TENDER DOCUMENT

NIT No.- DLI / C&E / WI-675 / 860

Tender for ‘Design, Engineering, Manufacturing, Testing at Works & Supply of Telephone Cable of various sizes for the project of “Augmentation of Fuel & Flux Crushing Facilities (Package-064) of Bhilai Steel Plant, (SAIL)”.

VOLUME- 2B

(Scope of Work & Technical Specification)

ENGINEERING PROJECTS (INDIA) LIMITED

(A GOVT. OF INDIA ENTERPRISE)

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Scope of Work & Technical Specification – Telephone Cables

Scope of Work

Scope of work of bidder for Telephone Cable shall include (but not limited to) supply, testing and inspection at works, packing, dispatch, transportation, delivery at site getting approval of drawings, datasheets & documents from BSP/MECON before manufacturing, providing drawings & documents, datasheets in requisite sets, quality assurance plan, internal test reports and handing over to Bhilai Steel Plant.

The scope of supply of the bidder shall be deemed to include all such items which although are not specifically mentioned in the specification, but are needed to make the equipment/system complete in all respect for its safe, reliable, efficient and trouble free operation.

Any modifications/deletions/additions/alteration in design/drawings/documents as required by BSP/MECON shall be in the scope of bidder.

Technical specification of the bidder shall be accepted subject to approval from BSP/MECON. Bidder to submit the technical specification/datasheet for approval from BSP/MECON along with their bid.

General

1.00 Standards

The design, manufacture, assembly and testing as well as performance (including safety, earthing and other essential provisions) of equipment and accessories covered under this specification shall, in general, comply with the latest issue of:
Latest applicable Standards and Codes of Practices published by Indian Standards Institution (BIS).
Latest IPSS (Interplant Standards for Steel Industry)
Latest Indian Electricity Rules & statutory requirements of Central Govt. and State Govt.
In case, the tenderer is not in a position to comply fully with certain IS / IPSS specifications or in respect of certain items for which there are no IS / IPSS specifications, the tenderer may base his proposals on IEC recommendations or other reputed national or international standards subject to the approval of the BSP/MECON.

The equipment components and materials used and supplied shall conform to high standards of design, engineering and workmanship and shall be suitable for efficient operation and reliable service in steel plant conditions.

All items to be supplied and all work to be done including system design and detailed engineering shall also comply with the statutory requirements of Govt. of India and the respective governments of state in which the plant is situated. The installation shall also confirm to Indian Electricity Act and Indian Electricity Rules.

### 2.00 Climatic Conditions

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Environmental condition</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Maximum ambient temp.</td>
<td>50 deg. C</td>
</tr>
<tr>
<td>2.0</td>
<td>Maximum Humidity</td>
<td>100 % does not occur simultaneously with maximum temperature.</td>
</tr>
<tr>
<td>3.0</td>
<td>Height</td>
<td>Less than 1000 M.</td>
</tr>
<tr>
<td>4.0</td>
<td>Environment</td>
<td>Dusty &amp; Corrosive</td>
</tr>
</tbody>
</table>
Technical Specification

GENERAL TECHNICAL SPECIFICATION

1.1 SCOPE OF WORK:

The scope of work includes complete design, engineering, testing at works, supply of PLANT TELEPHONE CABLES.

1.2 This specification forms part of the tender documents and shall be read in conjunction with the general purchase conditions (GPC) and other documents enclosed with Notice Inviting Tender. BSP/MECON decision shall be final in case of conflict between stipulations under various documents.

1.3 Preparation and submission of drawings like bill of materials, technical data sheets etc. complete in all respects for BSP/MECON approval/comments.

1.4 Submission of drawings & documents, technical catalogues, test certificates etc.

The components and materials used and the item supplied shall conform to high standards of design, engineering and workmanship and shall be suitable for efficient operation and reliable service in steel plant conditions.

2.0 TESTS

All cables shall be fully tested in accordance with the relevant clauses of the applicable standards.

Type test certificates shall be submitted to the BSP/MECON/EPI for all cables as stipulated in the relevant standard. Type tests shall be carried out as per the relevant standards in the presence of BSP/MECON/EPI representative for those items stipulated in the Technical Specification/data sheet and agreed with the BSP/MECON/EPI to ascertain compliance.

Routine tests as per relevant standards shall be carried out on all cables in the presence of BSP/MECON/EPI representatives at manufacturer’s works. In all the cases, test certificates shall be submitted. No cables or other materials shall be dispatched unless the test certificates are accepted by the BSP/MECON/EPI.

2.1 GUARANTEE

The successful bidder shall stand guarantee for the trouble free operation and satisfactory performance of all the cables supplied by him as per GPC. The material used shall be new and best of its kind available and shall conform to relevant latest Indian standards.

The guarantee shall also cover faulty design or materials or workmanship.
The successful bidder shall do all rectification or replacement under the guarantee free of cost.

The successful bidder will replace cables without any cost implication to BSP/MECON/EPI in case of any failure during testing and commissioning.

The successful bidder shall replace the wrong/defective cables supplied by them, missing items (observed during inspection at site after receipt of materials) or any damages caused to cables during transportation free of cost after receipt of information from the BSP/MECON/EPI. In case of any dispute, decision of BSP/MECON/EPI shall be final. The successful bidder shall depute his representative to site for replacement/rectification work without any extra cost to BSP/MECON/EPI.

2.2 MAKE OF CABLES.
Refer preferred/approved make vender list of BSP for vendors.

2.3 TECHNICAL SPECIFICATION OF CABLES.
All cables shall have copper conductor. Each conductor shall consist of 0.51 m.m dia. & 0.63 m.m dia solid wire of annealed high conductivity copper, twisted in pairs, fully filled with petroleum jelly. The cables shall conform to the latest edition of the standard specification.


i) Telephone cable of polythene insulated fully filled with petroleum jelly, polythene sheathed Poly-Al. Moisture barrier with another polyethylene sheath, armoured with two numbers of galvanised steel-tape over abedding of water proof cotton tape complying with P&T specification ITD, S/WS-129D, ITD, S/WT-143B.

ii) Telephone cable 0.51m.m dia annealed Copper conductor PVC insulated, screened, PVC sheathed, unarmored & overall PVC jacket.

Bidder to supply the telephone cables of various sizes as per the BOQ given below:

<table>
<thead>
<tr>
<th>CABLE SIZE</th>
<th>APPROX CABLE LENGTH (m)</th>
<th>CABLE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Pair</td>
<td>750</td>
<td>Jelly filled (armoured)</td>
</tr>
<tr>
<td>20 Pair</td>
<td>800</td>
<td>Jelly filled (armoured)</td>
</tr>
<tr>
<td>10 Pair</td>
<td>500</td>
<td>Jelly filled (armoured)</td>
</tr>
<tr>
<td>2 Pair</td>
<td>1100</td>
<td>Unarmoured PVC</td>
</tr>
</tbody>
</table>
3.0 List of drawings & documents to be submitted by bidder

I) For Approval/Reference - To be submitted by successful bidder:

01. Detailed Specification/ datasheet for Telephone Cable (of various sizes).
02. Bill of Materials
03. GA drawing
04. Quality Assurance Plan
05. Internal test reports and certificates.
06. Any other drawings /documents as per manufacturer’s recommendation.
07. Drawings/documents as per the requirement of BSP/MECON.
08. Manufacturer’s test and guarantee certificates for cables.

II) Drawings/documents to be submitted along with bid during tendering stage

01 Detailed technical specification/Datasheet for Telephone Cable (of various sizes).
02 Duly signed (with date and stamped) copy of unpriced copy of price bid (Volume 3).
03 Clause wise confirmation to Scope of Supply & Technical Specification of NIT.(Volume -2B)
04 No deviation declaration to NIT technical and commercial terms and conditions.
05 Duly signed with date and stamped copy of NIT Vol-1, Vol-2 (2A & 2B) and Vol-3 as token of acceptance.