

## Technical Specifications (In-Cash Procurement)

### Diagnostic development and coordination

This document describes technical needs for work related to diagnostic development and coordination. In particular it relates to support of the technical projects and support of work related to the Diagnostics in the Corbieres building.

## Table of Contents

<b>1</b>	<b>PURPOSE .....</b>	<b>2</b>
<b>2</b>	<b>SCOPE .....</b>	<b>2</b>
<b>3</b>	<b>DEFINITIONS .....</b>	<b>2</b>
<b>4</b>	<b>REFERENCES.....</b>	<b>2</b>
<b>5</b>	<b>ESTIMATED DURATION.....</b>	<b>2</b>
<b>6</b>	<b>WORK DESCRIPTION.....</b>	<b>2</b>
<b>7</b>	<b>RESPONSIBILITIES .....</b>	<b>3</b>
7.1	Contractor’s Responsibilities .....	3
7.2	IO’s Responsibilities .....	3
<b>8</b>	<b>LIST OF DELIVERABLES AND DUE DATES .....</b>	<b>3</b>
<b>9</b>	<b>ACCEPTANCE CRITERIA.....</b>	<b>5</b>
<b>10</b>	<b>SPECIFIC REQUIREMENTS AND CONDITIONS.....</b>	<b>5</b>
<b>11</b>	<b>WORK MONITORING / MEETING SCHEDULE .....</b>	<b>6</b>
<b>12</b>	<b>DELIVERY TIME BREAKDOWN.....</b>	<b>6</b>
<b>13</b>	<b>QUALITY ASSURANCE (QA) REQUIREMENTS.....</b>	<b>6</b>
<b>14</b>	<b>SAFETY REQUIREMENTS .....</b>	<b>6</b>

ITER\_D\_5L8CVQ

## 1 Purpose

This document describes technical needs for work related to diagnostic development and coordination. In particular it relates to support of the technical projects and support of work related to the Diagnostics in the Corbieres building.

## 2 Scope

The work aligns with the ITER project, currently under construction in France. This device will study the Fusion concept on a scale previously unequalled on earth. To study the behaviour of this device, a set of monitoring systems (called diagnostics) are required. This will provide all the information to show and understand the performance of the device.

## 3 Definitions

IO: ITER Organization

DA: Domestic Agency

SSD: See System Design

PPD: Port Plug and Diagnostics Engineering Division

IO-TRO: ITER Organization technical Responsible Officer.

For a complete list of ITER abbreviations see: [ITER Abbreviations \(ITER\\_D\\_2MU6W5\)](#).

## 4 References

Links inserted in text.

## 5 Estimated Duration

The duration shall be for up to 12 months from the starting date of the contract. Services shall be provided on-site for meetings as and when required which is typically 1 week per month. The estimated work overall is around 0.6PPY.

## 6 Work Description

(a) System Reviews - the Port Plugs & Diagnostics Integration Division has a large number of systems, and they are all at various stages in development. It is considered prudent to support the review of each system individually, especially First Plasma systems, in order to ascertain how well the systems are progressing and particularly to help in identifying areas that may need further close attention or assistance.

The work involves: (a) liaising regularly with the key Leaders to ascertain the optimum presentations for analysis and (b) supporting the individual IO-Technical Responsible Officers(TRO) to analyse, prepare, execute and follow up on the progress of the projects related to diagnostics systems: primarily on the following: current WBS & OBS / schedule / costs / resource / risk / communications / summary of main issues currently and foreseen and (c) liaise with the Project Office and Risk team on the optimum Schedule and Cost analysis and presentation.

The main output is supporting this System Review process and managing the outputs in a timely fashion and ensuring that the work is documented, and appropriate actions are recorded and communicated and also followed up regularly. The follow-up actions need to be regularly analysed and the TROs assisted in regular update presentation to the management team.

(b) PPD Corbieres Building – the Division has acquired the use of a facility at Corbieres; primarily to conduct experimental works for a number of different Diagnostics systems, it is also planned to use the facility to construct mock-ups to simulate conditions and allow for measurements of functions such as confined access etc. A large full-scale mock-up is planned for construction there in the latter part of 2021, (a) this construction project needs to be supported during the year and (b) subsequent testing scheduled and supported. Support of the transition, to allow the Division to efficiently utilise this building in a safe, controlled and optimum way.

The main output is to support the PPD team make optimum use of this facility in a safe and efficient manner.

