL shall be followed. All the material and equipment are to be strictly sourced from the approved vendor list of TPWODL

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2.7 All thew materials shall got inspected by TPWODL or their approved Inspection Agencies, before despatch of material. Only after getting Material Despatch Clarence, material shall be supplied at site. The costs incurred against inspection shall be borne by the Contractor.

2.8 Complete 11 kV Lines shall be tested in line with TPWODL Standards before energisation.

2.9 Job shall be executed with taking all safety precautions & measures. Contactor shall ensure the prevention of conductor damage during pulling.

2.10 Contactor shall maintain proper sag and tension. Only compression joints shall be used.

2.11 It shall be the responsibility of the Contractor to fulfil the requirements and code of practice of Odisha Discoms as well as CEIG's safety regulations.

Contractor shall have required stringing equipment, PPE, insulated tools etc. for execution of job.

Clearance shall comply with CEA Safety Regulations, IS 5613, TPWODL Standards etc.

The contractor shall ensure Ground clearance, Building clearance, Tree clearance, Road crossing clearance, Plant equipment clearance etc.

2.12 The complete job shall be got supervised by TPWODL.

2.13 The job shall be completed as per TPWODL satisfaction.

2.14 Conductance of Safety Induction Certificate from certified authority, so that competent authority of TPWODL may verify whether they are being trained for execution of work.

3. Testing

The contractor shall carry out min:

- Pole verticality check
- Sag measurement
- Conductor continuity
- Phase sequence verification
- Earth resistance test
- Insulation resistance test
- Visual inspection
- Trial charging

4. Safety Requirements

The contractor shall comply with:

- Permit-to-work system
- Lock Out Tag Out (LOTO)
- Safety harness
- Insulated tools
- Barricading
- Fire safety requirements
- PPE requirements

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- First aid arrangements
- Safety officer deployment

No work shall commence without prior approval of Engineer In Charge.

5. Documentation

The contractor shall submit:

- Route survey report
- Pole schedule
- Material inspection reports
- Test certificates
- Earth test reports
- As-built drawings
- Material reconciliation statement
- Completion report

6. Measurement

- Measurement shall be made as:
- Overhead line – Running metre (km)
- Pole erection – Number
- Stay set – Number
- Earthing – Number
- Stringing – Running metre
- Dismantling – Running metre

