Job Title: Mechanical Engineer TCWS-042

Requisition ID **6501** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Construction and Installation** - **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: 21/08/2022
Domain: Construction Domain
Department: Plant Construction Department
Division: Mechanical Implementation Division
Section: Tokamak Cooling Water System Section
Group: TCWS Delivery
Job Family: Construction
Job Role: Engineer – 2
Job Grade: P3
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years
***Specific note*: This vacancy is for less than 4 years, the employment contract is valid until December 2025, while it will be subject to the contract renewal process according to the staff regulations.**

Purpose

As a Mechanical Engineer, you will be responsible for the overall design and analysis of the pipes and supports for the Tokamak Cooling Water System (TCWS). You will also manage the procurement of select TCWS components and participate in the pre-assembly and pre-testing of the TCWS piping system.

Background

The ITER TCWS has three separate primary heat transport systems supported by three additional systems, with a requirement to remove approximately 1,000 Megawatts of heat. These systems perform safety functions for confinement of radioactive material, confinement of high energy liquid, and decay heat removal which is generally lower in magnitude (less radioactive material, pressure, and decay heat) but of similar function to commercial fission reactors. The systems have 33 km of nuclear-grade piping, which is a comparable size to a commercial fission reactor water system.

Key Duties, Scope, and Level of Accountability

- Performs pipe stress analysis and support design of the TCWS;
- Responsible for the production and issuing of several TCWS Engineering Work Packages;

- Provides in-field engineering support to construction during prefabrication and installation of the TCWS;
- Manages procurement and installation of some TCWS components (such as tanks, filters, etc.);
- Acts as contract manager for some TCWS components (such as tanks, filters, etc.) manufacturing, ensuring compliance of the equipment with the design and quality expectations;
- Supports procurement and installation of piping, supports, and valves for the TCWS;
- Supports the installation and testing of TCWS piping and equipment;
- Ensures that the TCWS piping and equipment design is properly integrated on the ITER site and with the interfacing systems;
- Reviews documents, configuration models and drawings (including P&IDs);
- Ensures that TCWS piping and equipment is compliant with the ESP-ESPN (Nuclear Pressurized Equipment (from French "Equipements Sous Pression Nucléaire") French rules;
- Analyzes and checks the stress analyses of the TCWS piping systems and update the TCWS load specification accordingly;
- Ensures that the TCWS piping and equipment design is properly integrated, installed and finally tested on the ITER site and with the interfacing clients/systems;
- 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, week-ends and public holidays.

Measure of Effectiveness

- Issues high quality documentation, such as TCWS piping and support stress reports on time;
- Ensures that TCWS components are delivered as per the schedule and within budget;
- Manages contracts effectively and proactively anticipates issues by providing suitable solutions;
- Produces and reviews EWPs on time to minimize any disruption to the schedule;
- Contributes to ensuring satisfaction of safety and functional requirements flow-down;
- Propose solutions to specific requests or process improvement.

Experience & Profile

- ***Professional Experience:***
  - Minimum 8 years' experience in the design and procurement of piping and supports for large scale facilities, preferably in nuclear environement.
- ***Education:***
  - Master's Degree or equivalent in Nuclear or Mechanical Engineering.
  - 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:***
  - Design and analysis: Large piping systems and supports design/analysis to design codes AISC, Eurocode, ASME, etc;
  - Contract Management and Procurement of ESPN components: Defining requirements and monitoring the contract delivery;
  - Basic experience in the System Engineering of complex Nuclear projects;
  - Design and procurement of rotating machines is considered an advantage;
  - Good knowledge of ESP and ESPN normatives would be advantageous;
  - Familiarity with CAD drawings and software (e.g. SSD, Autocad, AVEVA E3D, CATIA/ENOVIA) would be advantageous;
  - Basic experience in the Cold Sinks Engineering of complex systems and projects would be advantageous;
- ***Behavioral Competencies:***

- Collaborate: Ability to facilitate 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;
- Manage Complexity: Ability to analyze multiple and diverse sources of information to understand problems accurately 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, radioprotection 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 line management and that may jeopardize the achievement of the Project’s objectives.