(c) Global DA Monthly Meetings (GDAMM) – support the DA Monthly Diagnostics meetings in the context of the current status and follow up of the Diagnostics projects.

(d) IO-DA Annual Meeting - the Division organises an annual meeting of all of the DA Heads where they attend at IO (or remotely due to pandemic) to discuss progress, development and key issues encountered in the previous year and discuss upcoming issues.

The main output is to work with colleagues to organise and manage the meeting and follow up actions.

## **7 Responsibilities**

### **7.1 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.

### **7.2 IO's Responsibilities**

The IO shall:

- Nominate the Responsible Officer to manage the Contract;
- Organise a monthly meeting(s) on work performed;
- Provide offices and facilities at IO premises as necessary.
- Grant the access to the IDM as Author to the contractor, in order to upload documentation.

## 8 List of Deliverables and due dates

The main deliverables are provided in a monthly report on Work Packages as follows – not every WP needs to be reported monthly:

1. WP1: Supporting the System Review process
  - i. Organise schedule of new presentations in consultation with Division Head and Section Leaders
  - ii. Support the TROs to prepare, execute and follow up on the progress of the projects related to diagnostics systems.
  - iii. Liaise with IO PCO and Risk personnel
  - iv. Organize presentations and note all issues and action raised
  - v. Produce meeting report and identify key areas requiring action
2. WP2: System Reviews – Actions Follow Up
  - i. Follow up on Actions from presentations
  - ii. Assist TROs in resolving outstanding Actions
  - iii. Report on outcomes every 3 months
3. WP3: System Reviews Follow up on previous System Reviews
  - i. Organise schedule of systems for updating of the status
  - ii. Support the TROs to prepare and execute the Update Presentations
  - iii. Liaise with IO PCO and Risk personnel
  - iv. Note all issues and action raised
  - v. Produce meeting report and identify key areas still requiring action
- 4 WP4: Corbieres Facility PPD work
  - i. Support the ROs to implement construction of PP Mock-Up in 2021
  - ii. Support the ROs to implement the testing and training programme for the PP Mock-Up following completion of construction
  - iii. Review overall plan for the facility for the coming 12 months
  - iv. Update the Current Status & planning for users of the building
  - v. Plans for upcoming months
  - vi. Report on overall progress of activities in the facility
- 5 WP5: Facilitate the monthly DA meetings (GDAMM)
  - i. Support the DA monthly meeting and make sure it runs smoothly.
- 6 WP6: Supporting the preparation and organization of the annual All DAs Meeting
  - i. Follow up on actions of the 2021 Face to Face Meeting
  - ii. Support the organization of the meeting in consultation with key PPD management team

ITER\_D\_5L8CVQ

- iii. Support the actual meeting
- iv. Support the organisation of other workshops is needed.
- v. Record the actions and summary of meeting.

The report shall have an appendix with a complete list of all relevant IO IDM and all other relevant database references with version number

<b>D #</b>	<b>Description</b>	<b>Due Dates</b>
D01	1 <sup>st</sup> Progress report with contents WP1,WP2 WP3, WP4, WP5 WP6	T0 + 3 months
D02	2 <sup>nd</sup> Progress report with contents WP1, WP2, WP3, WP 4,WP5	T0 + 6 months
D03	3 <sup>rd</sup> Progress report with contents WP1, WP2, WP3,WP4, WP6	T0 + 9 months
D04	4 <sup>th</sup> Progress report with contents WP1, WP3, WP4, WP5, WP6	T0 + 12 months

## **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 TRO. 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 8, Table of deliverables.

## **10 Specific requirements and conditions**

Experience of all skills and techniques in deliverable list – in particular:

- Demonstrable experience of operating at strategic level and with different cultural environments
- Communication with TROs in context of nuclear fusion systems or similarly complex research and complex engineering environments with stringent Cost and Schedule parameters
- Supporting the organization, presenting and subsequent action tracking of System Reviews
- Understanding and production of technical presentations c/w understanding of Cost and Scheduling inputs
- Supporting the coordinating of different projects

ITER\_D\_5L8CVQ

## 11 Work Monitoring / Meeting Schedule

Work is monitored through monthly reports (see List of Deliverables section) and at the respective scheduled meetings. The schedule of all the meetings is monitored once per year through a separate report.

## 12 Delivery time breakdown

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

## 13 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 \(ITER\\_D\\_258LKL\)](#).

## 14 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 \(AW6JSB v1.0\)](#)).