TECHNICAL SUMMARY

Call For Nomination

IO/23/CFT/70001000/AJI

Framework Contract on

Test, prototyping and manufacture of electrical harnesses for diagnostics

1 Scope

The Diagnostic Electrical Services provide signal and power transmission lines to link vital diagnostic sensors and instrumentation in the ITER Vacuum Vessel with their associated electronics and power supplies in the surrounding buildings.

The Diagnostic Electrical Services encompass the following sections (with tag in brackets indicating the system breakdown codename):

In-

The ITER Organization needs specialist engineering services and supply in order to successfully support the final design of these connector assemblies by executing and documenting prototyping and testing activities; and subsequently, preparing and performing the manufacturing on time and to high levels of quality.

A framework contract will be awarded in order to establish Task Orders covering the different foreseen tasks of the project.

2 Estimated

The mechanical and electrical architecture of these connectors is similar to the one shown to Group 1 (see Figure 2). Group 3 is organized in different types of connectors, according to the signals and dimensions of the connectors.

a. the connecting part with sockets mating the corresponding pins;
b. the bulkhead hosting the sockets;
c. the mechanical assembly providing the mating mechanisms and clamping the wires;
d. the backshell convoying the external cables onto the sockets;
e.
f. the cable braids and/or conduits and/or trays that protect the external cables.

4.2 Details of expected output

The purpose of this framework contract is to provide specialist engineering services and supply in order to successfully support the final design of these connectors by executing and documenting prototyping and testing activities; and subsequently, preparing and performing the manufacturing on time and to high levels of quality.

In more detail (note that these are indicative activities and not intended to cover all of the activities to be performed):

Group 1, Group 2, Group 3 Connectors

Mating/unmating simulation with inflates suit

Refinement: discuss intermediate results with IO before the production of final report;

Finalization: produce the final report of the full tests performed and refined according to the previous steps;

Design and manufacturing of electrical connectors with several different electrical characteristics and harsh environments

Design of RF transmission lines (impedance matching)

I&C expertise

Calculation and analysis of cable cross talk (experimental verification also desirable)

Good ability to draft/revise technical reports and documentation

Experience on nuclear and/or complex research facilities highly desirable, including a good understanding of radiation effects on cables and electronic components, shielding, etc.

The working language of ITER is English, and a fluent professional level is required (spoken and written).

6 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-

For Protection Important Components and in particular Safety Important Class components (SIC), the French Nuclear Regulation must be observed, in application of the Article 14 of the ITER Agreement.

In such case, the Suppliers and Subcontractors must be informed that:

The Order 7th February 2012 applies to all the components important for the protection (PIC) and the activities important for the protection (PIA).

The compliance with the INB-order must be demonstrated in the chain of external contractors.

In application of article II.2.5.4 of the Order 7th February 2012, contracted activities for supervision purposes are also subject to a supervision and surveillance done by the Nuclear Operator.

For the Protection Important Components, structures and systems of the nuclear facility, and Protection Important Activities the contractor shall ensure that a specific management system is implemented for his own activities and for the activities done by any Supplier and Subcontractor following the requirements of the Order 7th February 2012.

NOTE: There are Protection Important Activities (PIA) related to these components. Specific PIA identification shall be performed before start of the activities (e.g. at KOM).

7 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

with the selection criteria. IO reserves the right to disregard duplicated references and may exclude such legal entities form the tender procedure.

8 Reference

Further information on the ITER Organization procurement can be found at:
http://www.iter.org/org/team/adm/proc