IDM UID
97UKJ9

VERSION CREATED ON / VERSION / STATUS
26 Jun 2023 / 1.0 / Approved

EXTERNAL REFERENCE / VERSION

Technical Specifications (In-Cash Procurement)

Support to integration and interfaces of ITER wide angle viewing systems

CFE for:

This document describes technical needs for specialist work relating to support to integration and interfaces of ITER wide angle viewing systems.

Support to integration and interfaces of ITER wide angle viewing systems

Technical Specifications

Table of Contents

1 Purpose

This document describes technical needs for specialist work relating to support to integration and interfaces of ITER wide angle viewing systems.

2 Scope

The objective of this contract is to provide ITER wide angle viewing system with support to integration and definition of mechanical and functional interfaces.
The scope of this contract includes:

Support to update of the physical and functional interfaces of the ITER upper port visible-infrared wide angle viewing system (UWAVS) in the Port Plug, Interspace, and Port Cell area of the upper ports 2, 8, 11, 14 and17.

Support to update of the physical and functional interfaces of the ITER equatorial port visible-infrared wide angle viewing system (EWAVS) in the Port Plug, Interspace, and Port Cell area of the equatorial ports 3, 9, 12, 17.

Further details are included in Section 6.

3 Definitions

CRO	Contractor Responsible Officer
EWAVS	Equatorial Ports Wide Angle Viewing System
IDM	ITER Document Management system
IO	ITER Organization
IO-CT	ITER Organization – Central Team
ISS	Interspace Support Structure
PCSS	Port Cell Support Structure
UWAVS	Upper Ports Wide Angle Viewing System

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

4 Duration

The duration shall be for 12 months from the starting date of the task order. Services shall be provided off-site.

5 Work Description

The work consists of providing support to:

(1) Update of physical and functional interfaces of the EWAVS and UWAVS diagnostics;

(2) Support to creation of the Configuration Management Models for the EWAVS and UWAVS;
(3) Support to creation and updates of the engineering diagrams (P&ID, PFD, SLD, CBD) for Heat and Imaging Systems;
(4) Assessment of the diagnostic system's fields of view coverage of the first wall and the divertor;
(5) Definition of the interfaces with diagnostic ports, as well as with other ITER PBSs;
(6) Integration of the diagnostic components in ports;
(7) Support design reviews;
(8) Review of technical documents;
(9) Support to technical progress meetings;
(10) Support to integration and interface review meetings;
(11) Creation of the Engineering Work Packages;
(12) Updates of the Contextual Management Models of other Heat and Imaging Systems;
(13) Feasibility assessment to design and integration of critical technical items;
(14) Creation of technical documents, interface sheets, meeting notes, and presentations for the areas above;
(15) Support in the areas above for other ITER Heat and Imaging Systems (in-vessel lighting system, bolometers, boundary imaging system, lost alpha monitor).

The progress on the tasks above shall be summarized is Progress Reports submitted to IO every two months. Each progress report constitutes a deliverables (D1-D6) and shall report progress on one or more tasks above.

6 Responsibilities

6.1 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.

6.2 IO's Responsibilities

The IO shall:

• Nominate the Contract Responsible Officer (CRO) to manage the Contract;

• Organise regular meeting(s) on work performed;

• Provide IO laptop to the Contractor

7 List of Deliverables and due dates

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

T0 represents the contract Kick-Off Meeting date. The KoM will be organized by IO within two weeks from the contract signature date.

8 Acceptance Criteria

These criteria shall be the basis of acceptance by IO following the successful completion of the services:

- The deliverables will be in the form of reports as indicated in section **Error! Reference source not found.** "List of Deliverables and due dates".
- The deliverables will be posted in the Contractor's dedicated folder in the ITER Organization's document management system IDM.
- The CRO for the contract is the Approver of the delivered documents.
- The CRO can ask modifications to the report in which case the Contractor must submit a new version.

The acceptance of the document by the Approver is the acceptance criterion.

9 Specific requirements and conditions

- Experience with the mechanical design of complex systems (e.g. diagnostics, scientific instruments, satellites)
- Experience with work in CATIA
- Experience with the design and definition of complex interfaces
- Experience with the creation and update of the engineering diagrams
- Experience with generation of technical documents

10 Work Monitoring / Meeting Schedule

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.

Progress Meetings will be called by the ITER Organization. They will be held as needed and at least bi-monthly, either on the IO site or via videoconference. External experts will be invited to discuss technical matters. Kick-Off Meeting will be organized by IO within two weeks from the contract signature.

11 Delivery time breakdown

See Section 8 “List Deliverables section and due dates”.

12 Quality Assurance (QA) requirements

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).

13 CAD Design Requirements

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.

14 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-174 (“Installation Nucléaire de Base”).
Compliance with Defined requirements for PBS 55 - Diagnostics (NPEVB6 v2.0) or its flowed down requirements in SRD-55 (Diagnostics) from DOORS (28B39L v5.2) is mandatory.