Ref. No.: - RED/EFS/ PR/ MF/ 42923 /2020

Date: 23/02/2020

Sub: Minor fabrication - invitation to quote.

Dear Sirs,

Sealed quotations are invited by Head, Experimental Facilities Section, Reactor Engineering Division for and on behalf of President of India for the minor fabrication of "Laying and termination of LT electric cables, supply & installation of cable trays and application of fire retardant coating at Rectifier building, behind Hall-7, BARC, Mumbai-85 as per technical specifications (Annexure-I)".

General Terms and Conditions:

1. The quotation shall be complete in all respects with regard to price, specifications, completion period, validity of the offer, etc. and must reach “Head, Experimental Facilities Section, RED, Engineering Hall No.7, BARC, Trombay-400085” on or before 20/03/2020 by 17.30 Hrs. The quotation shall be on proper letter head mentioning complete address, phone numbers, email, fax number, PAN number, GST registration no. etc., without these details quotation will be liable for rejection. The envelope should be superscripted “Minor Fabrication” and should indicate this office Ref. No. and due date clearly. The envelope should be sealed and should be sent through speed post or registered post of Indian postal service only.

2. The quotation will be opened on 23/03/2020 at 11.00 Hrs.

3. The completion period of the job should be clearly mentioned in the quotation and such period should be strictly adhered to in the event of a work-order. However, the job shall be preferably completed within eight weeks from the date of receipt of work order.


5. Format of quotation: The quotation must be submitted in the format mentioned in Table3 of technical specification (annexure-I) only, consolidated quotations will not be valid.

6. Taxes: All taxes including GST shall be quoted separately.

7. Validity: The offer shall be kept valid for a period of 60 days from the date of opening of quotation.

8. Proof of experience/ability: Bidder/contractor must have experience of satisfactory execution of at least two similar LT cable laying & termination work of 14 KV and above for Government organisation or PSU. Contractor shall submit the copy of satisfactory performance certificate/ copy of work order/purchase order along with their quotations as the proof of experience. The Similar work include; laying & termination of LT cables, installation of GI cable tray, fire retardant coating of electric cables & earthing of equipment’s/panels etc.
9. Inspection of the work as per specification shall be carried out prior to its delivery and the other inspections will be carried out departmentally after the completion of the work.

10. **Performance Guarantee:** Contractor will provide guarantee for trouble free operation of one year on LT cable laying & termination job from the date of successful completion.

11. **Working Hours:** The work can be carried out on all working days between 9:00 hrs. to 17:00 hrs.

12. **Industrial safety:** The contractor shall follow all the Industrial safety guidelines and & take all safety measures during the execution of work. All necessary safety gears like rubber gloves, helmets, safety belts and safety shoes etc. shall be provided to his staff by the contractor. BARC shall not be responsible for any untoward incident.

13. The bidders, who require to visit the site, can contact on telephone no. 022-25596904/25591508. Prior intimation should be given to above no. in order to arrange for Gate pass to visitors.

14. Payment will be made as per government rules after 100% completion of the job satisfactorily. No part payment will be made during the course of work.

15. **Delay Clause:** Any delay which is attributable to the contractor is liable for penalty @ 0.5 % of total cost per week (max. 5%) to be imposed on the contractor.

16. **Confidentiality:** No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as proprietary in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to the sub contractors, consultants, advisers or the employees engaged by the party with equal force.

17. **Restricted information categories under section 18 of the Atomic Energy Act, 1962 and "Official Secrets" under section 5 of the official secret act, 1923:** Any contravention of the above mentioned provisions by any contractor, sub contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

18. **Prohibition against use of BARC’s name without permission for publicity purposes:** The contractor or sub contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like press, radio, T.V. or Internet without prior approval of BARC.

19. **Police Clearance:** The bidder shall note that entry inside BARC is restricted and it is compulsory for contractor to get police clearance for all his staff who will be entering BARC for work. Photo copies of these PVCs shall be submitted along with the quotation as documentary proof for being eligible to work inside BARC.

