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SUMMARY

Call For Nomination ITER/C4N/11/5179/JTR

Framework Service contract for ITER Control Systems (CODAC I&C support)

Purpose

The primary objective of ITER I&C System is to provide a fully integrated and automated control system for ITER. Standardization of Plant Systems I&C is of primary importance and mandatory rules and recommendations for the development lifecycle and component selections are documented in the Plant Control Design Handbook (PCDH). The standardization process is evolutionary and there will be new releases of the PCDH once per year throughout the life time of ITER. This process shall also address backward compatibility and obsolescence management.

Background

The ITER Instrumentation and Control (I&C) System is the term encompassing all hardware and software required to operate ITER. It has two coarse levels of hierarchy; the Central I&C Systems and the Plant Systems I&C, The Central I&C Systems are procured by ITER International Organization (IO), while Plant Systems I&C are procured by the seven ITER Domestic Agencies. It is currently estimated there will be 165 Plant Systems I&C with associated sensors and actuators.

To complement and to enforce the standards IO develops a software and hardware tool kit, called CODAC Core System. This tool kit shall be used to interface and support development of every ITER plant system. In a similar fashion as PCDH the CODAC Core System is released on a yearly basis. CODAC Core System does not (yet) addresses interlock and safety.

Scope of work

The scope of services covers the technical support to be provided to IO along the life-cycle of the plant system control systems. The services scope cover the conventional controls, the interlock controls and the occupational safety controls.

These services cover the following topics:

1. Defining the technical specifications of the plant system control systems to be incorporated in the PA specifications. See [RD1] for details on the plant system I&C life-cycle.
2. Reviewing the technical documents related to the plant system control systems issued by the DAs or DA suppliers.
3. Developing and maintaining case studies for illustration of the ITER standards for the control systems for software and hardware.
4. Attending and reviewing the factory acceptance test (FAT) in DA or DA supplier premises.
5. In general, any technical task related to I&C activities under the responsibility of CODAC team or agreed by CODAC team for any ITER plant system.

As a general statement, the details of the services to be provided by the contractor will be defined in the task order technical specification document.

These technical specifications will be defined specifically for each plant systems depending on the configuration and status of the plant system and will include a technical scope, the organisation of the task in IO and a description of the deliverables.

Duration of services

The contract will be carried out over an initial period of three (3) years with an option to extend the services for a further two (2) years. The contract is scheduled to come into force in October 2011.

Procurement Time table

A tentative time table is outlined as follows:-

Call for Nomination	Early/mid May 2011
Receipt of nominations	Mid June 2011
Issuance of Call for Tender incl Pre-qualification	Mid/end June 2011
IO Receipt of the pre-qualification questionnaire	End July 2011
Notification of Pre- qualification results	Early August 2011
Clarification questions related to this Call for Tender	Mid August 2011
Response to Questions from ITER Organization	Mid/End August 2011
Tender Proposals Due Date:	End September 2011
Estimated Contract Award Date:	Early October 2011
Estimated Contract Start Date:	October 2011

Experience

Companies experienced in providing significant contribution in engineering and system design, analysis and integration of complex digital I&C safety-related systems. These companies shall have proven experience in hardware and software implementation, based on the IEC 61508 and IEC 61511. Experience in large physics experiments will be considered as a major asset for the contractor's selection.

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's (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

[RD1] Plant Control Design Handbook (27LH2V)

[HTTP://WWW.ITER.ORG/DOC/WWW/EDIT/LISTS/WEBSITE/ATTACHMENTS/94/PCDH_V6_1.PDF](http://www.iter.org/doc/www/edit/lists/website/attachments/94/PCDH_V6_1.pdf)

Further information on the ITER Organization procurement can be found at:

[HTTP://WWW.ITER.ORG/ORG/TEAM/ADM/PROC/PAGES/WELCOME](http://www.iter.org/org/team/adm/proc/pages/welcome)