TENDER DOCUMENT

TENDER No.: BHI/PI(S)/675/1011

FOR

Tender for supply of non draw out MCC for the Project of -
"Augmentation of Fuel & Flux Crushing Facilities (Pkg-064)
for Bhilai Steel Plant at Chhattisgarh.

VOLUME – I

ENGINEERING PROJECTS (INDIA) LIMITED
(A GOVT. OF INDIA ENTERPRISE)

B- 252, Street No.-5,
Smriti Nagar, Bhilai,
Chhattisgarh- 490020
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<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
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<td>Notice Inviting Tender (NIT)</td>
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<td>Bill of Quantity (Annexure – III)</td>
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<td>7.</td>
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NOTICE INVITING TENDER

NIT No. BHI/PI(s)/675/1011        Date: 07.12.2013

Engineering Projects (India) Ltd. is pleased to invite your offer in sealed envelope for supply of non draw out MCC as per specification of NIT.

The interested bidders can collect the complete set of tender documents from

Addl. General Manager
Engineering Projects (India) Limited,
B-252, Street No. -5, Smriti Nagar,
Bhilai-490020 (Chhattisgarh)

from 9:00 AM to 4:00 PM on all working days upto one day prior to last date/extended date of submission of the tender. The tender documents are also available on the website of EPI: www.epi.gov.in and CPP portal: www.eprocure.gov.in. Interested bidders can download the documents and submit the tenders. The tender documents comprise the followings:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Volume</th>
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<tbody>
<tr>
<td>1)</td>
<td>Volume - I</td>
<td>i) Notice Inviting Tender (NIT)</td>
</tr>
<tr>
<td></td>
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<td>ii) Terms and Conditions (Annexure-I)</td>
</tr>
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<td></td>
<td></td>
<td>iii) Approved Vendor List (Annexure-II)</td>
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<td></td>
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<td>vi) Drawing - SLD &amp; Scheme of CHP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vii) Drawing - SLD &amp; Scheme of CSP</td>
</tr>
<tr>
<td>2)</td>
<td>Volume - II</td>
<td>i) Price Schedule</td>
</tr>
</tbody>
</table>

The last date of submission of tender is 12.12.2013 upto 3:00 pm at above address. The tender shall be opened on 12.12.2013 at 4pm. There is tender fee Rs. 500/- (Rupees Five Thousand Only) and EMD Deposit of Rs. 30,000/- (Rupees Thirty Thousand Only) for this tender. The tender fee and EMD is to submitted in the form of Crossed Demand Draft or Pay Order of any Nationalized Bank / Scheduled Bank for the full amount of EMD favouring, “Engineering Projects (India) Ltd.”, payable at Bilhail. Tenderers to submit the one set of tender documents duly signed and Stamped along with their offer.
EPI reserves the right to extend the date of submission of the tender or cancel the tender or annul this process without assigning any reason whatsoever. The information of extension/cancellation, if any, shall be given on the EPI’s website www.epi.gov.in and www.engineeringprojects.com. The intending Tenderers are requested to visit the EPI’s website regularly for this purpose.

1.0 MODE OF SUBMISSION

The tender is to be submitted in two separate sealed covers marked as under:

**ENVELOPE-1 :-**

This ENVELOPE shall contain the following:

i) Earnest Money Deposit of Rs. 30,000.00 (Rupees Thirty Thousand only) in the form of Crossed Demand Draft or Pay Order of any Nationalized Bank /Scheduled Bank for the full amount of EMD favouring, “Engineering Projects(India) Ltd.”, payable at Bhilai.

ii) The tender fees of Rs. 500.00 (Rupees Five Thousand only) (Non-Refundable) in the form of Crossed Demand Draft or Pay Order of any Nationalized Bank /Scheduled Bank favouring, “Engineering Projects (India) Ltd.”, payable at Bhilai.

iii) In this envelope the tenderer should also keep the complete tender documents duly signed and stamped by them on each page as their acceptance and unpriced copy of price bid.

iv) Any other information as required to be submitted along-with the tender.

This envelope shall be marked as:

**ENVELOPE-1 “TECHNO-COMMERCIAL BID” FOR (Name of work as mentioned in “Notice Inviting Tender”)**

**NIT No. : ____________________________**

**DUE ON: ____________________________**

**FROM: (Name of the Contractor)**

**ENVELOPE – 2:-**

This ENVELOPE shall contain only the Volume-II comprising of PRICE-BID. No terms and conditions or any other thing should be kept in this envelope.

