



## TECHNICAL SUMMARY

### Service Framework Contract for the Operation and Maintenance of ITER Buildings and Site Infrastructure

#### 1. Purpose

ITER is a joint international research and development project aiming to demonstrate the scientific and technological feasibility of fusion power for peaceful purposes. The seven members of the ITER Organization 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. The ITER Organization is located in Saint Paul lez Durance – France. Further information is available on the ITER website: <http://www.iter.org>.

The Purpose of this document is to provide a summary description of the technical requirements of the ITER Organization associated with a future framework contract for the Operation and Maintenance of ITER buildings and site infrastructure.

At the start of the services, there will be around 35 buildings (and around 45 small structures as substations, guardhouses, containers) to operate and maintain, half of which are office buildings. Throughout the lifetime of the contract, this number will increase to a total of approximately 40 to 50 buildings (refer site map in appendix).

Type of buildings/areas/equipment	Quantity (internal floor area)
Buildings (total)	35 (120 000 m <sup>2</sup> )
Warehouses	7 (13 000 m <sup>2</sup> )
Office Buildings	11 (35 000 m <sup>2</sup> )
Industrial buildings	18 (47 000 m <sup>2</sup> )
Nuclear buildings	2 (50000m <sup>2</sup> )
Plant bridges	3
Diesel generators > 50 kVA	4
UPS > 10 kVA	16
Main electrical distribution panels	25
Electrical distribution panels >32 A	450
Candelabrum	300-350
Fire panels	20-25
Fire sensors	2000
Fire extinction systems with gas	2
Public Address panels	15
I&C controllers	200
Potable water connections (sanitary areas or buildings)	110
Hot water production units > 11kW	4

Compressed air production units	<p>10 as follows :</p> <ul style="list-style-type: none"> <li>- 5 compressors (Compair, each 350kW, 2500Nm<sup>3</sup>/h)</li> <li>- Breathing air unit</li> <li>- 5 compressors between 15-35kW and 150-300m<sup>3</sup>/h</li> </ul>
Heat pump and rooftops	<p>25 &gt; 150 kW</p> <p>30 between 40 and 150 kW</p> <p>40 between 12 and 40 kW</p> <p>600 between 2 and 12 kW</p>
Air handling units with air flow > 2500 m <sup>3</sup> /h	65
Lifts	15
Motorized doors	50

This document shall apply to the Call for Nomination to be issued by the ITER Organization to the ITER Domestic Agencies.

This document is not the final specifications for the future framework contract which will contain more detailed requirements

## 2. Scope

The principal objective of the tender is to obtain operation and maintenance services of the buildings and building systems including mechanical equipment, delivered with the buildings, such as electrical, fluid networks, HVAC systems and mechanical means.

The services to provide are intended to support the ITER Organization in the operation of completed facilities for which it is responsible, to ensure that the required performance standards, quality levels and other work requirements are achieved.

For this purpose, the Contractor shall be responsible for providing a complete engineering and management solution including:

- Labor and other personnel with appropriate skills, technical and management expertise,
- Materials, spare parts, plant, tools, transport, test instruments, chemicals, lubricants and other sundry materials,
- Temporary plant items or equipment if necessary for delivering the required performance in the event of the breakdown of existing plant.

The services provided under the contract broadly include the following groups of activities:

1. Building Electrical networks Operation and Maintenance (Low Voltage in the range 0–1000 V AC or 0–1500 V DC, lightning protection, fire detection, public address, gas detection, instrumentation & control)
2. Building networks Operation and Maintenance:
  - a. Pressurized hydraulic networks (fire water, potable water, raw water)
  - b. Gravity drainage networks
  - c. Pressurized gas networks (air, Helium, Nitrogen),
  - d. HVAC networks (aeraulic, chilled water and hot water networks)
  - e. Chillers
  - f. Hot water production
3. Building structures and equipment maintenance (building structure, fire doors and extinguishers, metallic equipment as lifelines and ladders, motorized doors and gates, lifts)
4. Site infrastructure maintenance (tunnels, trenches, manholes)
5. Maintenance of specific equipment (e.g. heavy nuclear doors)
6. Alteration and improvement works

### 2.1 Transversal tasks

The services to be provided under the contract include the following transversal tasks:

- Management and planning of maintenance (including warranty follow-up)
- Regulation control, synthesis, analysis, reporting
- Management of scope evolution (works follow-up, appropriation of new systems, drawing integration, technical repository management)
- Management of work authorizations
- Follow-up and analysis of energy and water consumptions
- Call center and on-call duty service