20. Head, Experimental Facilities Section, Reactor Engineering Division (RED) reserves the right to accept / reject any or all the quotations received without assigning any reason whatsoever.

Yours sincerely,

(Dr. R.D. Kulkarni)
Head, Experimental Facilities Section
Reactor Engineering Division
(For and on behalf of President of India)

Encl.: Annexure -I: Technical specifications
Annexure -I

Technical Specification

For

Laying and termination of LT electric cables, supply & installation of cable trays and application of fire retardant coating at Rectifier building, behind Hall-7, BARC, Mumbai-85.

<table>
<thead>
<tr>
<th>Items</th>
<th>Description of work</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Laying &amp; termination of 1.1 KV, 4 Core, 4mm², copper conductor, PVC insulated, armoured cables in GI cable trays as per clause 1.</td>
<td>870 Meters</td>
</tr>
<tr>
<td>2</td>
<td>Laying &amp; termination of 1.1 KV, 7 Core, 2.5 mm², copper conductor, PVC insulated, armoured cables in GI cable trays as per clause 2.</td>
<td>740 Meters</td>
</tr>
<tr>
<td>3</td>
<td>Supply of GI cable tray, 450mm width as per clause 3.</td>
<td>55 Meters</td>
</tr>
<tr>
<td>4</td>
<td>Supply of GI cable tray, 150mm width as per clause 4.</td>
<td>35 Meters</td>
</tr>
<tr>
<td>5</td>
<td>Installation of GI cable trays using MS supports as per clause 5.</td>
<td>500 Kg</td>
</tr>
<tr>
<td>6</td>
<td>Supply and installation of fire retardant coating material (fire breaks) suitable for electrical cables as per clause 6.</td>
<td>90 Meter²</td>
</tr>
<tr>
<td>7</td>
<td>Installation of earthing for cable trays as per as per clause 7.</td>
<td>30 Meters</td>
</tr>
</tbody>
</table>

Description of work:

Clause 1: Laying & termination of 1.1 KV, 4 Core, 4mm², copper conductor, PVC insulated, armoured cables in GI cable trays:

Laying: Scope of work include laying of cables in indoor GI cable trays as the cable schedule given in Table1. Each cable shall be tied properly to the cable tray. Supply and installation of cable identification tags at three locations of each cable segments. The identification tags shall be made up of aluminum plate 2 mm thick, 50 x 25 mm engraved/punched with the details of the cable, tied with GI wire. Feruling shall be done by plastic ferrules on both end of cables. Cable will be provided as free issue material as per Table 2.

Total length of 1.1 KV, 4 Core, 4mm² cable = 870 meters
Nos. of cable identification tags = 120

Termination: Termination of above cables at both ends. Supply of all termination materials and consumables such as copper lugs, single compression type heavy duty brass cable glands, washers, nut & bolts, ferrules, insulation tapes shall be in scope of supply.

Total nos. of termination of 1.1 KV, 4 Core, 4mm² cable = 80.
Outer Diameter of cable: 18mm
Note: All the above accessories shall be of reputed make only, wherever application, test certificate shall be provided with the accessories.

Testing: Insulation Resistance (IR)/HV test shall be carried out on the cable before termination and after termination by contractor. Instruments for IR/HV test shall be provided by the department.

Clause 2: Laying & termination of 1.1 KV, 7 Core, 2.5 mm², copper conductor, PVC insulated, armoured cables in GI cable trays:

Laying: Scope of work include laying of cables in indoor GI cable trays as the cable schedule given in Table1. Each cable shall be tied properly to the cable tray. Supply and installation of cable identification tags at three locations of each cable segments. The identification tags shall be made up of
aluminum plate 2 mm thick, 50 x 25 mm engraved/punched with the details of the cable, tied with GI wire. Feruling shall be done by plastic ferrules on both end of cables. **Cable will be provided as free issue material as per Table 2.**

**Total length of 1.1 KV, 4 Core, 4mm² cable = 740 meters**

**Nos. of cable identification tags = 100**

**Termination:** Termination of cables at both ends of the cable. Supply of all termination materials and consumables such as copper lugs, single compression type heavy duty brass cable glands, washers, nut & bolts, ferrules, insulation tapes shall be in scope of supply.

