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Technical Specifications (In-Cash Procurement)

Assembly support services contract for Feeder Mechanical technicians

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1 Purpose

This document is a technical specification and statement of work for Assembly Support for ITER Feeder Systems at IO Site. It defines the scope of the support and services to be provided, the requirements for those services and the process of defining deliverables.

The document describes the technical and managerial scope linked to a Service Contract to be awarded to a Contractor selected through a competitive process. Finally, this document provides the technical requirements necessary for potential bidders to prepare a tender.

2 Scope of work

The scope of work is a full-time service covering the assistance to the Feeder components installation activities.

Work to be performed under this Contract shall be:

- Verification trial of key Feeder assembly process and acceptance tests;
- Integration of Feeder component mock-up and customs-built tool;
- Reception inspection of incoming component and parts;
- Verification trial and execution of component repair process;
- Verification and inspection of warehouse inventory;
- Execution of component preservation activities;
- Maintenance of mock-ups, equipment, and tools Feeder Facility;
- Preparation of Feeder assembly related parts and components;
- Supervision of on-site construction and witness of control point acceptance test;
- Perform Feeder on-site assembly tasks.

3 Definitions and acronyms

The ITER project is an international research and development project jointly funded by its seven Members being, 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 St. Paul–Lez–Durance in southern France, which is also the location of the headquarters (HQ) of the ITER Organization (IO).

For a complete description of the ITER Project, covering both organizational and technical aspects of the Project, visit www.iter.org.

Visit <https://owncloud.iter.org/index.php/s/4hd2DK3LITVpkKD> with a Password: feeder101 for an Introduction to ITER Magnet Feeder system and assembly activities.

For a complete list of ITER abbreviations see: [ITER Abbreviations \(ITER_D_2MU6W5\)](#).

4 Regulation/standard and References document.

4.1 Regulation and certification

- Decree 2010-1017 obligation of the contracting authority
- Decree 2010-1016 obligation of the employers
- Decree 2010-1118 operation on (or in the vicinity) an electrical installation and the

- authorization
- Decree 2010-1018 various provisions relating to the prevention of electrical hazard in workplace
- Order of the 07/02/2012: Safety for the INB

4.2 4.2 References documents

The list of applicable document for OHS is available in the PGC Annex 0 ([42FYYPZ](#))

- [Provisions for Implementation of the Generic Safety Requirements by the External Interveners](#) (ITER_D_SBSTBM).
- ITER internal regulation ([27WDZW](#))
- PGC Annex 0 - List of the applicable annexes to the PGC SPS Volume 1 ([42FYYPZ](#))
- PGC Annex 1 - Specific measures for preventing the spread of Covid-19 on the worksite ([36M2XY](#)).
- ITER Site Development Plan (UYRHXW v1.1)
- Quality Assurance for ITER Safety Codes (ITER_D_258LKL)
- ITER Organization Environmental Management System doc 1: PMAE v1 (ITER_D_97W4PN)
- Environmental requirements (ITER_D_97WRFP)
- Alert procedure on ITER construction site (ITER_D_7LB8NY). Information spread by PGC volume 1.
- Work Permit Procedure (ITER_D_3E8289)
- Procurement Quality Requirements (ITER_D_22MFG4)
- Requirements for Producing a Quality Plan (ITER_D_22MFMW)
- ITER Site access Procedure (ITER_D_S3893D)
- PGC SPS Vol. 1 - IO&F4E (ITER_D_T6V4RP)
- Contractor Safety Management Procedure ([Q2GBJF](#)) (only valid for HQ, storage area)
- Procedure for the management of Deviation Request (ITER_D_2LZJHB)
- Procedure for management of Non conformities (ITER_D_22F53X)
- Procedure CMA crane authorisation and usage procedure (ITER_D_WP33YN)
- Environmental Protection Plan (PRE) ITER_D_U6933Q
- Template for Specific Health and Safety Plans (PPSPS) – bilingual version (ITER_D_K7C6SZ)
- ITER Site Permit to Work Overarching Procedure ([3E8289](#)) (mother procedure).

5 Contract Start and Duration

The ITER Organization shall award a Service Contract(s) around February 2023. The estimated contract duration shall be 2 years with an optional extension up to a maximum overall duration of 4 years.

