



Bharat Heavy Electrical Limited Bhopal



OUR REF : ELX/GPX/19/02

DATE : 06-04-2019

NIT No. ELX/GPX/19/02

Dear Sir,

Sub:- Laying of HT & LT cable inside factory

Sealed Tender is invited for "Laying of HT & LT cable inside factory ", as per particulars of the tender given below:-

- 1.1 Last date of submission of tender : 29/04/2019 upto 11.00 AM
- 1.2 Tender opening date and time : 29/04/2019 at 2.00 PM
- 1.3 Contract Period : **Two Year**
- 1.4 Payment terms : By quarterly running & final bills
2. Scope of work and special conditions are given in Annexure-I, General Terms & Conditions in Annexure-II and Instructions to Contractor for statutory compliance for Works Contract in Annexure III & IV, General but obligatory instructions in Annexure-V, BHEL's terms and condition for HSE norms in Annexure-VI and GST Terms in annexure-VII.
3. The Earnest money deposit of Rs 16,968.00 (Rupees Sixteen Four Thousand Nine Hundred Sixty-Eight only) shall be accepted through e-Mode (NEFT/RTGS/Net Banking/POS/SB Collect etc.) in favor of "Bharat Heavy Electricals Ltd., Bhopal". Offer without EMD will be rejected. On acceptance of tender, this earnest money shall be treated as part of security deposit.
4. The tenderer may also deposit one time EMD as Rs.5,00,000/- for exemption from payment of EMD with each tender after taking permission from AGM (ELX).

Cost of tender documents enclosed herewith is **Rs.500/-** (Rupees Five Hundred only) + GST extra, which is non-refundable.

5. Tenders received without remittance of earnest money are likely to be rejected.
6. The BHEL, Bhopal does not bind themselves to accept the lowest or any tender or to give reason for their decision.
7. Tenderer should submit all the documents as mentioned in **DATA CHECK LIST** along with offer. Offer received without the documents are likely to be rejected.
8. Tenderer have to submit their offer in **Two Bid (Technical bid & Price bid)**. Technical & Price bid should be submitted in two different envelope separately and both the envelope should be kept in one envelop. On all envelopes, Tender's name, NIT no. and date of Tender opening must be mentioned.
9. In case of any terms and conditions are not acceptable to the tenderer, same should be clearly stated in the tender.
10. Tender should be valid for a period of 90 days from the date of opening.
11. Tenderer is requested to submit their lowest tender subject to BHEL's terms and conditions for the above work, so as to reach the Tender Room of **Tender Room at Admn. Bldg. Ground Floor, BHEL, Piplani, Bhopal 462022** on or before the due date by 11.00 AM.
12. All tender papers duly filled in and signed by the tenderer must be returned with the tender, as proof of the acceptance of the conditions
13. Rates shall be quoted clearly mentioning the service tax also.

Thanking you.

Yours faithfully,
for BHEL, BHOPAL

(C.K.Jain)
Dy.Manager.(ELX)

Encl:- Annexures I to VII, Schedule A & B.

Name of work: Laying of HT & LT cables inside factory.

Scope of work:

1. Dismantling and Shifting of 11kV power cables

- 1.1. Disconnection of 11kV cables including de-compounding from both ends of cable.
- 1.2. Shifting of damaged or faulty 11kV cables to cable yard /SDX yard including loading / unloading of power cables.

