CONTRACTS TECHNICAL SPECIFICATION

Contract Title:

Seismic analysis expert

Technical Specification

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1 Abstract

This document specifies the requirements for the provision of an Expert in seismic analysis and seismic requirement to support SEAS section.

2 Background and Objectives

The ITER machine consists of many components, instrumentations, assemblies and associated systems. These systems need to be verified against seismic actions following French regulation and ITER specific requirements.

The ITER System Engineering, Analysis and Standards (SEAS) section is part of the project engineering and Integration Division of the Central Integration and Engineering Directorate and, among others, has the following responsibilities:

- Define the seismic requirements for ITER systems and components;

- Perform the global seismic analysis of the main tokamak components to provide input conditions for detailed seismic analyses or structural verifications;

- Provide guidelines for seismic analyses;

- Verify that seismic analyses are performed following the ITER specifications and requirements;

- Support ITER licensing process on providing answers to questions or requests from French regulators on matters related to seismic analyses and procedures.

Almost all departments rely on the System Analyses (SEAS) section support for seismic analyses and the presence, on site, of an expert on seismic analysis and analyses procedures is essential to achieve ITER planned milestones.

3 Scope of Work and work description

The expert will work on the following subjects as required following priorities defined by the SEAS Section Leader:
- Manage the activity of the Reaction Force Task Force (RFTF), following the priority defined by the Building Integration Cell (alias Building Integration Task Force) for the preparation of the load documents for the dimensioning of the embedded plates;
- Verify seismic analyses performed by the RFTF members or by IO external companies for the definition of interface loads and control consistency with the ITER specifications and requirements (This activity is mainly oriented to the definition of the seismic loads on the buildings from the equipment for the completion of the design of the anchoring systems);
- Contact equipment RO to get all required information for the analyses to be performed by the RFTF members;
- Review the present guidelines prepared by IO and prepare new guidelines if required to comply with the ITER requirements and French regulation;
- Support ITER licensing process in providing answers to questions or requests from French regulators on matters related to seismic analyses and procedures.

4 Estimated Duration

The duration for the contract shall be 12 months with provision for a further extension of 12 months. The number of working hours per day shall follow the ITER working rules.

5   Responsibilities (including customs and other logistics)

Contractor:

The Contractor warrants that all personnel supplied under the contract have the necessary qualifications and experience to carry out their work. All short-listed candidates proposed will be interviewed.

The work shall be performed on the ITER site because daily exchanges and periodic meetings are foreseen.

ITER:

The contractor will work under the technical instruction and supervision of the SEAS section Leader.
ITER will provide the required information-access to the respective ITER files for executing the work when needed to follow the implementation plan during the execution of the work.

In particular ITER will make available any technical information needed for the contractor to perform the work. All issued / requested documents containing this information must be returned to ITER on completion of the contract.

ITER shall provide a network access rights, an email account and access to ITER calculation software as available.

6   List of deliverables and due dates (proposed or required by ITER)

The expert will provide regular weekly and monthly report of the activity performed.
The generation of other deliverables shall be coordinated and monitored by the SEAS Section Leader during the execution of the contract.

7   Acceptance Criteria (including rules and criteria)

Typical deliverables shall be regularly reviewed by IO. The contractor shall update his reports in order to take into account any comments.

8   Specific requirements and conditions

The following skills and education level are required:

- University degree in engineering, or a combination of qualifications and experience acceptable to IO
- Minimum of 10 years' working experience in the seismic analysis field.
- Good knowledge of the nuclear and non-nuclear seismic requirements.
- Good knowledge of the seismic analysis procedures and on the use of analyses tools (preference to ANSYS code is given).
- Fluent in English both written and oral.
- Ability to communicate effectively and to write clear and concise reports in English.

- Knowledge of the use of Microsoft Office suite of software.
- Good interpersonal, communication and organizational skills.
- Ability to work independently when required.
- Good planning, organisation, communication and negotiation skills.
- Ability to work effectively in a multi-cultural environment.

9   Work Monitoring / Meeting Schedule

The official language of the ITER project is English.
Generally, the work shall require the presence of the Contractor's personnel at the site of the ITER Organization.

10   References / Terminology and Acronyms

IO   ITER Organization
SEAS   System Engineering, Analyses and Standard Section
TRO   Technical Responsible Office