Job Title: Mechanical Engineer (Manufacturing and Procurement) IO0654

Requisition ID **6443** - Posted - (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: 14/08/2022
Domain: Construction Domain
Department: Plant Construction Department
Division: Mechanical Implementation Division
Section: Cooling Mechanical & Welding Section
Job Family: Construction
Job Role: Engineer – 3
Job Grade: P3
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

In this role, you will be responsible for the completion of the design, procurement, testing and delivery of the several sub-systems for Cooling Water System (CWS).
You will follow up the completion of the manufacturing and assembly of the CWS on site, which have not yet been installed and resolve a variety of technical problems to ensure a successful handover of the systems for their commissioning and operation with preparation of relevant documentations. For the systems which are already installed, you will be the main interfacing person with the commissioning team for the successful commissioning and operation. During this process, you will also resolve all the already existing non-conformances and will manage the non-conformances that will be reported at a later time.

Background

The ITER Cooling Water System (CWS) is designed to control the main thermal hydraulic parameters of the systems (e.g. in-Vessel Components and Power Supplies) and to reject their heat loads to the environment when the plasma will be heated at 50 MW and the D-T fusion power heat will reach 500 MW with an amplification factor Q 10. The CWS overall handling heat load capacity at reference D-T plasma operation is 1150 MW. The CWS is divided in: Tokamak Cooling Water System (TCWS) – Primary closed circuits; Component Cooling Water System (CCWS) – Secondary closed circuits; Chilled Water System (CHWS) – Secondary closed circuits; Heat Rejection System (HRS) – Tertiary open circuit.

Key Duties, Scope, and Level of Accountability

- Provides technical direction and co-ordination for development of the Final Design of CWS systems to ensure the eventual procurement of the CWS is technically adequate and carried out in a timely manner;
- Monitors the preparation of the Manufacturing Dossiers and the Contractual Release Notes and Deliveries for the CWS systems and components;
- Manages the delivery, storage and eventual utilization of the CWS spare parts;
- Reviews the Interface Sheets (ISs), relevant documents and drawings related to the preparation/completion of the Engineering Work Packages (EWPs) for the CWSs;
- Manages the flow of information and Request for Information (RFI) from/to the DA and relevant sub vendors and clarifies as needed about the main design documents, certifications, data sheets, operative and maintenance manuals et similar.
- Manages the Project Change Requests as required for the CWS project and also flows the existing PCRs for implementation as the Technical Responsible Officer Resolves all the CWS concerned Non Conformities, Deviation Requests (DRs), Field Change Requests (FCRs) issued by the Vendors, Manufacturers, CMA and Construction subcontractors, for the delivery and Installations;
- Prepares/approves test plans, procedures, and acceptance criteria for CWS systems testing and commissioning;
- Ensures accurate interface control and schedule performance through close collaboration with the ITER teams responsible for design and procurement of cooling water system client components and systems;
- Assists the CWS Section leaders for training of new IO staff namely for operating the CWS systems;
- Manages all documentations in the ITER Documentation system and follows for the review and approval
- 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.

Measure of Effectiveness

- Effectively completes and manages the pending activities on the CWSs design, manufacturing and delivery, ensuring that the quality and schedule is met;
- Efficiently contributes to the preparation of the EWPs for CWSs by working proactively and in a timely, organized manner;
- Completes the NCRs, DRs, FCRs and the RFIs raised on the CWSs promptly to minimize any disruption to the schedule.
- Effectively supports the CMW Section in the CWSs commissioning and operations activities.

Experience & Profile

- ***Professional Experience:***
  - Minimum 8 years' experience in the design, manufacturing, construction and operation of cooling water systems in the field of nuclear installations within complex international environments or projects.
- ***Education:***
  - Master's degree or equivalent in Mechanical or Nuclear Engineering or other relevant discipline;
  - 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:***

- Specialized Domain of Expertise (Cooling Water Systems): Design, fabrication, installation and commissioning of centrifugal pumps, vertical pumps, plate heat exchangers, chillers, water polishing equipment, and/or mechanical draft cooling towers;
- Relevant work experience in the nuclear power industry or large industrial facilities with high-volume cooling water systems, or relevant experience in fusion research facilities;
- Design: Production of process flow diagrams, piping and instrumentation diagrams, technical specifications, engineering calculations, hazards analyses, reliability analyses, piping stress analyses, and similar system design documents;
- Quality Control: Quality Assurance/Quality Control application for nuclear systems and components, including performing work under an ASME NQA-1 or ISO 9001 quality assurance program;
- Knowledge on ASME piping and pressure vessel design standards; familiarity with application of European/French pressure equipment directives and French nuclear regulations is an advantage;
- Ability to use software codes for CAD model and for thermal-hydraulic and thermo-mechanical analyses is an advantage.

- ***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.