RH Mechanical system Engineer Services

Technical Specifications

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1 Abstract

The purpose of this contract is to acquire the services of an RH Mechanical system engineer for a fixed period to assist in the realization of ITER RH Equipment within the Hot Cell building.

2 Background and Objectives

The ITER remote handling section is responsible for the remote maintenance of the ITER machine. During the current phase of the project, the RH section is defining the specifications for the design and manufacture of the RH equipment systems.
The ITER Remote Maintenance System (IRMS ITER Remote Maintenance Management System (IRMMS) (ITER_D_2FMAJY v1.6)) is made up of sets of Remote handling equipment designed to perform maintenance operations on ITER where man access is highly restricted or forbidden.

The main approach for machine remote maintenance at ITER is to:-

- remove vessel components using dedicated handling equipment,
- transfer the components to the Hot Cell facility using a transfer cask system,
- maintain/refurbish components in the Hot Cell facility using general purpose RH equipment (lifting devices, dextrous manipulators, tooling),
- transfer the component back to the Tokamak,
- install the components back on the machine.

The ITER Hot Cell Facility (HCF) provides space and handling facilities for receiving, dispatching, decontamination, storage, repair, refurbishment and testing of highly radioactive and/or contaminated Tokamak components from the vessel.
During the machine shutdown, the components are delivered to the HCF through the cleaning cells where they are initially loaded into support frames as they are unloaded from the transfer casks. They are then cleaned by Remote Handling equipment and subsequently transferred by trolley, with their support frames, to the refurbishment area which contains a number of refurbishment work stations. The workstations are equipped with further RH equipment for performing the refurbishment tasks. Both the cleaning cells and refurbishment stations are equipped with floor mounted 70T capacity trolleys, the refurbishment area equally being equipped with a 70T capacity overhead crane for handling the components.
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3 Scope of Work

The scope of the work of this contract is to provide support to the IO in the realization of Hot Cell Remote Handling Equipment concept design activities (ref: RD1).

4 Estimated Duration

The contract is for a minimum of 220 work days over a period of 52 weeks from the signature date.

5 Work Description

The engineer would be expected to provide support to the Hot Cell RH equipment responsible officer on a range of concept design tasks:-

- Assisting in the definition on design requirements.
- Assisting in the definition on design interfaces.
- Assisting in the definition of the design documentation.
- Assisting in verification on design compliance vs requirement.
- Performing engineering design validation activity.
- Assisting design review setup.
- Providing support to monitor design contracts.

6 Required Skills

The engineer providing the services should meet the following requirements:-

- Degree in Mechanical engineering,
- Minimum of 10 years experience in robotic/remote handling field,
- Experience developing and implementing complex mechanical device in Nuclear facility,
- Experience in design process management and control.
- Knowledge/skills in the following are an advantage:-
  - Mechanical design,
  - Performing engineering studies.
  - Knowledge in CAD design.
- Excellent knowledge of English, to allow easy communication and adequate drafting of technical documentation.

7 List of deliverables and due dates

The RH mechanical engineer shall work closely with the ITER RH staff throughout the period and produce a progress report every eight weeks based upon the work description (see chapter 5) and clarified with IO-TRO each beginning of the 8 weeks period . The contract shall have the following deliverables and due dates:-

Deliverable	Deliverable description	Due date
D1	Progress report D1	T0 + 8 weeks
D2	Progress report D2	T0 + 16 weeks
D3	Progress report D3	T0 + 24 weeks
D4	Progress report D4	T0 + 32 weeks
D5	Progress report D5	T0 + 40 weeks
D6	Progress report D6	T0 + 52 weeks

Further details of the deliverables shall be established by the IO-TRO at the beginning of the relevant work period.

OPTION: 52 weeks duration extension.

8 Acceptance Criteria

The deliverables shall be reviewed by the IO-TRO for acceptability.

9 Specific requirements and conditions

In response to this call for expertise the company/individual shall provide:

- Finacial proposal
- Profile(and/or CV) of key personnel involved in execution of the work activity

The official language of the ITER project is English. Therefore all input and output documentation relevant for this Contract shall be in English. The Contractor shall ensure that all the professionals in charge of the Contract have an adequate knowledge of English, to allow easy communication and adequate drafting of technical documentation. This requirement also applies to the Contractor's staff working at the ITER site or participating to meetings with the ITER Organization.

Documentation developed shall be retained by the contractor 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, it should fulfil IO document on calculation code for safety analysis.

The work shall require the presence of the Contractor's personnel at the site of the ITER Organization, Cadarache, 13108 St Paul-lez-Durance, France, for the duration of the contract.