This envelope shall be marked as:

**ENVELOPE-2: ‘PRICE-BID’ FOR (Name of Work as mentioned in “Notice Inviting Tender”)**

**NIT No. : ____________________________**

**DUE ON: ____________________________**

**FROM: (Name of the Contractor)**
Both the envelopes / packets shall be individually sealed and kept in an outer envelope marked as:

**TENDER FOR** (Name of Work as mentioned in “Notice Inviting Tender”)
**NIT No. :** __________________________
**DUE ON: __________________________**
**FROM: **(Name of the Contractor)

The outer envelope shall be duly sealed and shall be delivered at place of submission of tender by the date and time fixed for receipt of tender as mentioned in “Notice Inviting Tender”. The tenders received after the date and time of tender receipt shall not be considered and shall be returned to the Bidder unopened. EPI shall not be responsible for any postal or other delays, whatsoever and Bidder should take care to ensure the submission of tender at place of receipt of tender by due date and time fixed for tender receipt. All the envelopes shall be addressed to the authority who has invited the tender as mentioned in “Notice Inviting Tender”.

1.1 First the Envelope-1 of the Bidder shall be opened. Bidders who unconditionally accept the tender conditions, deposit the required Earnest Money and whose Techno-Commercial Bid along with PQ Documents is found suitable shall be considered for the opening of their Price Bid and Envelope-2 of such Bidders shall only be opened. The tenders not accompanied by requisite Earnest Money and / or not conveying un-conditional acceptance of tender conditions or whose Techno-Commercial Bid and PQ Documents are not found suitable shall be rejected and such Bidder shall not be allowed to attend Price Bid opening i.e. opening of Envelope-2.
Annexure-I

Terms and Conditions

1) Taxes and duties : Shall be paid extra as applicable and vendors/parties are advised to mention it clearly.
2) Payment terms : a) 95% against delivery of material. 
                       b) 5% after 1 months of last delivery of material.
3) Price basis : FOR site (inside Bhilai Steel Plant).
4) Delivery : Material will be offered for inspection within 25 days from the date of issue of LOI and material will be supplied at site within 5 days from the date of issue of Dispatch Clearance Certificate.
5) Prices will remain firm, till completion of supplies.
6) MCC drawing shall be submitted by vendor for approval within 5 days from the date of issue of LOI.
7) Inspection shall be carried out by EPI.
8) Security Deposit- The contractor shall furnish Security Deposit (SD) of 5% of the contract value either by Bank guarantee in the stipulated Proforma or Crossed Demand Draft or Pay Order of any Nationalized Bank / Scheduled Bank within one week from the date of issuance of LOI. It will be refunded after 6 months of defect liability period.
9) Guarantee/ warrantee certificate of manufacture shall be submitted at the time of inspection/delivery.
10) Guarantee – 12 months from the date of erection/ 18 months from the date of supply whichever is later. The electrical component will be replaced by the supplier/manufacturer in case of defect at no extra cost.
11) Pre Qualification of bidder : Manufacturer/Authorized dealers are permitted to submit the offer who has already completed such type of work.
## Annexure II

