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CONTRACT TECHNICAL SPECIFICATION

Technical Consultancy Work to Support the ITER Magnet Division

Technical Specification

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1 Abstract

This technical specification describes consultancy support services related to the ITER Magnet Section.

2 Background and Objectives

The ITER magnet system is made of several components which have been defined within the DDDs. Most of the components are presently under construction at different stages of production according to the components. Several aspects of the magnet system are however still under investigation in the present phase. By the way, the accumulated experience about the behavior of such a system is not large and investigations have to be performed in particular about the thermo hydraulic behavior of the system in relation with the quench detection, protection and safety of the system.

The commissioning scenario of the system has also to be investigated to methodically check whether the magnet system is in conformity with the specifications. For this phase, the role of interfaces and the interaction with other domains like cryogenics and physics are determining, and can be easier at this advanced stage of the project.

The objective of this contract is to provide consultancy and support to the ITER magnet division in monitoring technical tasks in relation with the behavior, the protection and safety and the commissioning of the ITER magnet system.

3 Work Description

The work required in this technical specification includes the following technical consultancy activities:

-) support to analyses of the ITER Magnet System and academic supervision of scientific staff working on the topic.

-) support to the development of a commissioning scenario of the ITER magnet system and interface with the plasma physics group.

-) support to the management of key interfaces of the ITER magnet system with other ITER systems.

-) support to the preparation, update and review of key documents pertaining to the ITER magnet system.

4 Duration

The contract duration shall be two years, which will be split into two phases:

- Phase 1 for 100 working days within a period of one year.
- Phase 2 for 100 working days within a second period of one year.

Phase 1 will be committed at the signature of the contract.

The IO may extend these services for a maximum of one additional period of one year. ITER Organization shall establish the request for services on ad hoc basis and relative to the respective work plan, with specific tasks and deliverables defined on a quarterly basis (every three months).

5 Deliverables and Time Schedule

The specific work to be carried out as part of the scope given above is to be established quarterly (every three months). The IO will, in mutual agreement with the expert, establish tasks and priorities, along with the written reports to be produced, documentation to be reviewed, or travel needed. These will be part of a work plan for the three-month period. Quarterly, yearly and final reports are the deliverables measuring the accomplishment of the objectives.

6 Acceptance Criteria (including rules and criteria)

The acceptance of the work is based on completion of the tasks and goals set on the work plan for each trimester, as well as on the completion of reports and documents specified in the work plan.

7 Experience

The expert proposed by the bidder to carry out the work described in Section 3 must have proven experience in the following areas:

- PhD in physics or engineering
- 15 years' experience in commissioning and operation of a superconducting fusion machine
- Analysis of superconducting magnet performances
- Experience in design, production and analysis of ITER type conductors
- Knowledge in superconductivity
- Basic knowledge in plasma physics and plasma operation
- Ability to communicate fluently and write reports in English
- Able to travel and to participate to relevant meetings

CV showing evidence above is required.

8 Work conditions

- A work plan shall be established and agreed by IO every three months. Travelling and missions shall be only upon agreement with IO;
- This contract shall be executed by one sole staff. Splitting it into parts and sharing those between several parties or individuals are not permitted;
- The staff working on this contract shall be available and deployed to the IO site in St Paul-lez-Durance, France upon IO request.
- Given the fact suppliers hold trade secrets in the manufacture of their components, and that competitive considerations are at play, the expert is expected to disclose any and all conflicts of interest in the conduct of this contract, and sign non-disclosure agreements as directed by the IO.

9 Timetable

The tentative timetable is as follows:

Call for Expertise	July 2013
Contract award	September 2013

10 Candidature

Participation is open to all individuals, companies or institutes which are legally registered in one or more of the ITER Member States.

11 Payment schedule / Cost delivery time breakdown

Invoices will be raised and paid quarterly, based on working days worked by the resource allocated to the Contract in the quarter, supported by authorized and approved by IO timesheets and accepted deliverables.

Payment shall be executed only if the contractor has fulfilled his contractual obligations by the date on which the invoice is submitted.

12 Quality Assurance (QA) Requirement

Documentation developed as the result of this contract shall be retained by the contractor for a minimum of 5 years, after which it may be discarded at the discretion of the IO.