Sub: e- Tender for "PLC BASED AUTOMATION SYSTEM AND ASSOCIATED WORKS" for the project of Augmentation of Raw Material Receipt and Handling Facilities with new OHP Part-B (Package-061) of Bhilai Steel Plant (SAIL).

Ref: (i) NIT NO: DLI/C&E/WI-665/751(R) dated 14/06/2016.
(ii) Corrigendum no 1 dtd 20.06.2016
(iii) Corrigendum no 2 dtd 27.06.2016
(iv) Corrigendum no 3 dtd 29.06.2016

Clarification to bidders queries are enclosed as Annexure - 1

Date & Time of Downloading of Tender Documents extended up to :19.07.2016 up to 12:00 PM
Last date and Time of online submission of Tenders extended up to :19.07.2016 by 3:00 PM
Last date & Time of Opening of Tender :19.07.2016 at 3:30 PM

All other terms and conditions of the tender remain unchanged.

Executive Director (C&E)
Engineering Projects (I) Ltd
Core-3 Scope complex
7, Lodhi Road, New Delhi-110003
**Annexure-1**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Page No.</th>
<th>Clause Mentioned in NIT</th>
<th>Clarification Required</th>
<th>EPL clarifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>The existing 5-60/5-80 series PLC (CPU) with shared backplane (Rockwell Make) having processor inter-redundancy and 1771 series I/O sub-system located at existing control room (D1 &amp; D2) near SH &amp; SH-10 will be replaced by new PLC retaining existing I/O modules. The communication cable from existing I/O to new PLC will be dealt separately. Please let us know the scope of this replacement of new PLC. As per the system configuration the existing PLC is to be communicated through gateways?</td>
<td>Bidder to refer NIT Vol-38 Clause No. (1.6)-3b (1) &amp; Clause No. 5.0-5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5 of 41</td>
<td>Existing PLC Details:</td>
<td>1) In certain areas there are certain Racks missing in the list of Existing PLC locations for considering inter-cabling for the same. 2) The communication networks will be duly tested and certified.</td>
<td>Bidder to refer to the configuration diagram (EPI-BSP-061-01-03-DE-4051(R) Rev-01) (sheet 3 of 2)</td>
</tr>
<tr>
<td>3</td>
<td>8 of 41</td>
<td>The communication networks will be duly tested and certified</td>
<td>Please elaborate on this requirement</td>
<td>Bidder to comply with NIT specifications</td>
</tr>
<tr>
<td>4</td>
<td>8 of 41</td>
<td>PLC network of the proposed plant will have 3 level interfacing with third party PLCs like BF, SP-II &amp; SP-III, SMS-III, RMP, Lime Plant etc.</td>
<td>1) I/O counts are considered in I/O list. 2) Bidder to refer configuration drawing No- (EPI-BSP-061-01-03-DE-4051(R)-Rev-00) 3) Bidder to refer (S. no.1) of corrigendum No 2</td>
<td>Bidder to visit the site and collect the information about existing system at site.</td>
</tr>
<tr>
<td>5</td>
<td>9 of 41</td>
<td>Communication cable for interfacing between HT towers of HTSS and respective Despatcher shall be provided along with required hardware and software to establish communication with DHP part B PLC</td>
<td>Please let us know the distances of HTSS boards from the respective PLC locations for considering intercabling cables for the same.</td>
<td>Bidder to refer to configuration drawing no- (EPI-BSP-061-01-03-DE-4051(R) Rev-01) (sheet 2 of 2)</td>
</tr>
<tr>
<td>6</td>
<td>9 of 41</td>
<td>Provision of connecting all remote I/O stations will be provided through respective PLC.</td>
<td>I/O counts are considered in I/O list.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>9 of 41</td>
<td>Provision of connecting the portable field programmer to RMP and Intelligent MCC/Intelligent MCP (ABB Make) with required software will be provided.</td>
<td>Details shall be provided during detailed engineering (DE)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10 of 41</td>
<td>All Belt Weight Scale controller, protection switches controller, I/O panels etc. shall have the interfacing with Plant PLCs. Requirement of interfacing with plant PLC system and protocols for communication has been shown in configuration diagram (EPI-BSP-061-01-03-DE-4051(R) Rev-00)</td>
<td>Please let us know the lengths of Profibus &amp; Modbus Cable to be considered for communication of UPL, ACS, MDP, IFP in each respective PLC location.</td>
<td>Bidder to refer to Corrigendum No 2 - (Amended clause at S. no. 8)</td>
</tr>
<tr>
<td>9</td>
<td>12 of 41</td>
<td>Two years maintenance spares, if the order is separately placed by BSP.</td>
<td>Please submit spare parts list with price in the price format for recommended spares (volume -3)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>13 of 41</td>
<td>Providing suitable redundant gateway connectivity for interfacing of purchaser’s OHP (Part A) – PLC (Rockwell Make) with control level ethernet network and connectivity of OHP with B PLC (Rockwell Make) of Wagon Tippler &amp; SAC to control level ethernet as shown in automation system configuration diagram (EPI-BSP-061-01-03-DE-4051(R) Rev-00)</td>
<td>Please provide the protocol details for communication of Rockwell PLC to the system and considering gateways accordingly.</td>
<td>Bidder to refer to Corrigendum No 2 - (Amended clause at S. no.3)</td>
</tr>
<tr>
<td>11</td>
<td>13 of 41</td>
<td>Supply and installation of 1500 meters cable tray of 100 mm size as per specification given in GTS to be considered for control cable laying for interfacing with other plant/ existing plant PLC equipment with required accessories.</td>
<td>Details shall be provided during DE</td>
<td></td>
</tr>
<tr>
<td>12</td>
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<td>Supply of control cable (2, 3, 4 pair) for third party PLC interface hardwired connection in a bidders scope. In existing plant area, cable laying through existing cable trays shall be subject to approval of BSP</td>
<td>Please provide the length of Control Cables to be considered</td>
<td>Bidder to refer to Corrigendum No 2 - (Amended clause at S. no.4)</td>
</tr>
</tbody>
</table>
Bidder to refer the configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01 for ESD panel locations.