### Approved vendors list

#### Electrical component of approved vendor

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>Approved vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MCB</td>
<td>Siemens, L&amp;T, GE Power Control, Schneider (Protec/MG), Standard, Indo Asian, Havells, MDS (Legrand), ABB, Control &amp; Switchgear.</td>
</tr>
<tr>
<td>2</td>
<td>Earth leakage circuit breaker</td>
<td>GE Power Control, Standard, Havells, ABB, Siemens, Schneider.</td>
</tr>
<tr>
<td>3</td>
<td>PUSH BUTTONS</td>
<td>BCH, L&amp;T, SCHNEIDER, SIEMENS, GE POWER, CONTROL &amp; SWITCH GEAR, TECHNIK, ESSEN, TELEMECANIQUE</td>
</tr>
<tr>
<td>4</td>
<td>TERMINALS(2.5SQMM)</td>
<td>ALMAX, EPCC, PHONIX CONTACT, CONNECT WELL, ESSEN DEINKI, WAGO</td>
</tr>
<tr>
<td>5</td>
<td>SELECTOR SWITCHES &amp; CONTROL SWITCHES</td>
<td>ABB, GEPC, BCH, EPCC, KC, SIEMENS, TEKNIK, L&amp;T, RECON</td>
</tr>
<tr>
<td>6</td>
<td>INDICATING LED LAMP ASSAMBY</td>
<td>BINOTH, ESSEN DEINKI, SIEMENS, TECHNIK, BCH, L&amp;T, ALTOS, CONTROL &amp; SWITCH GEAR</td>
</tr>
<tr>
<td>7</td>
<td>AMMETER</td>
<td>AE</td>
</tr>
<tr>
<td>8</td>
<td>2.5SQMM LIGHTING FLEXIBLE PVC WIRE, Back colour</td>
<td>CCI, DELTON, FINOLEX, NICCO, UNIVERSAL</td>
</tr>
<tr>
<td>9</td>
<td>Switch fuse unit/fuse disconnector / (Fuse Switch unit), Air Break Switch</td>
<td>GE power control, L&amp;T, Siemens, Basant Pran &amp; CO, Havells, Standard, Indo-Asian, Control &amp; Switch Gear, Anchore.</td>
</tr>
<tr>
<td>10</td>
<td>HRC fuse for LT application</td>
<td>GE power control, L&amp;T, Siemens, Bharat Linder, Indo Asian, Havells, Standard, Bussman, Control &amp; Switch Gear, ABB</td>
</tr>
<tr>
<td>11</td>
<td>Power contractor for general purpose &amp; continues duty operation</td>
<td>ABB, Siemens, Schneider, L&amp;T, Rockwell, Automation, Andrew Yule, Schneider (CG) BCH (BIL), Moeller, Control &amp; switch gear, GE Power, HPL.</td>
</tr>
<tr>
<td>12</td>
<td>Over load relay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Thermal (Bimetallic)</td>
<td>BCH (BIL), L&amp;T, Siemens, Schneider (Telomecanique), Andrew Yule, Schneider (C.G.), Rockwell Automation, Control &amp; Switchgear, GE Power, HPL.</td>
</tr>
<tr>
<td></td>
<td>2) Electronic Over Load Relays</td>
<td>Siemens, L&amp;T, Rockwell Automation, Moeller, BCH, Schneider- Samwha.</td>
</tr>
<tr>
<td></td>
<td>3) Electro Magnetic Over Load Relay</td>
<td>BCH, Kilburn, BHEL, Schneider (Telemechanique)</td>
</tr>
<tr>
<td>13</td>
<td>Moulded case circuit breaker (MCCB)</td>
<td>Schneider (CG &amp; MG), L&amp;T Andrew Yule, ABB, Siemens, BCH(BIL), GE Power Control, Moeller, Control &amp; Switchgear.</td>
</tr>
<tr>
<td>14</td>
<td>Aux. contractor/control relays</td>
<td>OEN, L&amp;T, Schneider, Andrew Yule, GE Power Control, BCH(BIL), Easun Rerolle, Jyoti, Rockwell Automation, Control &amp; Switchgear.</td>
</tr>
<tr>
<td>15</td>
<td>Time delay relay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Electro pneumatic</td>
<td>BCH (BIL), Schneider (Telomecanique), BHEL, Esaun Refolle.</td>
</tr>
<tr>
<td></td>
<td>2) Electronic timer</td>
<td>Selectron, Siemens, BCH (BIL), Alstom, L&amp;T, Rockwell, Automation IFM, Schneider, (Telemechanique).</td>
</tr>
<tr>
<td></td>
<td>3) Time switches</td>
<td>L&amp;T, GE Power, Control, EAPL, INDO ASIAN, Schneider (MG).</td>
</tr>
<tr>
<td>16</td>
<td>Space heater</td>
<td>?</td>
</tr>
</tbody>
</table>
### Annexure-III

**FUEL & FLUX CRUSHING FACILITIES PROJECT (PKG-064)**

Supply of non draw out MCC

#### BILL OF QUANTITY

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Non draw out MCC as per SLD and control scheme for CHP.</td>
<td>Nos.</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Non draw out MCC as per SLD and control scheme for CSP.</td>
<td>Nos.</td>
<td>1</td>
</tr>
</tbody>
</table>
### TECHNICAL SPECIFICATION

