

Technical Summary

Global Maintenance Services Framework Contract for all the ITER facilities except Electrical Power Distribution, Infrastructures and Buildings, Codac system and IT common systems

IO/23/CFT/70001308/LLU

1. Purpose

The purpose of this tender is to maintain ITER conventional systems, structures and components (SSC) once they have been handed over to the entities in charge of operation or commissioning during a period of 4 to 6 years, which will last from 2025 up to 2028 at least. Regarding commissioning assistance activities, their inclusion will depend on the scope of existing construction contracts in order to avoid any overlap or potential conflict in terms of work coordination and overall responsibility scheme. Therefore, commissioning assistance activities could be undertaken under this contract when commissioning assistance activities are not covered by existing construction contracts.

2. Definitions

- **Contract** shall mean an agreement between two or more persons intended to create legal obligations between them and to be legally enforceable immediately at its date of entry into force, including any amendment(s).
- **Global Maintenance Services Contract (GMSC)** : the subject Framework Contract covering all the ITER facilities except Electrical Power Distribution, Infrastructures and Buildings, Codac system and IT common systems.
- **Contractor** shall mean a tenderer who has entered into a contract with the IO.
- **Tender process** shall mean the procurement process, or part thereof, up to and including the award of a contract by the IO.
- **Conventional types of equipment** : Components for which IO considers that the support of the Original manufacturers or a specialized company is not needed to perform required preventive and corrective maintenance activities on-site.
- **Long Term Maintenance (LTM)** : period between each pulse campaign to allow upgrades, inspections and repairs of ITER Facilities

3. Background

A staged approach composed of three different phases has been defined to shape the format and content of Maintenance contracts. Regarding the period from 2021 up to 2028, the main drivers to define Maintenance contracts scope are the following ones:

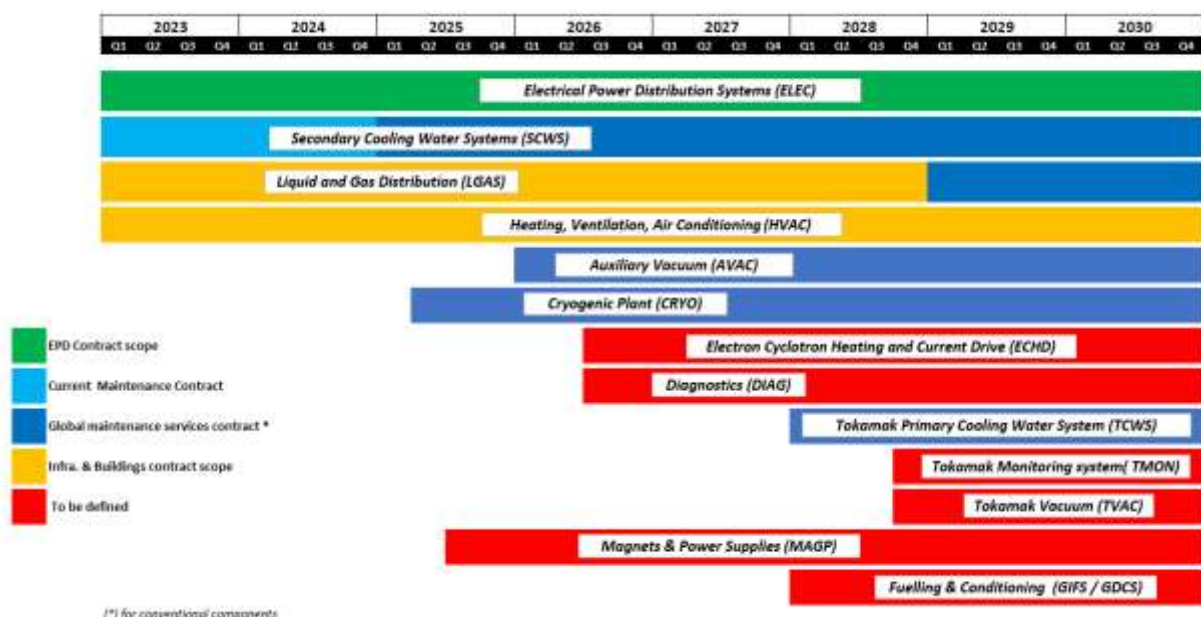
- The plant systems commissioning and hand-over schedule for the various plant systems from now up to end of integrated commissioning
- The scope of some other already existing maintenance contracts for some specific systems /areas (Maintenance of Electrical Power Distribution network and Maintenance of Infrastructure and buildings);
- The need to have a smooth transition between the Maintenance contracts supporting each different project development phases.

During the period 2021-2024, the maintenance contract scope is mainly composed of Preventive and Corrective maintenance activities required for the Secondary Cooling Water System (SCWS) and commissioning assistance activities for SCWS & Cryoplant systems.

