Job Title: Mechanical Engineer, Divertor IO1153

Requisition ID **8227** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Engineering of Systems** - **New Posting**

Fusion, the nuclear reaction that powers the sun and the stars, is a promising long-term option for a sustainable, non-carbon emitting global energy supply.

The ITER Organization (IO), based in the southern France, welcomes best talents who can together prepare the way to this new energy in a truly multi-cultural work environment.

We offer challenging assignments in a wide range of areas and encourage applications from candidates will all levels of experience. Applications from under-represented ITER Members' nations and women candidates are strongly encouraged, as IO strongly believes that a diversified, equitable, and inclusive workplace is crucial in solving one of the most complex scientific and engineering projects in the world today.

As the IO attracts and retains people coming from a vast array of different backgrounds and cultures, discrimination and exclusion cannot be tolerated. The IO believes it is our diverse perspectives and background that gives unique strength and value to the ITER mission, regardless of race, member nation, gender, religion, status, sexual orientation, or disability - all are welcome and respected at ITER.
The IO is committed to fostering a fair and equitable environment across all areas of the project, including compensation and benefits.
ITER CARE Values (Collaboration / Accountability / Respect / Excellence):
We perform our work with care, we care for the well-being of colleagues, our families and ourselves, and we care about the health of the planet for generations to come. CARE drives our work and our behaviors at ITER.

To see why ITER is a great place to work, please look at this video

Application Deadline: 04/01/2026
Department: Engineering Services Department
Division / Program: Fusion Technology - I&C Division
Section / Project: Fusion Technologies Section
Job Grade: P1/P2 (SALARY SIMULATOR)
Language Requirements: Fluent in English (written & spoken)
Contract Duration: Initial Employment Contract up to five years with possibility for extension
Please note that the entry grade of this position begins at P1 and the final grade offered to the selected candidate is subject to the decision of the IO Director General.

Overview

Are you looking for an exciting opportunity at the heart of an ambitious fusion energy project? Join our Fusion Technology and I&C Division (FTIC) within the Engineering Service Department (ESD) as a Mechanical Engineer, Divertor.

As a **Mechanical Engineer, Divertor,** your goals will include:

- Performing the entire engineering life cycle (specification, design, qualification, procurement, installation, integration, commissioning and maintenance) for the scope of activity.
- Providing engineering input and technical support for the scope of activity.
  - Ensuring deliverables are produced according to project schedule and budget, within a quality-assured environment that requires rigor and a systematic way of working.
  - Developing, under the leadership of your discipline manager, your skills and experience for the benefit of the Project.

The ESD provides the required skilled engineering resources or services, which are necessary for the successful completion of the ITER Project.
FTIC Division provides technical support to the ITER project in the field of design, analysis, and lifecycle management of critical fusion and I&C systems.
Being a member of the FTIC Division, you will have the opportunity to share and develop your expertise with other colleagues working in the same discipline on different ITER units.

Find out more about the Divertor here: https://www.iter.org/machine/divertor

The initial scope of activity will be focused on the Divertor which is located at the bottom of the Vacuum Vessel and is actively cooled by pressurized water. The main function of the Divertor is to minimize the impurity content in the plasma by intercepting the magnetic field lines, thus neutralizing the plasma, which is then pumped away by the vacuum pumping system. The Divertor is attached to the Vacuum Vessel by means of customized cover plates. The candidate will support the finalization of the Rails' design, manufacture and procurement through installation.

Key Duties & Responsibilities

Primary Responsibilities:

- Contributes to the delivery of the procurement arrangement for the divertor scope of activity.
- Conducts stress analysis of Divertor components using Finite Element Method, assesses strength per structural codes, and prepares technical reports.
- Writes technical documentation as required for the procurement, fabrication, qualification and testing of the equipment, prepare relevant tenders, and updates documents as needed.
- Follows up on the manufacturing for the scope of activity including qualification tests and final acceptance tests (FATs).
- Collects and verifies input data for the design of the assigned scope and reviews the deliverables produced by external design contractors.

