SUMMARY

Call For Nomination IO/12/CFN/70000043/BGD

Framework Contract for CODAC I&C Integration kits manufacture, distribution and maintenance

Purpose

The purpose of the Contract in question is to assist the ITER Control System Division to manufacture, distribute and maintain an industrial grade set of equipment, containing an industrial PC computer, network switch and a variable number of specialized network cards.

Background

ITER Instrumentation and Control (I&C) System comprise the complete control, interlock and safety systems required to operate the ITER Tokamak, under construction in Cadarache, France. ITER I&C system has two layers, central coordination and local plant systems. The central systems are “in-fund”, i.e. procured by the ITER Organization (IO), while plant systems are “in-kind”, i.e. procured by the seven ITER Domestic Agencies (DAs). An estimated number of 89 contracts, called Procurement Arrangements (PA), including plant system I&C is being signed by the ITER Organization and the Domestic Agencies. The signatures are distributed in time, covering the period of 2011 – 2017 (for the practical purpose of this Framework contract). Each Procurement Arrangement may include multiple plant system I&C with a current total estimate of 220. The Domestic Agencies is contracting out the detailed design and manufacturing of the plant systems, including their plant system I&C, to local industry. In order to ensure the integration and maintainability, the instrumentation and control of plant systems need to be standardized to very high level of compatibility. One of the key elements in the standardization effort is the interface of the plant system with the central CODAC (Control, Data Access and Communication) control system. An important element in the ITER standardization strategy is a set of I&C software tools, called CODAC Core System. The Control System Division is maintaining a set of hardware catalogues of I&C items which the CODAC Core System is supporting.

The CODAC I&C Integration Kit is an essential step to reach a good level of standardization. A CODAC I&C Integration Kit will be loaned to all organizations and entities who have signed a Procurement Arrangement to build an ITER plant system. It contains all the software tools necessary to develop and manage the construction phase of the plant system I&C. It contains connectivity tools, allowing the plant system manufacturer to use CODAC collaborative tools, available over Internet. The I&C Integration kit will play an important
role during the Factory Acceptance test of the plant system; it will be used again for the plant system’s Site Acceptance test in Cadarache and finally, it may be recycled during the Integration Phase to act as Plant System Host to interface the plant system with the central CODAC control system.

**Scope of work**

The manufacturing of I&C Integration Kits is done in batches. Within the Framework contract, the Control System Division will issue Task Orders covering a defined quantity of items making a batch. Each Task Order has a variable length, explained below but with maximum length of five years, covering the manufacturing, distribution and maintenance phases. The manufacturing covers the collection, assembly and inventory management of the hardware items for the following steps. The distribution of each I&C Integration Kit is launched at Control System Division request. The distribution work comprises the installation of CODAC defined software on several virtual instances on the above computer and their configuration control specific to the intended destination, defined by the Control System Division. The destination can be in any of the member countries to the ITER project. The final step of the Task Order covers the maintenance over a period of five years from the issue of the Task Order, or up to the return of the material to the ITER Cadarache site; with an immediate replacement spare part service using world-wide courier service, the recovery and the reception of the damaged item.

**Duration of services**

The Contract is scheduled to come into force in the first quarter of 2013 for a duration of six (6) years.

**Procurement Time table**

A tentative time table is outlined as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call for Nomination release</td>
<td>1st August 2012</td>
</tr>
<tr>
<td>Receipt of Nominations</td>
<td>28th September 2012</td>
</tr>
<tr>
<td>Issuance of Prequalification Application</td>
<td>End September 2012</td>
</tr>
<tr>
<td>Prequalification Application due date</td>
<td><strong>End October 2012</strong></td>
</tr>
<tr>
<td>Issuance of Call for Tender</td>
<td>Early November 2012</td>
</tr>
<tr>
<td><strong>Tender Proposals Due Date</strong></td>
<td><strong>End November 2012</strong></td>
</tr>
<tr>
<td>Estimated Contract Award Date</td>
<td>January 2013</td>
</tr>
<tr>
<td>Estimated Contract Start Date</td>
<td>February 2013</td>
</tr>
</tbody>
</table>

**Experience**

The potential tenderers should have proven experience in the following areas:
• Skilled organization and staff in terms of Quality Assurance (possession of ISO 9001 and/or CMMI);
• Experience in integration of industrial control systems (> 1,000 inputs/outputs);
• Experience in the field of instrumentation networks based on Ethernet interconnect;
• Maintenance of industrial control systems and computer equipment for a duration greater than 5 years;
• Knowledge of the technologies specified in the ITER standardization document, in particular Red Hat Linux and its virtualization, EPICS, industrial computer form factors derived from the PCI-Express specification;
• Knowledge on communications and timing network protocols, such as 10 Gb/s Ethernet and IEEE-1588-2008;
• Experience of installing industrial rack mounted systems, D-rails, patch panels and such;
• Experience of manufacturing and configuring batches of identical industrial computer systems;
• Experience in international shipping;

Candidature

Participation is open to all legal persons participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization. The consortium cannot be modified later without the approval of the ITER Organization.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Bidders’ (individual or consortium) must comply with the selection criteria. IO reserves the right to disregard duplicated references and may exclude such legal entities from the tender procedure.

Reference

Further information on the ITER Organization procurement can be found at: HTTP://WWW.ITER.ORG/ORG/TEAM/ADM/PROC