Total nos. of termination of 1.1 KV, 7 Core, 2.5 mm² cable = 66.
Outer Diameter of cable: 19mm

Note: All the above accessories shall be of reputed make only, wherever application, test certificate shall be provided with the accessories.

**Testing:** Insulation Resistance (IR)/HIV test shall be carried out on the cable before termination and after termination by contractor. **Instruments for IR/HIV test shall be provided by the department.**

**Clause 3: Supply of GI cable tray, 450mm width:**

**Specifications:**
Type: ladder type cable tray
Dimensions: 450mm (width), 100 mm (depth), 2500 mm (length)
Thickness: 2.5 mm Thick
Construction material: hot DIP GI as per IS : 2629/4759. Material test certificate shall be provided by contractor.
Rung dimension: 35 x 15 mm.
Rung interval: 250 mm.
Rung shall have slots for tying the cables.
All accessories such as coupler plates, Horizontal & Vertical Bends, Reducers, Tee, cross, nut bolts with washers etc. shall be in the scope of contractor. The nos. of bends, tees and reducers etc. can be estimated from the **3D layout sketch of cable tray given in fig.1a, fig.1b & fig.1c.**
**Total length: 55 meters**

**Clause 4: Supply of GI cable tray, 150mm width:**

**Specifications:**
Type: ladder type cable tray
Dimensions: 150mm (width), 50 mm (depth), 2500 mm (length)
Thickness: 2.0 mm Thick
Construction material: hot DIP GI as per IS : 2629/4759. Material test certificate shall be provided by contractor.
Rung dimension: 35 x 15 mm.
Rung interval: 250 mm.
Rung shall have slots for tying the cables.
All accessories such as coupler plates, Horizontal & Vertical Bends, Reducers, Tee, cross, nut bolts with washers etc. shall be in the scope of contractor. The nos. of bends, tees and reducers etc. can be estimated from the **3D layout sketch of cable tray given in fig.1a, fig.1b & fig.1c.**
**Total length: 35 meters**
Clause 5: Installation GI cable trays using MS supports as per clause 5:

The cable tray shall be supported by M.S. supports fabricated out of M.S. angle/channels/flats etc. in suitable sizes as directed by Engineer In-charge. The scope of work shall be the fabrication and installation of M.S. supports at site including the grouting of supports on wall/welded on to the existing steel structure complete with all fixing accessories. G.I. nut bolts, washers etc. and painting of supports with 2 coats of red oxide primer and two coats of enamel grey paint. M.S. angle/channels/flats etc. will be provided as free material to contractor as per Table 2 however All machines, tool and tackles such as cutting machine, welding machine, drilling machine, etc. and consumables such as anchor fasteners, Nut-bolts, washers, studs, welding electrode etc. shall be in scope of contractor. The actual quantum of work related to fabrication & installation of supports, shall be measured after the completion for work. Contractor shall quote in per Kg basis only. Contractor shall make arrangement for ladders/scaffolding etc. for working at height of maximum 6 meters.

Expected weight of MS supports: 500Kg

Clause 6: Supply and installation of fire retardant coating material (fire breaks) suitable for electrical cables:

Total surface area of electrical cable for fire retardant coating: 90 square meters.

Applicable Standards: The material should meet the relevant portion of various IS and IEC for flammability and fire resistance like IS: 10810, IS : 12459, IEEE-383, IEC-331-70.

The Vendor shall mention average consumption of material in kg. per square meter area of installation to achieve the required thickness for 30 minutes fire rating. The dry film thickness of coating shall also be mentioned. (However, minimum of 2 mm thickness will be required).

All arrangements for the installation of the system have to be made by the vendor. All the tools and accessories like ladders, scaffolding, supports, etc. required for the work have to be arranged by the vendor. Ladders may be provided by BARC to the extent available.