The contracts in force for the 2021-2028 (30) period shall ensure:

- Safety compliance (Occupational and Health safety) and Safety performance;
- Technical capability (Contractor responsiveness, work quality, availability of systems...);
- Sufficient scoping (volume of activity) to create attractiveness for potential supplier;
- Cost effectiveness and cost transparency through SAP modules;
- High level of flexibility to cope with some possible unexpected events (from a technical point of view) or project schedule uncertainties (from an organization point of view).

The various systems, which will be part of GMSC, are shown in dark blue colour in the turnover schedule below:



Overview of expected hand-over schedule and maintenance contract implementation.

4. Expected Scope of work

During the period 2025-2030, on top of the activities already included in the temporary maintenance contract, the GMSC scope will also cover corrective and preventive maintenance activities relating to conventional types of components part of Tokamak cooling water system, , Vacuum and diagnostics systems... according to the each system turnover plan.

The contract scope of work includes work preparation, work scheduling, work coordination, spare parts provision, technical reports management and the execution of maintenance activities including commissioning assistance for all conventional components and then for all disciplines (mainly electrical, instrumentation, mechanical, vacuum...)

The preparation of first Long Term Maintenance (LTM) works will be excluded from the maintenance contract as well as regulatory inspections that will be performed likely through specific contracts, but also any OEM contracts that will be managed separately.

Non-core activities such as scaffolding or lifting... will be excluded (with an option for the contractor to use existing construction contracts) while OEMs mobilization and coordination will remain under IO scope.

This approach intends to generate the following benefits:

- Mutualise skilled resources across the various plant systems;
- Limit need for coordination between the various disciplines;
- Optimize costs related to contractor management and safety staff and logistics;
- Implement with consistency maintenance processes, tools and procedures across the various plant systems.

Engineering services associated with design modifications of the IO existing assets including procurements will not be included in the contract while minor upgrades of installed components for safety or reliability purpose are included.

The estimated number of components to be maintained during 2025-2030 period is presented in the below table:

| | | |
|--------------------------------------|--------------------------|-------------------------------------------------|
| Mechanical/Metal | Rotating equipment | 100 pumps / 25 compressors / 30 vacuum pumps |
| | Static equipment | 250 heat exchangers |
| | | 250 vessels/tanks |
| | valves | 9000 manual valves |
| 1000 safety valves | | |
| Elec LV / Instrumentation | Instrumentation / valves | 900 control valves |
| | | 2500 sensors |
| | Electricity LV | 100 variation frequency drivers |
| | | 100 electrical motors |
| | Analyzers | 50 analyzers |



Cryoplant area / Warm Compressor Station



Secondary Cooling Water area / Heat-Rejecting System

5. Tentative Procurement Schedule

In order to have the contract start date aligned with expected hand-over schedule and maintenance contract implementation, the below schedule is targeted:

- Launch of Call for Nomination: Q4 2023;
- Closing Pre-qualification Q4 2023
- Call for tender package Q1 2024
- Contract award: Q4 2024.

6. Experience / Capability

The pre-qualified company and its personnel shall have adequate experience / skills for the work / disciplines as follows:

- International key players in the area of Industrial Maintenance services

- Extensive experience in:
 - Repairing and maintaining all mechanical and electrical systems (except high voltage).
 - Vacuum pumps / associated instrumentation & accessories
 - Metrology including analysers calibration
- Capability to ensure 7/7 24/24 on-call services
- Local representative to organise repairs of rotating equipment , instrumentation and relief valves... in a close perimeter from IO site (less than 50kms)
- Maintenance works within cryogenic plant environment including extremely high requirements for the purity of the gases used in the installations and extremely high requirements for leak tightness to ensure the gas purity.

7. Contract Type and Duration of services

The scope of work will be formalised through a Framework Service Contract. The Contract will be carried out over an initial firm period of four (4) years and an optional period of two (2) years.

The contract is based on an obligation of results principle and will integrate performance KPIs to stimulate the selected supplier to propose improvements (at component or system level) in order to increase the safety performance, the components or systems reliability, to obtain a better integrity level for the IO assets or develop the efficiency of the maintenance activities.

8. Candidature

Participation is open to all legal persons participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure.

All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

The consortium groupings shall be presented at the pre-qualification stage. The tenderer's composition cannot be modified without the approval of the ITER Organization after the pre-qualification.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Candidates (individual or consortium) must comply with the selection criteria. The IO reserves the right to disregard duplicated reference projects and may exclude such legal entities from the pre-qualification procedure.

8. Reference

Further information on the ITER Organization procurement can be found at:

<http://www.iter.org/org/team/adm/proc>