6 Works description

6.1 Technical services to be provided to IO under the scope of this contract

The Contractor's services shall include all services and supervision necessary to fulfil the tasks defined above. This will imply the mobilization of needed skilled resources with a minimum of:

- Two experienced mechanical technicians dedicated to tasks as noted in 6.1.1.

6.1.1 *Tasks*

The tasks shall be:

- Support engineer in personnel qualification for assembly activities.
- Participate in the installation, testing, commissioning and maintenance of components test stands and mock-ups.
- Assist feeder engineer for components, mock-ups and tooling acceptance and commissioning.
- Perform on-site supervision.
- Prepare reporting following activity performed.
- Support component preservation activities.
- Support special process ROs during special process qualification preparation. This may involve joint assembly tasks and fixture preparation (cutting, grinding, welding, and bolting) or other type of mechanical hot or cold works.
- Support feeder engineers to verify key assembly trials such as joint assembly and insulation. This may involve parts alignment, dimensional measurement, bolt loading at designated torque, cleanliness inspection, bonding of resin or composite plate to metallic part, overwrapping insulation tape, assembly of a vacuum chamber, coupon dissection for destructive examination.
- Support feeder ROs during receiving and inspection tests (RITs). This may involve pipe cleaning and cutting; additional cutting, grinding, welding, bolting or other type of mechanical hot or cold works may be required.
- Support feeder engineer to repair component with outstanding nonconformity,
- Perform silver plating of joints and shims.
- Maintain normal operation of facilities and machinery in the feeder workshop, and controls the inventories of equipment, tooling, parts, components, and consumables.
- Perform Feeder on-site assembly tasks upon management's request.
- Maintain a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.

6.2 **Consumables and spare parts**

In the scope of the Contract, the Contractor shall provide all consumable products required for correct service performance. This notably includes (but is not limited to) “administrative” supplies.

6.3 **Responsibilities**

The Contractor will provide skilled resources and needed expertise. The Contractor shall be fully dedicated to performing the services agreed and not work for third parties other than the ITER Organization until the Contract is completed or terminated.

The Contractor warrants, represents and undertakes that:

1. The Contractor will provide the services promptly and with all due skill, care and diligence, in a good and workmanlike manner and otherwise in line with best practice within the Nuclear industry;

2. Contractor's personnel will possess the qualifications, professional competence and experience to carry out such services in accordance with best practice within the industry;
3. The Contractor will be responsible for maintaining such insurance policies in connection with the provision of the Services as may be appropriate or as the ITER Organization may require;
4. Contractor's personnel will abide rules and regulations governing IO safety and security and shall provide the required health and safety plans, such a PPSPS and a prevention plan following pre-defined templates.
5. The Contractor shall provide all personal protection equipment.

The ITER Organization shall make available to the dedicated Contractor's personnel located on IO site at Cadarache:

1. Relevant documentation, information, data and any specialized equipment necessary for the Contractor to perform its functions under this Scope of Work;
2. A safe work area which meets the generally-accepted requirements for the satisfactory execution of the Services;
3. Access to the premises and to the dedicated work areas;
4. Any necessary and appropriate worksite related safety training.
5. Office spaces.

6.4 Documentation

All documents prepared by the Contractor shall be reviewed and approved by IO before any performance of the works. The Contractor must take into account comments provided by IO on submitted documents. The document will not be considered as finalized until it is approved by IO. Within the scope of this contract, the Contractor shall issue reports according to existing templates as requested by IO.

In the frame of this service contract, the Contractor may be required to produce or provide inputs (red marked drawings, procedures, etc.) for Non-Conformance Reports as defined in the applicable Quality procedure.

6.5 Location and logistics aspects

Due to the nature of the works to perform, the Contractor's team must be located fulltime at ITER site in Cadarache or at Feeder Facility in Corbières. Exceptionally intervention in Storage Facilities at Fos-sur-Mer may be needed.

7 Staffing & Competencies

The Contractor's team shall be comprised of two (2) skilled Technicians with mechanical competencies, as listed in 7.1. Both Technicians will also possess skills as listed in 7.2.

In case Contractor wishes to replace any Technician, request of replacement shall be submitted for approval to IO. New technicians shall be of comparable skills and experience; experience matured during IO activities shall be accounted for. Contractor shall guarantee a minimum overlap and skill handover period of 1 month, free of charge to IO, in order to allow new personnel be properly trained and instructed.

