Job Title: Divertor Engineer IO0931

Req ID **1683** - Posted **24/04/2020** - (France, 13067 St Paul Lez Durance Cedex) - **Engineering of Systems** - **New Posting**

The ITER Organization brings together people from all over the world to be part of a thrilling human adventure in southern France—building the ITER Tokamak. We require the best people in every domain.

We offer challenging full-time assignments in a wide range of areas and encourage applications from candidates with all levels of experience, from recent graduates to experienced professionals. Applications from under-represented ITER Members and from female candidates are strongly encouraged as the ITER Organization supports diversity and gender equality in the workplace.

Our working environment is truly multi-cultural, with 29 different nationalities represented among staff. The ITER Organization Code of Conduct gives guidance in matters of professional ethics to all staff and serves as a reference for the public with regards to the standards of conduct that third parties are entitled to expect when dealing with the ITER Organization.

The south of France is blessed with a very privileged living environment and a mild and sunny climate. The ITER Project is based in Saint Paul-lez-Durance, located between the southern Alps and the Mediterranean Sea—an area offering every conceivable sporting, leisure, and cultural opportunity.

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

Application deadline: 07/06/2020
Domain: Engineering
Department: Engineering Design
Division: Internal Components
Section: Divertor
Job Family: Project Engineering
Job Role: Coordinating Technician Engineer - Early Career
Job Grade: G5
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

As a Divertor Engineer, you will work in a team on the finalization of the Divertor design, including the operational instrumentation of the plasma-facing components, and, as the scope of work evolves with in-kind and in-cash procurement processes, you will assess proposed design changes, in particular by performing thermomechanical analysis and structural evaluation.
You will contribute to the configuration control and management of the interfaces of the Divertor system and associated components, including the maintenance of the interface documentation.

Background

On ITER machine, the Divertor is located on 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 scope of the Team you will integrate includes the procurement of the Divertor and of the Operational Instrumentation inside the Vacuum Vessel.
All these components are subject to the harsh ITER environment, and must also be installable, operable and maintainable, consistent with the ITER facility requirements.
The related design is developed by the ITER Organization (IO), while the procurement is either "in-kind" through Domestic Agencies (DAs), or via direct contracts placed by the IO. One of the key objectives for this position is to support the procurement of the above components. This includes performing engineering evaluations and preparing the updates of CAD data and related Configuration Management items.

Major Duties/Roles & Responsibilities

- Provides technical support for the procurement of Divertor components, including the operational instrumentation of the plasma-facing components (e.g. controlling deliveries of components, witnessing

acceptance tests and following up on corrective actions where necessary, reviewing machining, installation, welding, etc.);
- Drafts, manages and maintains up to date the contractual and technical documentation related to the Divertor fabrication activities, in close liaison with the concerned Technical Responsible Officers and Procurement and Contracts Division;
- Assesses proposed design changes, by means of design analyses, in particular including thermomechanical analysis and structural evaluation;
- Contributes to the configuration control (via preparing drawings and 3D CAD models, following up schedules, defining and maintaining interfaces, preparing gate reviews) for the Divertor and the interfacing components by liaising closely with the concerned Technical Responsible Officers and with the Central Integration Office;
- Ensures that Quality Assurance procedures are implemented, in close relation with the Quality Management Division;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays.

Measures of Effectiveness

- Contributes efficiently to the definition, validation, execution and control of the delivery, testing and integration of the various Divertor components, including the operational instrumentation of the plasma-facing components, within the defined quality, cost and schedule;
- Monitors efficiently procurement activities to quality cost and schedule, maintaining excellent relations with the concerned Technical Responsible Officers;
- Proposes solutions to resolve potential quality or technical issues in a timely manner;
- Establishes and maintains effective collaboration with all the stakeholders for the definition and maintenance of the Divertor interfaces.

Experience & Profile

- *Professional Experience:*
  - At least 7 years' experience in the design and testing of mechanical components, including the definition and management of interfaces between complex systems.
- *Education:*
  - Bachelor degree or equivalent in Mechanical Engineering or other relevant field.
  - The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
- *Language requirements:*
  - Fluent in English (written and spoken).
- *Technical Competencies and demonstrated experience in:*
  - Thermomechanical and structural analyses in support of design activities;
  - Basic mechanical manufacturing techniques including welding processes, non-destructive tests, as well as geometrical and dimensional tolerances and relevant codes and standards;
  - Use or analysis of Computer Aided Design (CAD systems) models;
  - Fusion technologies and/or Ultra High Vacuum (UHV) applications would be advantageous;
  - Basic Project Management experience would be advantageous.
- *Behavioural Competencies:*
  - Collaborate: Ability to dialogue with a wide variety of contributors and stakeholders;
  - Communicate Effectively: Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment;
  - Drive results: Ability to persist in the face of challenges to meet deadlines with high standards with high level of reliability and autonomy;
  - Manage Complexity: Ability to gather multiple and diverse sources of information to define problems accurately will the ability to set priorities and meet deadlines before moving to proposals;

- Instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.

The following important information shall apply to all jobs at ITER Organization:

- Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, ITER Values (Trust; Loyalty; Integrity; Excellence; Team mind set; Diversity and Inclusiveness) and Code of Conduct;
- ITER Core technical competencies of 1) Nuclear Safety, environment, **r**adioprotection and pressured equipment 2) Occupational Health, safety & security 3) 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 work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- Informs the IO Director-General, Domain Head, or Department/Office Head of any important and urgent issues that cannot be handled by lline management and that may jeopardize the achievement of the Project's objectives.