## 2.2 Reporting and expected deliverables

The Contractor will be responsible of supplying operation and maintenance documents as expected deliverables, in particular:

- Monthly progress reports;
- Maintenance reports in the Computerized Maintenance Management System (order of magnitude: 400 work orders per month);
- Daily intervention reports (order of magnitude: 300 intervention tickets to be closed each month);
- Meter readings and consumption analysis;
- Update and where necessary creation of operation files for networks, structures and buildings:
  - a. Equipment inventories (order of magnitude: the Bill of Material representing around 20 000 equipment items),
  - b. Reflex action sheets for commissioning, shutdown and implementation of substitution means (ventilation, uninterruptible power supply – UPS, electrical generating set, compressor),
  - c. Survey sheets,
  - d. Patrol logs,
  - e. Functional diagrams and layouts of networks (hydraulic, electric, low current), for the site and each building,
  - f. Facilities configuration documents (normal, degraded),
  - g. Single line and multi-line diagrams, equipment layout drawings (emergency shutdown, electrical cabinets, safety components, fire valves, connection of removable standby energy sources, etc.),
  - h. Tests and re-qualification sheets and procedures,
  - i. Preventive and corrective maintenance process layouts,
  - j. All technical files of equipment or facilities (calculation documents, test reports, manufacturer certificates, test certificates, instruction documents, operating manual, manufacturer maintenance recommendations log, catalogue of spare parts, etc.),
  - k. Regulatory registers and reports,

## **2.4 Exclusions**

The following activities are provided by other contractors and not included in the scope of this contract:

- Upkeep and repair of minor plumbing networks
- Upkeep and repair of metallic stairs, platforms and shelters
- Upkeep and repair of non-motorized pedestrian doors (<3m) and windows
- Locksmithing, door repairs and upkeep (including fire doors)
- Repair of windows, blinds, false ceilings, walls and floor surfaces
- Upkeep of buildings roofs, facades and patios
- Road, parking and laydown area maintenance
- Buried hydraulic networks (pressurized and drainage),
- Operation and maintenance of Medium and High Voltage power supply (>1000V)
- Operation and maintenance of lifting and handling equipment (cranes, hoists)

## **3. Contract type**

It is foreseen to place a framework Service Contract. The signature of the Framework Contract shall not imply, in any way, any obligation on the ITER Organization to proceed with any purchase through Task Orders further to its signature. Only implementation of the Framework Contract through Task Orders shall be binding on the ITER Organization. The Contractor shall execute the Services requested in each individual Task Order, in accordance with the task specification.

## **4. Work location**

Considering the above description, it is envisaged that the Contractors staff will be authorized to share his activities between his own offices and the ITER site, Cadarache, France. It is estimated that 90% to 100% of the task will be performed on-site in Saint Paul lez Durance (France).

## **5. Required skills and experience**

The ITER Organization is looking for applicants able to demonstrate experience in the areas of expertise listed above.

The applicants shall in addition demonstrate experience in nuclear installations (where procedural rigor and traceability is of key importance).

The quality assurance system implemented by the applicants shall be based on a recognized quality standard meeting the ITER Quality Assurance Program requirements.

It is expected that the resource required fulfilling the Task Orders (TO) will be equivalent to 35 Full Time Equivalent (FTE) at the beginning of the Contract Operational Phase.

## 6. Duration of the Contract

The Framework contract is scheduled to come into force in June 2023 and last for 4.5 years. (The contract shall start with a ramp-up phase of approximately 6 months, followed by an operational phase of 4 years). During the ramp-up phase, the Contractor is expected to prepare for the operational phase in order to be fully ready to take over the services from the company currently in charge of the operation and maintenance of buildings and site infrastructure.

The Contract will include two optional extensions of 1 year each.

## 7. Timetable

The tentative timetable is as follows:

• Prequalification issuance:	May 2022
• Call for tender issuance:	September 2022
• Award:	March 2023
• Start of ramp-up phase:	1 June 2023
• Start of operational phase:	1 December 2023
• Contract end date (firm part)	30 Nov 2027

## 8. Candidature

Participation is open to all companies established in an ITER Member State. A consortium may be a permanent, legally – established grouping or a grouping, which has been constituted informally – but formalized with engagement letters – for a specific tender procedure.

The consortia shall be presented at the prequalification stage, where they will be assessed as a whole. Consortia cannot be modified later without the prior approval of the ITER Organization.

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.