Approved makes: Fire retardant coating shall be of “Vijay System Engineers” Make or equivalent.

Technical requirements:
1. The firebreak (fire retardant coating) should prevent propagation of fire for a minimum period of 30 min.
2. Firebreak shall be totally asbestos free and shall be compatible with the sheathing of cable (PVC, XLPE etc.)
3. Firebreak shall preferably have long life with life expectancy of at least 20 years.
4. Fire break shall not affect the current carrying capacity of the cables and test certificate regarding the same shall be produced from recognized laboratory / agency.
5. Fire break shall be water resistant
6. Firebreak shall be resistant to the corrosive gases and to the effect of vapours of chemicals like hydrocarbons, acids, alkalis etc. and Contractor shall produce test reports to this effect from reputed test laboratories.
7. Firebreak shall not crack, peel off due to bending of cables and shall be very flexible.
8. Firebreak shall not contain any flammable solvents or toxic materials & shall have high flash point.
9. Firebreak shall not be irritant to skin nor shall it produce any itching to skin while carrying out application.
10. Firebreak material shall be brush-able and also must be spray-able. It shall be possible to easily apply this firebreak to trays fully laden with cables and located one below other. All other conditions being same preference will be given to the product for which application is easy and time required for curing is minimum.

11. It shall be possible to remove or lay individual cables in a coated cable bunch. It should be possible to easily repair the damaged firebreak without deterioration in properties.

12. The protection system shall prevent propagation of fire arising from (a) internal short circuit of cables (b) when exposed to intense flame vertically as well as horizontally.

13. It shall not require any special or chemical cleaning prior to its application.

14. It shall also be suitable for outdoor use and shall not be vulnerable to moisture. The firebreak material on curing shall be non-hygroscopic and retain its integrity and perform satisfactorily after prolonged exposure to water.

15. Fire retardant coating after curing shall be mechanically strong enough to withstand foot traffic without damage.

16. Fire retardant coating shall be composed of fire retardant chemicals and inorganic incombustible fibres, fillers and pigments along with water base or non-flammable oil base thermoplastic resin.

17. In case of fire, any constituent of the fire retardant shall not evolve any toxic gas or fumes.

18. There shall be no effect of oil, dust, saline, atmosphere, acid, alkali and corrosive fumes and continuous exposure to sun etc. on the coating.

19. The system should be compatible with most of the construction materials, cable jacket materials and cable materials and should stick to most of the surfaces.

20. The fire protection system shall have following additional properties. Test certificates of these tests shall be submitted along with the offer:

   a) It shall be odourless.
   b) It shall have high oxygen index (greater than 60).
   c) It shall exhibit no damage when immersed in water at room temperature for 7 days.
   d) It shall exhibit no damage when immersed in alkaline solution of 5% sodium hydroxide for 3 days.
   e) It shall show no damage when immersed in an acidic solution of 5% HCL for 3 days.
   f) It shall show no damage / deterioration when tested for accelerated aging at 85°C for 168 Hrs.
   g) It shall show no damage / deterioration when immersed in lubricating oil for 3 days.

**Experience Clause:**

1. Vendors having enough experience in this field only need to quote.

2. Preference will be given to those who are having past experience in execution of similar works in BARC or Department of Atomic Energy (DAE).

**Tests & inspection:**

Inspection of raw material shall be carried out at contractor’s factory before dispatch to BARC. Test certificate for following tests shall be provided by the contractor:

1. Swedish chimney test
2. Accelerated aging test

**Clause 7: Installation of earthing for cable trays:**

Every end of GI cable tray shall be earthed using 25 x 3 mm or 50 x 6mm or 8swg cooper earthing strip/wire. Earthing strip shall be connected to GI cable tray using Nut bolts, however other end of
Earthing conductor should be brazed to earthing system of building. The interconnection of earthing strip shall be made by brazing only. Earthing strips shall be laid to Wall/floor using suitable GI clamps. Earthing strips/wire shall be given to contractor as free issue material as per Table 2, however all the tools/tackles & consumable such as nut bolts, GI clamps, brazing compound, lungs etc. shall be in scope of contractor.