Additional Responsibilities:

- Provides assistance to the Domestical Agencies, contractors and ITER groups to carry-out engineering, R&D, interface control and procurement work as required.
- Reviews detailed workshop drawings or any Installation Procedures, Inspection & Test Plans and the installation testing issued by the installation Contractor.
- Issues inspection and observation reports when and where required.
- Provides expert criteria for structural and mechanical discipline related problems and follows-up on the resolution of the field engineering changes and installation non-conformances.

Please note that job descriptions cannot be exhaustive, and the staff member may be required to undertake other duties, which are broadly in line with the above primary responsibilities.

Experience & Competencies

Essential:

- **Proven experience** in mechanical engineering, preferably for components in an Ultra High Vacuum (UHV) environment.
- **Stress Analyses:**
- Proficiency in Finite Element Analysis (FEA) to perform thermal and structural analyses on complex systems under specified load combinations.
- Experience in assessing components according to design criteria and refining designs using analysis outcomes as well as supplementary hand calculations.
- **Mechanical Engineering of plasma facing components/systems:** Specifying, designing, testing, installing and maintaining mechanical components, systems and interfaces.
- **Preparing technical documentation** such as design description documents, interface control documents, tender technical specifications and test procedures.
- **Manufacturing Follow up:** Experience in the follow-up of manufacturing of mechanical parts, including working knowledge of mechanical manufacturing techniques.
- Understanding of CAD 3D models and 2D technical drawings.

- **Continuous Improvement:** proposing changes to processes and systems to enhance efficiency, quality, and productivity over time.
- **Quality Management Systems (QMS):** apply the applicable procedures related to your field of activity.

Desirable:

- **Codes & Standards:** Understanding and applying industry, discipline or job-specific codes, standards and regulations to ensure that products, services, and processes comply with applicable requirements and legal frameworks.
- **Software:**
- Finite Element Analysis (FEA) software: (ANSYS, NASTRAN, ABAQUS or equivalent).
- **Procurement and Contract Management:** Preparing and reviewing technical specifications, strategic sourcing, contract negotiation, and ensuring compliance with procurement policies and regulations.
- Experience with materials joining and Non-Destructive Testing (NDT) techniques.
- **Organizational Savvy:** maneuvering comfortably through complex policy, process, and people related organizational dynamics.
- **Optimizes Work Processes:** knowing or identifying the most effective and efficient processes to get things done, with a focus on continuous improvement.

Qualifications

Essential:

- Master's degree or equivalent in Mechanical Engineering or other relevant discipline.
- *The required education degree(s) may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.*

The following items apply to all jobs and job holders for the duration of tenure at ITER Organization:

- **The CARE Values are a framework of principles that guide our actions and define the culture and spirit of the ITER Project:**

Collaboration: We collaborate with commitment and flexibility using the power of teamwork, building partnerships, and working with others to reach shared objectives;

Accountability: We are accountable for the whole project - we take responsibility for our specific actions and are transparent in our daily work, holding self (ourselves) and others accountable to meet commitments;

Respect: We treat each other with respect and dignity at all times, knowing that all of us belong here. We appreciate the value that our multicultural and diverse community brings to the ITER Project;

Excellence: We are driven by excellence; we are agile and innovative while maintaining the highest standards of safety, quality and integrity;

- **ITER Core Technical Competencies**:
  1) **Nuclear Safety, Environment, Radioprotection and Pressured Equipment**
  2) **Occupational Health, Safety & Security**
  3) **Quality Control & Quality Assurance Processes**
- **Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members;**
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- May be requested to perform other duties in support of the project as defined by your line manager, and when relevant upon the request of the matrix manager;
- May be requested to work outside the ITER Organization reference working hours, including nights, weekends and public holidays, due to business needs - this may include on-call, shift work, etc.
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;

- For staff expected to perform on-call, shift hours, or other work outside ITER Organization reference working hours, including nights, weekends, and public holidays, **the possession of a driving license valid in France is required. no commuting vehicle will be provided by the ITER Organization.**
- Informs management of any important and urgent issues that cannot be handled by line or matrix management and that may jeopardize the achievement of the Project's objectives;

The ITER Organization (IO) is an Equal Opportunity organization committed to diversity and inclusive in the workplace.