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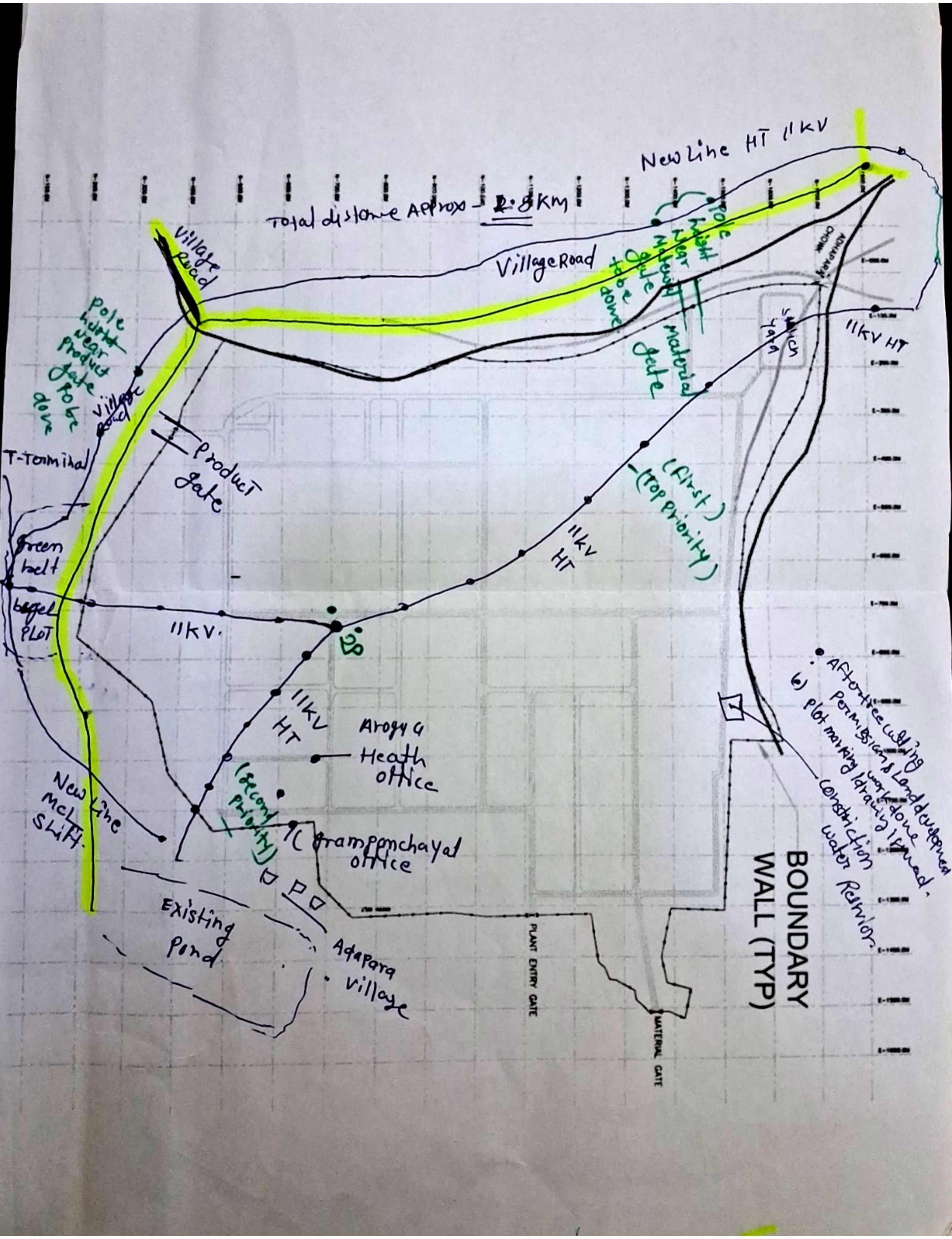
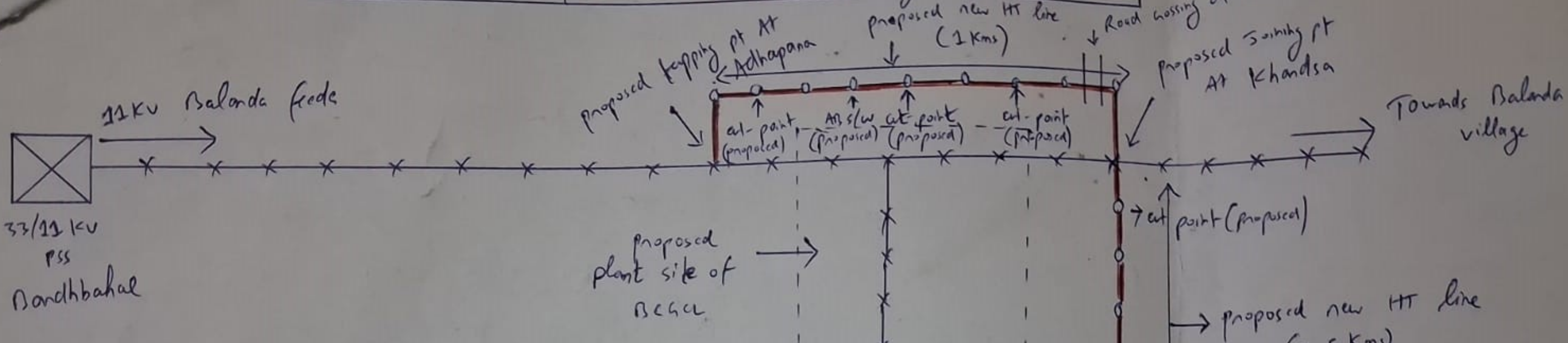
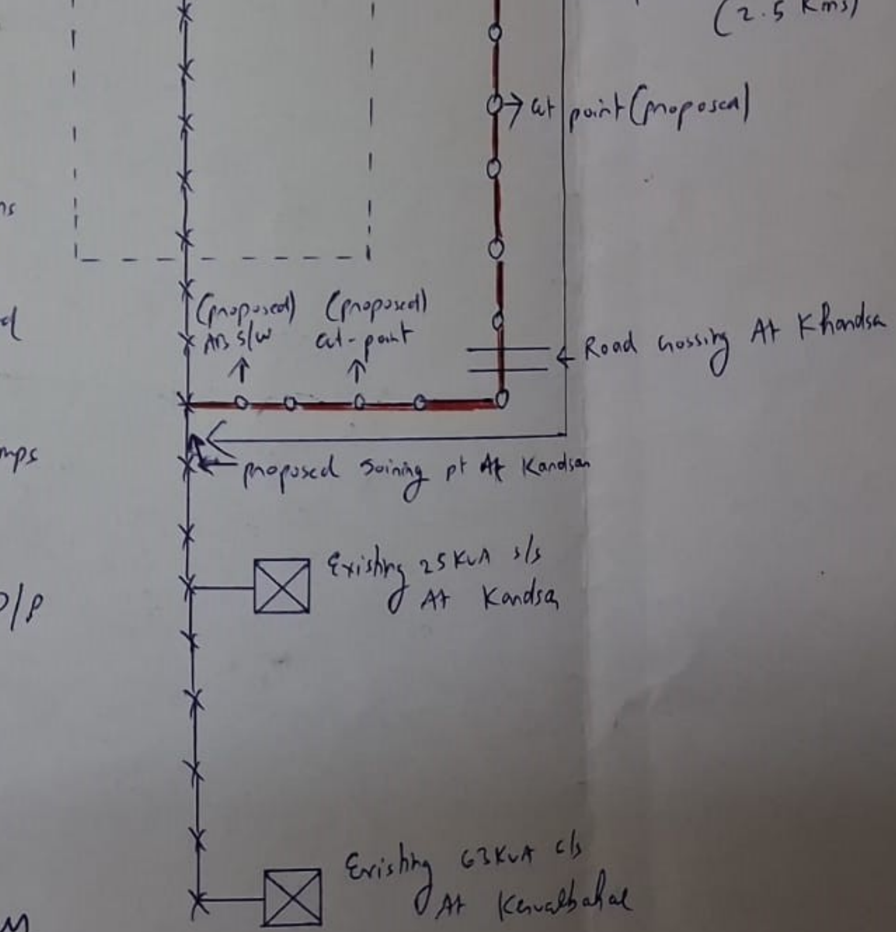


