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Technical Specifications (In-Cash Procurement)

Pin Annex II - For Metrology Equipment and Services

The purpose of this Prior Indicative Notice (PIN) is to identify potential companies or consortia having the capacity to supply metrology equipment to be utilized during construction of the ITER Tokamak Machine and its associated Plant Systems.

This Summary Specification provides an overview of the types of metrology instrumentation and associated metrology tooling envisaged for use on the project. Quantities and delivery schedules will be determined in the next stages of the procedure.

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2 Background

ITER is a joint international research and development project that aims to demonstrate the scientific and technical feasibility of fusion power. The partners in the project - the ITER Parties - are the European Union (represented by EURATOM), Japan, The People's Republic of China, India, the Republic of Korea, the Russian Federation, and the USA. ITER is being constructed in Europe, at Cadarache in the South of France.

The metrology equipment will be used for all aspects of dimensional control from acceptance testing of the constituent parts through to their final operational alignment.

The ITER machine consists of many individual components and assemblies which must be accurately and precisely measured and aligned for the Tokamak machine to operate. To support high accuracy inspection and pre-alignment activities.

3 Definitions

PIN	Prior Indicative Notice
CMM	Coordinate Measurement Machine
IO	ITER Organization
ISO	International Standards Organization
SMR	Spherically Mounted Reflector

4 Scope

The scope relating to this PIN is the supply of various types of metrology equipment as detailed in section 5. For fixed installation items such as a CMM and surface tables the supplier shall provide an installation and certification service to ensure proper operation of the installed items. This is to be carried out in accordance with the local rules for the building and Health and Safety requirements pertaining at the time of installation.

The supply shall include calibration certification traceable to national standards as applicable and the supplier shall operate a maintenance and recertification programme for these instruments.

As a minimum, warranties shall be for a duration of 1 year with options for periods more than this being provided during the tender process as requested within the associated Technical Specification(s).

Where appropriate and as specified in the Technical Specification, the supplier shall provide training in the correct use of the instruments inclusive of field check procedures and routine

calibration procedures as deemed necessary by the instrument manufacturer. All training will be carried out at the ITER Site in the South of France.

The supplier shall be responsible for delivery of all items of equipment and tooling to the ITER site and for providing after-sales technical support as detailed in the Technical Specification associated to the Tender.

5 Description

The following types of metrology instruments and associated equipment are envisaged to be procured over the coming years to support the Construction Process of the ITER Machine.

There are three different lots: lot 1 metrology laboratory equipment, lot 2 portable metrology equipment and ancillary equipment and lot 3 maintenance calibration and certification services for metrology equipment previously purchased by the IO. The Contractor can express its interest for any or all lots. Grouping of companies or other legal partnership can be made to procure the required scope (see section 10).

For each lot, the list of instruments is indicative; further details will be given in technical specifications sent in the call for tender.

5.1 Lot 1: Metrology Laboratory Equipment

- Coordinate Measurement machine with a selection of probes
- Metrology Software and maintenance
- Granite Surfaces Tables
- Tooling/Fixturing systems/Reference blocks/parallels etc.
- Hand tools (Micrometres, Verniers, bore gauges, Dial Test Indicators etc.
- Tool cabinets, benches

5.2 Lot 2: Portable Metrology Equipment and Ancillary Equipment

- Laser Trackers (single point measurement)
- Laser Tracker (Six degrees of freedom measurement capability)
    - Touch Probe system (selection of probes)
    - Laser Scanning Systems
- Portable measurement Arms
    - Touch Probe system
    - Laser Scanning System
- Digital Level and measurement staff
- High Density Laser Scanner
- Photogrammetry System
- Various tripods and stands
- Spherically Mounted Reflectors (SMRs)

- Metrology Software
- Maintenance, Calibration and Recertification

5.3 Lot 3: Maintenance, Calibration and Recertification Services (current inventory)

- Laser Trackers (single point measurement)
- Lasser Tracker (contactless measurement)
- Laser Trackers (Six degrees of freedom measurement capability)
    - Touch Probe system (selection of probes)
    - Integrated scanning systems
- Portable measurement Arm
    - Touch Probe system
- High Density laser Scanner
- Total Stations

6 Timetable

The duration of the contract is envisaged to be five years from July 2024 until July 2029 with an option to extend for a further 2 years to July 2031.

Lot 3 scope will commence within 2 months of contract signature. Equipment within Lots 1 and 2 will be dependent on project needs and will be the subject of supply orders following a supply order request.

7 Quality Assurance requirements

The organisation supplying metrology equipment shall have an ITER approved QA Program or an ISO 9001 accredited quality system.

8 Experience

The company or consortia of companies selected shall be recognised for their knowledge and expertise appropriate to the scope of supply and/or services as identified in this Technical Specification. Their core business will be the supply of metrology equipment having the necessary infrastructure in place to guarantee:

- Delivery of products of excellent quality
- Delivery of products in accordance with customer schedule requirements
- Calibration and Certification traceable to National Standards

- Accurate Installation and Commissioning of fixed metrology items
- Quality training on Metrology systems supplied
- Reliable functionality through Service and Warranty Programs