2. Laying of 11kV/415V 1/3/3.5 core X 300 sq.mm XLPE/PVC cable

- 2.1. The cable and/or cable drums wherever required shall have to be transported from ELX Store/ Gas Plant to the site.
- 2.2. Wherever it is not possible to lay of the entire cable drum length, the cable should be cut and should be transported to the site.
- 2.3. Any empty drums after cable laying shall be transported back to scrap yard.
- 2.4. Contractor shall arrange himself for transportation (Truck/ Crane/ loading / unloading) of cable/cable drums from ELX Store/Gas Plant to site and vice versa.
- 2.5. The shifted cable drum should be kept on cable stand. Cable drum stand will be provided by BHEL, free of cost.
- 2.6. Contractor shall ensure that exact length of cable (tolerance 5%) for each route is cut from the drums, giving reasonable margins to negotiate bends, risers and termination at the equipment ends.
- 2.7. Cable shall be handled safely with utmost care so that sharp bends are avoided (bending radius of cables should not be less than 15 times of cable OD)
- 2.8. Cable Rollers should be temporarily placed at every 3 to 4 meters while laying of cable to avoid scratch on outer sheath of cable.
- 2.9. Cable Route markers shall be provided along the runs of cables at locations approved by the Engineer-in-Charge and generally at intervals not exceeding 100mtr. Markers shall also be provided to identity change in the direction of the cable route
- 2.10. Identification strips/tags should be permanently attached to the cables generally at intervals of 8 to 10mtr apart and also should be provided while change in the direction of the cable.
- 2.11. 11kV/415V XLPE/PVC cable is to be laid in cable trench or to be crossed through pipes at road crossings, at a depth of 900 mm.

3. Digging and Refilling of Concrete/WBM Road/Soil

- 3.1. To lay 11 kV cable properly in soil, party has to dig trench of 600 mm width and 1000 mm depth. While digging the trench, all safety precautions to be taken so that any other communication / HT-LT cable does not get damage or causes electrocution to the worker. At the bottom of trench party has to make surface plain to give proper bed to cable. In case any cable is already laid on the marked route,

then it is to be intimated and with due consultation of area in-charge, route may be changed as per his instruction.

- 3.2. Before laying the 11 kV cable, 2" thick Narmada sand cushion of minimum 10" width has to be provided in the trench. On this sand cushion bricks will also rest on both sides of cable.
- 3.3. After laying the cable, bricks are to be provided on both the side of cable, which will be resting on Narmada Sand.
- 3.4. After providing the bricks, flagstone is to be provided on the top of cable to support of brick provided on both the side of cable.
- 3.5. Depending upon site condition, approx. 8" MS cut pipe may be placed along the length of cable, if required. Contractor shall arrange himself for transportation (Truck/ Lifter/ loading / unloading) & laying of MS cut pipe from ELX Store/Gas Plant to site. MS cut pipe will be issued by BHEL, free of cost.
- 3.6. **Contractor shall arrange himself for 2" Narmada sand & bricks required for laying of underground cable.**
- 3.7. In case of road crossings, party has to carry out digging such that traffic inside factory is not totally stopped. For this, first half portion of road will be dug and then Hume pipe should be put and then refilling of trench. After that other half portion to be taken up. The Hume pipe/ MS pipe will be laid about 1 meter extra on both side of road. Wherever road crossing occurs on the route of cable laying contractor has to cut the road of size minimum 300 mm wide and 1000 mm depth for laying of Hume pipe/ MS pipe of 6" to 8" dia.
- 3.8. Length of each Hume pipe & MS pipe is approximate 2.5 mtr & 6mtr respectively and accordingly required number of pieces shall be issued by BHEL, free of cost.
- 3.9. After cable laying through Hume pipe/ MS pipe, gap filling and leveling of trench work is to be done with proper ramming of cut area as required.
- 3.10. Certain unforeseen work that may be required to complete the work is to be carried out by contractor and no extra payments shall be made for such work.

4. Fabrication of tray support & Installation of Cable tray

- 4.1. Fabrication of cable tray support by using MS angle or C-channel as per the instruction given by Engineer-in-Charge. MS angle and/or C-channel will be provided by BHEL free of cost.
- 4.2. Mounting of cable tray support by either welding of with anchor fastener. Contractor shall arrange himself for portable welding machine, welding electrode, anchor fastener etc. Utmost care must be taken while carrying the welding work.
- 4.3. Contractor shall arrange himself for shifting of MS angle, C-Channel, Cable tray, tray cover, MS sheet cover, etc from ELX/GPX store to site.
- 4.4. Cable trays/racks shall be so arranged that they do not obstruct or impair clearances of passage way or maintenance of adjacent equipment.