Total length of earthing to be installed: 30 meters.

### Table 1: Cable schedule

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Cable details</th>
<th>From (Equipment)</th>
<th>To (Equipment)</th>
<th>No. of cable</th>
<th>Route length (Meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4Core x 4 mm²</td>
<td>Control Cubicle</td>
<td>H.T breaker</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>H.T breaker</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>4Core x 4 mm²</td>
<td>Control Cubicle</td>
<td>Transformer</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>4</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>Transformer</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>4Core x 4 mm²</td>
<td>Control Cubicle</td>
<td>Rectifier Cubicle</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>Rectifier Cubicle</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>Rectifier Cubicle</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>8</td>
<td>4Core x 4 mm²</td>
<td>Control Cubicle</td>
<td>LT Distribution panel</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>LT Distribution panel</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>DM water cooling system</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>11</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>DC measuring unit</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>12</td>
<td>7Core x 2.5 mm²</td>
<td>Control Cubicle</td>
<td>DC Isolator</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>13</td>
<td>4Core x 4 mm²</td>
<td>Control Cubicle</td>
<td>Battery charger</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>4Core x 4 mm²</td>
<td>Rectifier cubicle</td>
<td>Transformer</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>15</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>Rectifier Cubicle</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>16</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>Transformer</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>17</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>DM water cooling system</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>18</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>HT breaker</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>19</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>Battery charger</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>20</td>
<td>4Core x 4 mm²</td>
<td>LT Distribution panel</td>
<td>DC measuring system</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>21</td>
<td>4Core x 4 mm²</td>
<td>HT breaker</td>
<td>APFC bank</td>
<td>1</td>
<td>30</td>
</tr>
</tbody>
</table>

### Table 2: List of Free issue materials

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Place of delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.1 KV, 4 Core, 4mm², copper conductor, PVC insulated, armoured cable.</td>
<td>As required</td>
<td>Meter</td>
<td>Free of cost.</td>
<td>Near to site at one point.</td>
</tr>
</tbody>
</table>
2. 1.1 KV, 7 Core, 2.5 mm², copper conductor, PVC insulated, armoured cable. As required Meter Free of cost. Near to site at one point.

3. M.S.Angle/channels/flats/box/plates/Sheets etc. as structural material for fabrication of Cable tray supports. As required Kg Free of cost. Near to site at one point.

4. Copper strips: 25 × 3 mm, 50 × 6 mm, 8SWG copper wire for earthing. As required Meter Free of cost. Near to site at one point.

5. Water & electricity As required Nos. Free of cost. Near to site at one point.

Note: Water & electricity will be made available to contractor free of cost, however contractor shall make their own arrangement of power distribution boards. The IR value of power distribution boards & Equipment’s shall be more than 2 MΩ. Electrical protection devices should be available with the power distribution board.

Table 3: Format for quotation

Bidders/contractor will quote in following format only, the offer of those bidders not complying the format are liable for rejection:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Laying &amp; termination of 1.1 KV, 4 Core, 4mm², copper conductor, PVC insulated, armoured cables in GI cable trays as per clause 1.</td>
<td>870</td>
<td>Meter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Laying &amp; termination of 1.1 KV, 7 Core, 2.5 mm², copper conductor, PVC insulated, armoured cables in GI cable trays as per clause 2.</td>
<td>740</td>
<td>Meter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Supply of GI cable tray, 450mm width, 100mm depth as per clause 3.</td>
<td>55</td>
<td>Meter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Supply of GI cable tray, 150mm width, 50mm depth as per clause 4.</td>
<td>35</td>
<td>Meter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Supply &amp; Installation MS supports for GI cable trays (given in Item 3 &amp; 4) as per clause 5.</td>
<td>500</td>
<td>Kg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Supply and installation of fire retardant coating material (fire breaks) suitable for electrical cables as per clause 6.</td>
<td>90</td>
<td>Meter²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Installation of Earthing for cable trays as per as per clause 7.</td>
<td>30</td>
<td>Meter</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Kindly add separate column/row for GST of each Item.