New Line HT 11KV
Total distance Approx - 2.8KM
Village Road
Village Road
Pole height near Material gate to be done
Material gate
11KV HT
Pole height near Product gate to be done
Village road
Product gate
T-Terminal
Green belt
Legal PLOT
11KV.
(first) (top priority)
11KV HT
11KV HT
Arogya Heath office
(second priority)
Grampanchayat office
New Line MCL Shift.
Existing Pond
Adapara Village
After tree cutting permissions & land development work done.
c) plot marking / drawing / road construction
water Reservoir.
BOUNDARY WALL (TYP)
PLANT ENTRY GATE
MATERIAL GATE

Scope of work for 11KV line shifting for BCGCL





Scope of work

1) 3ϕ, 3w, 11KV line with 100 mm² AAAC conductor on 9mtr WPB poles ⇒ (3 × 3.5 Km) ⇒ 10.5 Kms Reqd

2) 4 No's of 11mtr WPB poles with guarding required for 2 No's of Road crossing

3) 2 No's of 9mtr Joint GI type D/P with 400 Amps AB switch required

4) 6 No's of cut-point on 9mtr Joint GI type D/P required

5) Dismantling of 9mtr (Existing) PSC poles with 55 mm² AAAC conductor ⇒ 2.5 Kms required

MANJEET BAKLIWAL
HEAD (ENG. UP STREAM)
BHARAT COAL GASIFICATION & CHEMICALS LIMITED

E.S.O. Anandpali
TPWODL
(Elect.)

Sr. Manager (E&M)
Intigrated L-B-L OCP
Lakhanpur Area MCL

SCHEDULE OF RATES

Name of Work : Shifting of 11KV Balanda feeder from Adhapada to Khandsa for BCGCL Plant
NIT NO. PNPM/PC298/E/8002