7.1 Competencies

7.1.1 Education/ Know-How

- High school technical diploma in mechanical field or relevant professional qualification. The required education degree may be substituted by extensive professional experience

involving similar work responsibilities and/or additional training certificates in relevant domains.

- Ability to read and interpret mechanical drawings with geometric dimensioning and tolerances, and manufacturers' manuals (or similar documents), and to fabricate / modify simple parts or sub-assemblies from sketches or verbal instructions;
- Knowledge of welding, and visual inspection procedures will be a plus;
- Familiarity with at least one of the following areas would be desirable: non-destructive examination methods, modification of commercial tool for specialized purpose, and safe handling of cryogens.

7.1.2 *Technical experience:*

The allocated resource for the mechanical tasks shall demonstrate his/her knowledge and hands-on experience in integration of welded and bolted mechanical components with proper tools, and understanding of manufacturing drawings and general safety requirements of field tasks in accordance with technical specification.

- At least 3 years' hands-on experience in assembly of bolted and welded component / machine.
- Hands-on experience on machining;
- Practical experience with safe usage of standard workshop power tools and machineries.
- Hands-on experience on welding (welding certificate will be a plus).

7.1.3 *Computer and IT skills:*

- Good command of the Microsoft Office package.
- Capable to perform simple queries on 3D models in Dassault CATIA.

7.2 **Other skills**

- Problem solving attitude.
- Ability to work effectively in a multi-cultural environment.
- Ability to work in a team and to promote teamwork.
- Attitude to learn new things.
- Fluent in English (written & spoken).
- Good communication skills.
- Demonstrated ability to write good quality technical reports.

7.3 **Mobilization**

This Contract is valid for the mobilization of resources as defined per section 6.5. The Contractor Technicians are expected to be on site from the start of the Contract. It is assumed that the Contractor will use the first month of the Contract to mobilize the selected Technicians to cover the mandatory services required per this Contract with oversight from IO on the recruited profiles.

8 **Implementation of the Contract**

8.1 **Monthly meeting**

The Contractor shall organize monthly meetings related to the on-going contract activities, with the ITER Contract Responsible Officer (CRO) and concerned other ITER IO staff, in

order to examine progress of recent and ongoing activities, to review short-term schedules and to review new ITPs, eventual changes or necessary amendments in the existing Contract, schedule of activities and list of deliverables.

The minutes of these meetings shall be written by the Contractor in the simplified form using the ITER provided template, with action items and submit the minutes for the approval of the ITER Contract Manager in ITER Document Management (IDM) system.

The Contractor written progress reports to the ITER CRO is a deliverable every month. The monthly progress report shall be submitted in IDM and it shall include at least the following information for the reporting period:

1. Safety Performance Indicator
2. Summary of the work carried out for the ongoing Contract;
3. Description of any problems encountered for the ongoing Contract;
4. References to any produced deliverables for all on-going activities according to the previously requested monthly list of deliverables;
6. Staffing plan issues if any according to IO Schedule of activities;
7. Performance of the Contractor (see section 9)

During this Monthly meeting, IO CRO will provide the Contractor with a schedule of activities & list of deliverables for the following month.

The progress report shall be submitted by the Contractor three working days before the monthly meeting. The progress report shall be approved by the ITER CRO.

The minutes of these meetings shall be written by the Contractor in a simplified form of a table of action items and archived in IDM.

8.2 Ad hoc Meetings

To be scheduled at the discretion of the IO-RO or the Contractor depending on the needs. The minutes of these meetings shall be written by the Contractor in a simplified form of a table of action items and archived in IDM.

9 Deliverables

The deliverables within this Contract consist of:

- Monthly Progress report as defined in section 7.1.
- Technical reports as records of executed activities

An approved deliverable is a report or document delivered in the ITER document management system (IDM), submitted or reviewed by the Contract responsible person and approved by IO CRO.

10 Direct Supervisor and Interfaces

The Contractor technicians shall

- Report to In Cryostat, CTS & Auxiliaries Section Leader.
- Interface with members in feeder team and other sections in the Tokamak Assembly Division and/or other departments as required by the feeder design and with the Domestic Agency and its industries regarding fabrication;

- In response to requests from the Director-General and/or Director of Tokamak (TKM) Directorate, or proactively, inform the DG/ Director of TKM Directorate of any important and urgent issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives.