- 4.5. Normally cable trays are installed a height of 6mtr from ground level. Safety equipment's like ladder, safety belt, helmet etc. shall be arranged by the contractor himself .
- 4.6. Individual cable trays shall inter connected with couplers over the length by bolted type connection. A bolt should be installed with the head placed inside the tray. Couplers, nut & bolts will be provided by BHEL free of cost for interconnection of cable try.
- 4.7. The contractor shall install MS sheets covers over cable trays as specified or directed by Engineer. The width of the covers shall be same as that of cable trays. Bolting shall be done to fasten covers to the cable trays.
- 4.8. A continuous earthing conductor shall be installed in all cables trays and securely clamped/welded for a continuous earthing system.
- 4.9. Certain unforeseen work that may be required to complete the work is to be carried out by contractor and no extra payments shall be made for such work.

5. Construction of Brick Chamber (2 X 5 X 1feet)

- 5.1. Party shall construct chambers of approx. 2' X 5' X 1' to protect and identify the cable joints. The joint will be kept approximately 700 mm below ground level.
- 5.2. To construct chamber, flagstones shall be used below and above the chamber
- 5.3. Four side walls of chamber will be of brick masonry with plaster. Mixture ratio of cement sand and concrete shall be of 1:4:7.
- 5.4. Sand has to be completely filled inside the constructed chamber.
- 5.5. All material like flagstone, brick, sand, cement etc to construct chamber will be in the scope of contractor.
- 5.6. Certain unforeseen work that may be required to complete the work is to be carried out by contractor and no extra payments shall be made for such work.

Special Conditions

1. All work shall be carried out as per code of practice and Indian electrical rules.
2. Any safety equipment such as Hand Gloves, helmet & safety belt etc has to be provided by contractor.
3. All the activities mentioned in Schedule-A are inter-related and hence all the activities shall be done by one contractor only and they will not be awarded to different contractors.
4. It must be clearly understood by contractor and duly confirmed that he shall bear full and final risk arising out of working with 11 kV/415V cable laying. No claim shall be made by the contractor for damage to his tools or tackles and any injury, whatsoever, which may occur to any of his workmen during the execution of this work.
5. BHEL reserve the right to recover the cost of any damage to the equipment / cable as may deem fit without explanation to contractor.

6. The contractor shall get approval from Engineer-in-charge at every stage of work execution and make good any unsatisfactory work in part or full without claiming compensation for rework.
7. The decision of Engineer-in-charge regarding satisfactory work shall be final and binding on contractor.
8. All other tools, tackles, welding sets, jacks etc. required for the work will be arranged by the contractor.
9. Debris shall be cleaned from the site and trenches. Trench cover shall be placed in position after work completion.
10. The detail of the material to be given by BHEL free of cost is mentioned in Schedule B.
11. Contractor shall engage only experienced workers for site work. Supervisors & workers shall only be deputed with adequate experience for carrying out similar works. They should be in position to carry out work as per the instructions of Engineer-in-Charge.
12. The Engineer-in-charge shall guide for deciding number of persons to be engaged, depending upon the site requirement and urgency of work, The contractor shall have to meet planned schedule for the work as may be advised by engineer-in-charge.
13. The contractor shall undertake to supervise himself or by his qualified supervisor for all time during which his laborers may be digging for a faulty or damaged cable and also while laying / removing of cable.
14. Cable and other items shall be handled with care. If any damaged is caused to any items, the cost plus an amount as decided by BHEL shall be recovered from the contractors bill .
15. Notwithstanding the quantities mentioned in schedule-A payment shall be made as per actual measurements taken.
16. Quantities mentioned in the schedule-A is tentative & may vary either ways. The contractor shall be bound by contract to satisfactorily complete the enhanced quantum of work at his quoted rates.
17. It is as essential condition of this contract that the contractor's supervisor shall be present in Gas Plant and accept the work to be carried out during the day.
18. Repeated failure to comply with condition as above may lead to termination of contract at the cost and risk of contract.
19. Any activity which is not mentioned but required for the execution of above work shall carried out by the contractor.