For all deliverables submitted in electronic format the Contractor shall ensure that the release of the software used to produce the deliverable shall be the same as that adopted by the ITER Organization.

Financial proposal: The daily rate will involve all travelling and accommodation costs.

The engineer provided for on-site duties shall keep the normal daily working hours of the ITER Organization.

10 Work Monitoring / Meeting Schedule

The control system engineer shall report to the ITER Organization TRO and the RH section leader. Meetings shall be held as and when deemed necessary by the ITER RH staff.

11 Quality Assurance (QA) requirement

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 document: ITER Procurement Quality Requirements (22MFG4 v4.0) and can be used in analogy to this Task Agreement.

Prior to commencement of the task, a DA Quality Plan (conformant with 22MFMW v3.0) 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.

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, it should fulfil IO document on Quality Assurance for ITER Safety Codes (Quality Assurance for ITER Safety Codes 258LKL v1.4).

12 References / Terminology and Acronyms

12.1 References

[RD1] Concept design for in Vessel component Remote maintenance workstations and RH equipment in Hot Cell. (35P43K v1.4) (current)

12.2 Terminology and Acronyms

In the following table denominations and definitions are given of all the actors, entities and documents referred to in this Specification, together with the acronyms used in this document.

Denomination	Definition	Acronym
ITER Organization	For this Contract the ITER Organization	IO-
ITER Organization Task Responsible Officer	Person delegated by the IO-RO for all technical matters, but limited to one specific task order	IO-TRO
Remote Handling	Remote handling	RH

ITER Organization Call for Expertise No:

CURRICULUM VITAE

(max 5 pages)

Family name:

First names:

Date of birth:

Nationality:

Civil status:

Education:

Institution (Date from - Date to)	Degree(s) or Diploma(s) obtained:

Language skills: Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing

Membership of professional bodies:

Other skills: (e.g. Computer literacy, etc.)

Present position:

Years within the firm:

Key qualifications: (Relevant to the project)

Specific international experience:

Country	Date from - Date to

Professional experience (Relevant to the project)

Date from – Date to	Location	Company & reference person	Position	Description

Other relevant information (e.g., Publications)

ITER Organization Call for Expertise No: xxxxxxx

FINANCIAL PROPOSAL

Name of Expert:

	ITER site based
Daily fee rate EUR	

- Daily fee rates are calculated on the basis of days actually worked (8 h/day, 5 days/week).
- Travel for mobilisation and remobilisation, missions and other authorised reimbursable expenses will be covered according to IO acceptable standards (cfr. International Civil Service Commission, available at http://www.theglobalfund.org/documents/perdiem)

Date

Signature

STATEMENT OF EXCLUSIVITY AND AVAILABILITY

Call for Expertise < *nr* >
Subject: < *title* >

I, the undersigned, hereby declare that I agree to take part in the above-mentioned Call for Expertise.

I further declare that I am able and willing to work

- for the period(s) foreseen in the Technical Specification attached to the above referenced Call for Expertise for the position for which my CV has been proposed and
- within the execution period of the specific contract which runs from < >[1] to < >[1]

I confirm that I am not engaged in another contract financed by the ITER Organization in a position for which my services are required during the above periods and that I will not charge the same working day under more than one contract.

Furthermore, should this offer be accepted, I am fully aware that if I am not available at the expected start date of my services for reasons other than ill-health or *force majeure*, I may be subject to exclusion from other tender procedures and contracts funded by the ITER Organization and that the notification of award of specific contract may be rendered null and void.

Name	
Signature	
Date	

[1] To be completed

Confidentiality Commitment
< contract title and No. >

I, the undersigned, hereby declare that I agree to undertake the tasks assigned to me under the above mentioned contract.

I undertake to perform my duties honestly and fairly. My contribution to the activities in which I will be involved will be objective and will fully respect the principles of fairness and impartiality.

I undertake to hold in trust and confidence any ITER Project related information or documents. I undertake to use them only for the purposes of executing the tasks assigned to me and not to disclose them to any third party, including my employer.

I will endeavour to avoid any conflict of interest situation, either direct or indirect. Should any such situation arise, I will promptly inform the relevant Responsible Officer. I undertake neither to assist nor be associated with any external entity seeking to obtain contracts under the ITER project.

I understand that I will be held personally responsible for maintaining the confidentiality of any documents or electronic files received and for returning, erasing or destroying all confidential documents or files upon completing the tasks, unless otherwise instructed.

On conclusion of my assignment I will remain obligated to preserve the confidentiality for a period of 5 years.

Name:

Signature:

Date: