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Technical Specifications (In-Cash Procurement)

CFE - Coordination support to design update of optical diagnostics located in equatorial ports impacted by DMS

This document describes technical needs of Coordination support to design update of optical diagnostics located in equatorial ports impacted by DMS. This comprise primarily the in-vessel lighting system, but also the visible and infrared diagnostics installed in equatorial and upper ports impacted by DMS. The purpose of this contract is to coordinate the update of interfaces, design and integration of the aforementioned systems

Call for Expertise on Coordination support to design update of optical diagnostics located in equatorial ports impacted by DMS

Technical Specifications

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1 Purpose

This document describes technical needs of Coordination support to design update of optical diagnostics located in equatorial ports impacted by DMS. This comprise primarily the in-vessel lighting system, but also the visible and infrared diagnostics installed in equatorial and upper ports impacted by DMS. The purpose of this contract is to coordinate the update of interfaces, design and integration of the aforementioned systems.

2 Scope

The scope of the contract includes the coordination of the update of interfaces, design and integration of optical diagnostics located in equatorial ports impacted by DMS. Further details are included in Section 6.

3 Definitions

For a complete list of ITER abbreviations see: ITER Abbreviations (ITER_D_2MU6W5).

4 References

References are inserted throughout the text.

5 Duration

The duration shall be 12 months. The total effort for the work described in Section 6 is equivalent to 0.8 ppy of a project manager / senior engineer category. The services will be provided offsite. Up to four visits of IO are foreseen within the duration of the contract, with three full days at IO Headquarters per visit on average.

6 Work Description

The work will be provided in support of the optical diagnostics installed in equatorial and upper ports impacted by DMS. Adherence to schedule, quality requirements, and good project management practices will be of the upmost importance. For these diagnostics, the contractor will be requested to perform the following activities and tasks:

- Manage the interfaces with diagnostic ports, as well as other ITER PBSs;
- Manage the CAD activities;
- Support the integration in diagnostic ports;
- Support management of the IO contracts on the design development;
- Support IO and DA design reviews;
- Support review of technical documents from IO contractors and DAs;
- Manages progress meetings;
- Manage integration and interface review meetings;
- Manage creation of Engineering Work Packages;
- Manage the update of Contextual Models;
- Manage the creation and update of 2D diagrams
- Identify and support the prototyping activities;
- Support the development of diagnostic shutters;

- Perform feasibility assessment for critical technical items;
- Support the procurement of diagnostic components and assemblies;
- Support the creation of operation manuals and procedures;
- Support the identification and management of risks
- Support the update of schedules and ensure that these are compatible with the port integration schedules
- Create technical documents, interface sheets, meeting notes, and presentations for the areas above;
- Participate in person at design reviews, major technical meetings and/or progress meeting at IO Headquarters (see section 5).

The contractor shall be able to work independently and with minimum supervision to manage the aforementioned tasks.

The contractor may be requested to provide support in the areas above for other ITER operational diagnostics (55.Gx).

The contractor will be requested to generate a bi-monthly progress report in the area above will be summarized is a Progress Report. Each Progress Report constitutes a deliverables (D1-D6) and will report tangible progress in one or more areas above.

7 List of deliverables and due dates

D1	Progress report #1 on tasks from section 6	T0 + 2 months
D2	Progress report #2 on tasks from section 6	T0 + 4 months
D3	Progress report #3 on tasks from section 6	T0 + 6 months
D4	Progress report #4 on tasks from section 6	T0 + 8 months
D5	Progress report #5 on tasks from section 6	T0 + 10 months
D6	Progress report #6 on tasks from section 6	T0 + 12 months

8 Responsibilities

8.1 Contractor's Responsibilities

In order to successfully perform the tasks in these Technical Specifications, the Contractor shall:

- Strictly implement the IO procedures, instructions and use templates;
- Provide experienced and trained resources to perform the tasks;
- Contractor's personnel shall possess the qualifications, professional competence and experience to carry out services in accordance with IO rules and procedures;
- Contractor's personnel shall be bound by the rules and regulations governing the IO ethics, safety and security IO rules.

8.2 IO's Responsibilities

The IO shall

- Nominate the Responsible Officer (RO) to manage the Contract;
- Provide standard IO laptop to allow the contractor to efficiently perform the work;

9 Acceptance Criteria

The deliverables will be posted in the Contractor's dedicated folder in IDM, and the acceptance by the IO will be recorded by their approval by the designated IO RO. These criteria shall be the basis of acceptance by IO following the successful completion of the services. These will be in the form of reports as indicated in section 7, Table of deliverables.

10 Specific requirements and conditions

- Experience in leading design and integration activities in fusion or similar area;
- Experience in systems engineering of complex projects;
- Experience with verification and validation of engineering design;
- Experience with the definition and coordination of R&D program;
- Experience in the project management;
- Experience with the creation of technical documents;

11 Work Monitoring and Control Points

The work will be managed by means of Progress Meetings and through the formal exchange of documents and transmitted by emails which provide detailed progress. Work progress will be monitored through Deliverable documents. Progress Meetings will be called by the ITER Organization or the Contract TRO. They will be held as needed and at least once per month.

12 Delivery Time Breakdown

See Section 7 “List Deliverables section and due dates”. Interim payments will be made upon satisfactory completion and IO approval of deliverable reports uploaded onto IDM and upon submission of a valid invoice.

13 Quality Assurance (QA) requirement

The organisation conducting these activities should have an ITER approved QA Program or an ISO 9001 accredited quality system.
The general requirements are detailed in ITER Procurement Quality Requirements (ITER_D_22MFG4).
Prior to commencement of the task, a Quality Plan must be submitted for IO approval giving evidence of the above and describing the organisation for this task; the skill of workers involved in the study; any anticipated sub-contractors; and giving details of who will be the independent checker of the activities (see Procurement Requirements for Producing a Quality Plan (ITER_D_22MFMW)).
Documentation developed as the result of this task shall be retained by the performer of the task or the DA organization for a minimum of 5 years and then may be discarded at the direction of the IO. The use of computer software to perform a safety basis task activity such as analysis and/or modelling, etc. shall be reviewed and approved by the IO prior to its use, in accordance with Quality Assurance for ITER Safety Codes (ITER_D_258LKL).

14 CAD Design Requirements (if applicable)

For the contracts where CAD design tasks are involved, the following shall apply:
The Supplier shall provide a Design Plan to be approved by the IO. Such plan shall identify all design activities and design deliverables to be provided by the Contractor as part of the contract.
The Supplier shall ensure that all designs, CAD data and drawings delivered to IO comply with the Procedure for the Usage of the ITER CAD Manual (2F6FTX), and with the Procedure for the Management of CAD Work & CAD Data (Models and Drawings 2DWU2M).
The reference scheme is for the Supplier to work in a fully synchronous manner on the ITER CAD platform (see detailed information about synchronous collaboration in the ITER GNJX6A - Specification for CAD data production in ITER Contracts.). This implies the usage of the CAD software versions as indicated in CAD Manual 07 - CAD Fact Sheet (249WUL) and the connection to one of the ITER project CAD data-bases. Any deviation against this requirement shall be defined in a Design Collaboration Implementation Form (DCIF) prepared and approved by DO and included in the call-for-tender package. Any cost or labour resulting from a deviation or non-conformance of the Supplier with regards to the CAD collaboration requirement shall be incurred by the Supplier.

15 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-174 ("Installation Nucléaire de Base").
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 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 (PRELIMINARY ANALYSIS OF THE IMPACT OF THE INB ORDER - 7TH FEBRUARY 2012 (AW6JSB v1.0)).