1. **Cable entry**: Bottom
2. **Degree of protection**: IP-54
3. **Fabrication**: 2.0mm thk. CRCA sheet
4. **Type of cable gland plate**: Removable type 2.00mm thk. CRCA sheet.
5. **Painting**: Powder coating, Epoxy Based
6. **Paint Shade**: RAL – 7035
7. **Insulation Level**:
   - Rated insulation voltage 1100 V
   - One minute power frequency withstand voltage:
     - 2.5 kV for power circuits
     - 2 kV for control circuits
   - Clearance in air (minimum):
     - Phase to phase - 25.4 mm
     - Phase to earth - 19.0 mm
8. **Permissible variations**: The system / unit / plant / equipment shall be designed so as to be suitable for the following variations in voltage and frequency unless specifically indicated in the Technical specification:

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissible variations with rated performance, rated current and control</td>
<td>For LT system: +10% &amp; -15%</td>
<td>Frequency variation for both HT &amp; LT shall be +4%, -6%</td>
</tr>
<tr>
<td>effectiveness maintained.</td>
<td>For HT system: +6% &amp; -9%</td>
<td></td>
</tr>
<tr>
<td>Permissible variations With changes in rated Current / torque but without</td>
<td>+/− 10%</td>
<td>+/− 3%</td>
</tr>
<tr>
<td>any undesirable effect on performance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissible variations for control and regulation equipment with rated</td>
<td>+/− 15%</td>
<td>+6%, -6%</td>
</tr>
<tr>
<td>performance and control quality maintained.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissible voltage dip at the HT and LT switch gear bus during starting</td>
<td>For LT system: -15%</td>
<td></td>
</tr>
<tr>
<td>of HT and LT motor.</td>
<td>For HT System: - 10%</td>
<td></td>
</tr>
<tr>
<td>Frequency variation for both HT &amp; LT shall be considered as +4%, -6%.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Polyurethane Gasket Shall be provide on all doors.

10. All the components shall be visible only after door opening.

11. All feeders and incomer shall be compartmentalized and rear space shall be used for cable termination.

12. All the components shall be visible only after door opening.

13. Name plate of each feeder will be of anodized aluminium with white letters and engraved on black background in English language.

14. Elmax terminal shall be used 4.00 sq.mm and 20% extra Elmax to be provided.

15. 2NO, 2 NC terminal with wiring shall be provided in each feeder for PLC.

17. Door interlocking shall be provided with feeder ON position.

18. Electrical Component shall be of approved make i.e as per Annexure - II

19. Suitable MCB & Wiring from control transformer for control supply for all the feeder separately shall be in bidder scope. All inter panel wiring for system integration and interlocking is in bidder scope.

20. Local / Local interlock / Auto scheme wiring shall be provided as per scheme and modified if required during further detailing.
415V+10%&-15%3w-N, 50Hz, 600A, 50kA FOR 1 SEC.

NOTE:
1. ALL COMPONENTS SHALL BE AS PER APPROVED MAKE.
2. CABLE SIZE FROM LT PANEL TO MCP AND MCP TO MOTOR OF CONV Y11 - 207 IS 3½ X 185 mm²
3. Y11-207 IS POWER FEEDER ONLY MCP IS NOT IN VENDOR'S SCOPE.
4. ALL TERMINATION BUS BAR SHALL BE MADE SUITABLE TO TERMINATE NEXT HIGHER SIZE.
NOTE

1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION

Y11-206 18.5 KW
NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION
SCHEMATIC DRAWING FOR CONVEYOR Y11-209 FOR CHP AREA

CONTROL SUPPLY FROM CONTROL TRANSFORMER

NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION

Y11-209 15 KW
NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION
NOTE
1. ALL COMPONENTS SHALL BE AS PER APPROVED MAKE.
2. ALL TERMINATION BUS BAR SHALL BE MADE SUITABLE TO TERMINATE NEXT HIGHER SIZE.

CSP AREA

DRAW OUT TYPE

SLD FOR PRIORITY ROUTE CSP
NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION

K11-7  45 KW
K11-8  45 KW
Schematic Drawing for Conveyor K11-9, K11-10, K11-9A, K11-10A for CSP Area

Control Supply from Control Transformer

NOTE
1. Power Connector shall be provided with add-on block for contact multiplication.

K11-9 11kW, K11-10 11kW
K11-9A 11kW, K11-10A 11kW

Reversible
NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION

K11-9B 22 KW
K11-10B 22 KW
NOTE
1. POWER CONNECTOR SHALL BE PROVIDED WITH ADD-ON BLOCK FOR CONTACT MULTIPLICATION

K11-10C 37 KW