Signature of Issuing Officer

Signature of Contractor

Date

Date

DATA CHECK LIST

To be fill up and submit all documents mentioned below along with Techno Commercial Bid

1. Name of contractor / Firm :
2. Contrator's / Firm status : Proprietor / Partnership / Pvt. Ltd. / Public Ltd.
3. Contact Person :-
 - Name :
 - Designation :
 - Phone No. :
 - Mobile No. :
 - E-mail :
4. 'A' class Electrical Contractor License No :
5. 'A' class Electrical Contractor License Validity date:
6. Name of Electrical Supervisor :
7. Age of Electrical Supervisor :
8. Central Labour license Number :
9. Central Labour license Validity date :
10. IT PAN :
11. Service Tax Number :

Note:

- Those Contractors, who do not have PF code number, may participate in bids and in case L1, they have to get PF code number before deploying contract labor(Ref letter no: AA/HR/LLX dated 02/05/2011).
- If age of Electrical Supervisory is more than 60 years, then contractor has to submit his medical fitness certificate.

Signature of Issuing Officer

Signature of Contractor

Date

Date

Schedule-A

Name of Work: Laying of HT & LT cable inside factory

NIT No: ELX/GPX/19/02

Sl. No.	Description of work	Qty.	Unit	% Weightage
1	Laying of 11 kV, 3 core x 300 / 400 sq.mm XLPE Cable as per scope of work sl. No.2	2000	Mtr.	16.26
2	Excavation, Sand Cushioning, Protective covering and refilling the trench as per scope of work sl. No.3	1000	Mtr.	20.88
3	Dismantling and Shifting of old damaged 11kV, 3 core x 300 / 400 sq.mm Cable as per scope of work sl. No.1	1000	Mtr.	5.62
4	Laying of 415 V, 3/3.5 core x 300 sq.mm PVC/XLPE Cable as per scope of work sl. No.2	1500	Mtr.	10.91
5	Laying of 415 V, 1 core x 400 sq.mm PVC/XLPE Cable as per scope of work sl. No.2	1100	Mtr.	8.00
6	Supply of 300mm Wide, 30mm thick Red Sand Stone	300	Mtr.	5.72
7	Construction of brick chamber as per scope of work sl. No.5	10	Mtr.	5.72
8	Installation of Overhead Cable trays & fabrication work for support of cable tray at interval of 2mtr distance as per scope of work sl. No.4	600	sq.mtr	26.89
10	Total			100.00
11	GST			Extra

Total Amount in Figure:

Total Amount in Words:

Note: Party has to quote only total amount. The amount of individual items will be distributed as per their weightage.

Signature of Issung Officer
Date

Signature of Contractor
Date

SCHEDULE – B**FREE ISSUE MATERIALS****Name of work :Laying of HT & LT Cable inside factory**

S.No.	Description of Material	Qty.	Rate
1.	11 kV (E) 3C x 300 sq.mm. XLPE Cable	2000 Mtrs	Free of cost
2	415 V 1C x 400/500 sq.mm. PVC Cable	1100 Mtrs	Free of cost
3	415 V 3.5C x 300 sq.mm. PVC Cable	1500 Mtrs	Free of cost
4	MS pipe/ Hume pipe	As required	Free of cost
5	MS Angle or C-Chhannel	As required	Free of cost
6	Cable tray	As required	Free of cost
7	Cable identification tag	As required	Free of cost
8	Cable Route marker	As required	Free of cost

Signature of Contractor

Signature of issuing Officer

Date

Date