Sl. No	Description	Unit	Qty	UNIT RATE WEIGHT (UPTO 10 DECIMAL POINT)	DERIVED QUOTED UNIT RATE in INR (TOTAL QUOTED PRICE *UNIT RATE WEIGHT)	DERIVED TOTAL QUOTED AMOUNTin INR (QUANTITY*DERIVED QUOTED UNIT RATE)
1.0	**Supply of Material**					
1.1	Design, Supply, Transportation, Insurance, Inspection at works, Delivery at site, Unloading, handling, Storage of 11kV Overhead Line as per TPWODL Technical Specifications and approved drawings. (Note: All metal parts being supplied shall be Hot Dip Galvanized as per TS)					
1.11	9 Mtr Long WPB Pole (160X152),30.44 Kg/m with GI,Base Plate & Stifner (10.74 Kg)	58	Nos.	0.0059068862	-	-
1.12	11 Mtr Long WPB Pole (160X152),30.44 Kg/m with GI,Base Plate & Stifner (10.74 Kg)	4	Nos.	0.0071700066	-	-
1.13	9 Mtr 150X150mm RS Joist (GI)	16	Nos.	0.0057139292	-	-
1.14	100mm2 AAAC (3.5KM x 3.15Ckms=11.025Km)	11.025	KM	0.0205927998	-	-
1.15	11KV Pin Point Pole on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	62.00	Nos.	0.0006129783	-	-
1.16	11KV DP with 400Amp AB Switch on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	2.00	Nos.	0.0246319711	-	-
1.17	11KV DP Cut Point on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	6.00	Nos.	0.0081985429	-	-
1.18	11 KV Line Guarding for road crossing using 13mt WPB Pole	2.00	Nos.	0.0017901000	-	-
2.0	**Erection of Material**					
2.10	**Erection of Pole as per TPWODL TS, fixing of all accessories complete (including stringing of Conductor etc), testing, demonstration for acceptance, commissioning, and documentation of 11 kV Overhead Line as per TPWODL Technical Specifications and approved drawings.**					
2.11	9 Mtr Long WPB Pole (160X152),30.44 Kg/m with GI,Base Plate & Stifner (10.74 Kg)	58	Nos.	0.0002625271	-	-
2.12	11 Mtr Long WPB Pole (160X152),30.44 Kg/m with GI,Base Plate & Stifner (10.74 Kg)	4	Nos.	0.0003186665	-	-
2.13	9 Mtr 150X150mm RS Joist (GI)	16	Nos.	0.0002539526	-	-
2.14	100mm2 AAAC (3.5KMx3.15Ckms=11.025Km)	11.025	KM	0.0018304704	-	-
2.15	11KV Pin Point Pole on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	62.00	Nos.	0.0000544856	-	-
2.16	11KV DP with 400Amp AB Switch on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	2.00	Nos.	0.0021895074	-	-
2.17	11KV DP Cut Point on 9 Mt RS Joist (GI) exclusing conductor,pole & civil cost	6.00	Nos.	0.0007287579	-	-
2.18	11 KV Line Guarding for road crossing using 13mt WPB Pole	2.00	Nos.	0.0001591189	-	-
3.0	Dismantling of existing 11KV Line with Pole	2.50	Km	0.0117979205	-	-
4.0	**Civil Works & allied Erection Works**					
4.1	Construction Earthing Chamber including installation of earthing pipe,making earthing chamber exclusing excavation,soil treatment with bentonide powder,calculation of earth resistance,including installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat GI ground pipe	24.00	No	0.0008578066	-	-
4.2	**Civil Works for Erection of Pole (Including Excavation of all type of Soil & Backfilling and Compaction after erection of Pole)**					
4.21	Supply & laying of Concrete for Fixing of Pole (Foundation) - Concreating Ratio 1:1.5:3 (M20) Grade (500mmx500mmx1500mm) = 0.375 Cubm/pole	29.250	M3	0.0015069568	-	-
4.22	Supply & laying of Concrete for Fixing of Pole (Couping)Concreating Ratio 1:1.5:3 (M20) Grade (500mmx500mmx450mm) = 0.1125 Cubm/pole	8.775	M3	0.0015069568	-	-
4.23	Supply & laying of Stay Concreating Ratio 1:1.5:3 (M20 Grade) (500mmx500mmx800mm)	6.400	M3	0.0015069568	-	-
	TOATL (Excluding GST)					**-**

Notes:

1.The quantities indicated in SOR are estimated quantities and may change during execution as per site condition. Quantity of some or all the items may increase or decrease up to any extent at the time of actual execution, however the total contract value shall be limited to total increase or decrease of 25% only. Successful bidder shall execute /supply the SOR items at the same rate as per these change quantities, irrespective of the changes in quantity of individual items. Payment shall be made as per actual quantities executed. Payments on bills shall, however, be made on actual measurements of quantities of work done as per approved drawings. Goods & Services Tax (GST) is appliable @ 18% on the quoted rates (being Works Contract)

2.Bidders shall consider their Cost towards Liasioning Charges for obtaining clearances from Government Agencies and Private Land Owners (if applicable) for successful construction and commissioning of the 11kV Lines.

However, Bidders should not consider the Statutory Charges / Fees towards obtaining Right of Way (RoW) clearances (i.e., Tree Cutting, Road Crossing, Nala crossing etc.) and statutory Charges (i.e. as per the prevailing Circle Rates) towards obtaining Right of Way (RoW / RoU) clearances for from Private Land Owners (if applicable), for laying / stringing the 11 kV line, as the same shall be reimbursed separately by BCGCL to the Bidder on production of legitimate, evident and valid Documentary Proof.