General conditions:

1. Wherever it is not possible to work on working days, then same has to be carried out on holidays by the contractor in consultation and prior arrangement with EIC at site.

2. Department will supply the materials mentioned (free issue materials as per Table 2) free of cost, at one place. The shifting of materials to work site and balanced/excess materials back to the location from where it is issued is in the scope of the contractor.

3. Bidder shall quote in per unit basis as per Table 3 only. The actual quantum of work shall be measured after the completion of work for making payment.
4. Only competent, experienced and qualified staff is to be deployed for the works.
5. All works at site will be supervised by the department person and contractor’s qualified and experienced supervisor/engineer and shall be carried out to satisfaction of department. Regular reports are to be furnished to department for records.

6. PVC clause: Only persons having Police Verification Certificate (PVC) shall be allowed to work inside the BARC premises. Hence, the contractor has to obtain the PVC for their staff prior to commencement of work (before issue of Work Order). All the security guidelines are to be followed strictly.

7. All activities should be properly planned and a schedule should be submitted to EIC at site for approval. The work shall be carried out as per the approved schedule bar chart.

8. The contractor shall follow all the Industrial safety guidelines and & take all safety measures during the execution of work. All necessary safety gears like rubber gloves, helmets, safety belts and safety shoes etc. shall be provided to his staff by the contractor.

9. All materials like tools, tackles & testing instruments required for the execution of the work are in the scope of contractor. It is the responsibility of contractor to keep the tool & tackles in safe condition and department shall not be responsible for any damage / lost etc.

10. All tools and tackles inside the premises when not in use shall be kept at suitable locations as required by Engineer-in-Charge at site.

11. Work experience: Bidder/contractor must have experience of satisfactory execution of at least two similar LT cable laying & termination work of 11 KV and above for Government organisation or PSU. Contractor shall submit the copy of satisfactory performance certificate/ copy of work order/purchase order along with their quotations as the proof of experience. The Similar work include: laying & termination of LT cables, Installation of GI cable tray, fire retardant coating of electric cables & earthing of equipment’s/panels etc.

12. Performance Guarantee: Contractor will provide guarantee for trouble free operation of one year on LT cable laying & termination job from the date of successful completion.

13. For carrying out any work contractor has to obtained work permit from the departmental engineer/ representative and same shall be cleared after completion of work, wherever it is applicable as per EIC at site.

14. The contractor if required can visit the site for seeing the location of site with the prior intimation/ appointment from Engineer-in-Charge before submission of tender document. Contractor may call on 022-25596904/ 1508.

15. The work shall be completed within stipulated time of work order & daily working time will be 09.00 hrs. to 18.00 hrs. The late working can be done with prior approval from security through EIC at site.

16. Vehicle/ tempo, if any used for transportation of materials shall have proper registration papers & driver of vehicle should have police verification certificate, driving license and other related papers. The details of vehicle shall be furnished in advance and only same vehicle shall be allowed. The contractor should fulfil all security requirements / guidelines regarding allowing the vehicle inside BARC premises.

17. All the materials, tools and tackles required for the job shall be brought with proper challan duly endorsed by the engineer of contracting agency and security & departmental supervisors nominated by EIC at site.

18. All the safety norms shall be followed during the execution of work. BARC shall not be responsible for any untoward incident.
Fig.1a: 3D Layout sketch of GI cable trays: this is for showing the nos. of bends, tees, reducers etc. in the cable tray.
Fig. 1b: 3D Layout sketch of GI cable trays: this is for showing the nos. of bends, tees, reducers etc. in the cable tray
Fig.1c: 3D Layout sketch of GI cable trays: this is for showing the nos. of bends, tees, reducers etc. in the cable tray.