11 Performance

Performance will be reviewed during the monthly meeting. The Contractor is expected to prepare its monthly performance report according to the criteria defined below:

- Number of Accidents and Near-Misses
- Schedule adherence vs forecast (list of activities and deliverables provided by ITER).
- Number of issues found/solved and raised to IO.
- List of issued ITPs and related progress status.

12 10 General conditions and requirements

12.1 Applicable codes and standards

The Contractor shall comply in performing the contract, with applicable laws, decrees, circulars and standards. The Contractor shall be responsible for all requests for administrative authorisations and declarations that are required by virtue of applicable regulations.

12.2 Language

Since the official language of the ITER Organization is English, all written communication and deliverables shall be in English.

12.3 Site Data

12.3.1 10.3.1 Necessary information

The Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works. To the same extent, the Contractor shall be deemed to have inspected and examined the site, its surroundings, the above data and other available information, and to have been satisfied as to all relevant matters.

12.3.2 10.3.2 Roads and Traffic management

It is the responsibility of the Contractor to put in place all the necessary safety and traffic management measures, in accordance with applicable rules and regulations, to ensure that staff and vehicles retain safe passage across the ITER Site. The Contractor shall provide all the required equipment etc. to create a safe environment for the Works and ITER staff.

During the Works, any road shall not be blocked for more than half its width. For total closure of any roads, Works shall be performed on Saturdays only.

Roads accessing the worksite must be kept clean at all times. For this purpose, the Contractor shall organize road washing as often as earth is observed.

Vehicles or machinery, particularly those used for earthworks and civil engineering works, must be manoeuvred safely. Any damage to surrounding structures (buildings, roads, sidewalks, walkways) must be immediately repaired by the Contractor.

12.3.3 10.3.3 Safety

The Contractor will have to comply with the relevant IO OSH site instructions. The list is available in the PGC Annex 0 (42FYPZ). If the Contractor does not have access to ITER Document Management system, the document can be sent on demand.

Works can be performed on the ITER worksite or at the HQ/storage area. This could lead to additional OHS documentation (PPSPS-PDP) and meetings.

Depending of the location of the works, a safety plan (PPSPS) or Prevention Plan (PDP) shall be established by the Contractor (at a minimum in French) prior to the start of the Works.

Contractor will have to use the ITER template. The Contractor and the potential subcontractor will have to attend to the common inspection with the relevant stakeholder.

12.3.4 10.3.4 Environmental protection

The Contractor shall comply with environmental protection requirements and procedures applicable at the ITER Site:

- ITER Organization Environmental Management System doc 1: PMAE v1 (ITER_D_97W4PN);
- Environmental requirements, (ITER_D_97WRFP).

An environmental respect plan shall be provided by the Contractor 2 weeks prior to the start of the Works, using the ITER template.

Debris and waste of all type shall be removed as work progresses.

The Contractor shall be responsible for cleaning, repairing and restoring facilities which it dirtied or damaged to their original condition, and shall remove their debris and rubbish to public rubbish tips. Should said cleaning fail to be performed, it will be done by a third party at the loss and expense of the Contractor.

12.3.5 10.3.5 Access to the site / Worksite installation

Access to the ITER Site is subject to the ITER Site Access Procedures The Contractor shall be responsible for supplying and installing fencing protecting the worksite which shall be maintained for the duration of the works and removed after completion of the Works. The Contractor shall also display signs prohibiting entry onto the worksite.

12.3.6 10.3.6 Work authorisation

Prior to the start of any Works on the ITER Site, a Work Authorisation (Permit To Work) must be obtained in accordance with the Work Authorisation Procedure. Permit to work will be requested by the Contractor and managed by IO.

12.4 10.4 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.

Prior to commencement of the Works, a Quality Plan must be submitted for ITER Organization 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).

Documentation developed as the result of this task shall be retained by the Contractor for a

minimum of five (5) years and then may be discarded at the direction of the ITER Organization. Prior to acceptance, delivery or payment, the Contractor shall perform a review of items and services status with respect to contract requirements shall be made and documented. This review shall be done in accordance with and documented in the Contractor's Release Note – refer to.

The Contractor shall obtain written agreement from the ITER Organization to any modifications to the design or this specification. Deviations and non-conformances shall be processed in accordance with the procedure. The Contractor shall commit to process non-conformance reports or Operations clarification requests and associated remedial and corrective actions expeditiously.

12.5 10.5 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 External Contractors (Suppliers and Subcontractors, and their 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.