Bidder to refer the automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01, sheet no. 02 and Corrigendum No. 2 (Amended clause at 5, no. 4).

Bidder to Supply Tools and Tackles as per list given in NIT for automation system.

Bidder to refer automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01, sheet no. 03 of 02 and Corrigendum No. 2 - (Amended clause at 5, no. 8).

Bidder to supply UPS System as per system requirement.

Bidder to refer configuration drawing No (EPS-ESI-01-03-DE-4051(R)) sheet no. 02 and Corrigendum No. 2 - (Amended clause at 5, no. 7).

Bidder to refer automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01 and rev at s. no. 15

Bidder to refer co-ordinate details drawing no-(DLI-C&E-WI-665-003) Rev-0. Protocol details shall be provided to successful bidder.

Bidder to refer automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01 and clause no:-(10.0)-1 for HT motor winding and bearings, temperature sensors, vibration sensors will be hooked up with PLC for monitoring. Inter connecting communication cable from CBM system of HT motor in field to PLC panel/RIO in dispatcher/LTSS panel shall be in bidder’s scope.

Bidder to refer automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01 and clause no:-(10.0)-1 for HT motors location.

Bidder to refer automation system configuration diagram (EPS-ESI-01-03-DE-4051(R)) Rev-01 and clause no. -(10.0)-1 for HT motors location.

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Bidder to provide earthing system for the automation system of plant.

Bidder to refer the configuration diagrams (EPS-ESI-01-03-DE-4051(R)) Rev-01 for ESD panel locations.

Bidder to refer the specifications of Tools & Tackles listed in the specifications.

Bidder to Supply Tools and Tackles as per list given in NIT for automation system.
Bidder to refer I/O list given in NIT Vol-2B Clause -(1.0)-10 for existing RIO details and NIT Vol-2B Clause -(5.0) for new RIO details.

Please provide the details of these systems.

We assume that no hardwired signal and control cables are in our scope. On interfacing these equipments, necessary communication cables and networking devices shall be in bidder's scope.

Bidder to refer NIT Vol-2B Clause -(2.5)-20 for existing RIO details and NIT Vol-2B Clause -(3.0) for new RIO details.

We provide PLC from approved make. Bidder to refer DLI/C&E/WI Corrigendum No -1 for existing RIO details and NIT Vol-2B Clause -(1.0)-10 for existing RIO details.

Bidder to comply with the NIT requirement.

The channel density of I/O modules in the existing system are DI - 16 and RIO (5.0 n and 36 g).

Please provide the details of these systems.

Bidder to refer I/O list given in NIT Vol-2B Clause -(1.0)-10 for existing RIO details and NIT Vol-2B Clause -(5.0) for new RIO details.

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