Job Title: Piping and Support Structural Engineer IO0595

Requisition ID **3700** - Posted **19/02/2021** - (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: 04/04/2021
Domain: Construction
Department: Plant Construction
Division: Field Engineering Installation
Job Family: Project Engineering
Job Role: Engineer - 1
Job Grade: P2
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

As a Piping and Support Structural Engineer, you will produce the piping stress analysis required for the piping layout configuration inside the ITER Project buildings according to applicable nuclear codes and standards.
You will manage in field design changes throughout the construction phase according to Safety and Quality Assurance (QA) rules, ensuring resolution of technical issues in real time to support the progress of construction activities without affecting the time schedule;
Additionally, you will be responsible for resolving in-field design changes associated with embedded plates design, by implementing on-site calculations for components and outline configurations according to vendors data.

Background

In the frame of the Field Engineering Installation Division, part of the Plant Construction Department, the In-Field Engineering Support group provides transversal mechanical engineering supports to both construction and design activities, i.e.:

- For all the Plant (Balance of Plant, Nuclear and Non-Nuclear Buildings), assure the in-field engineering assessment, which includes the resolution in real-time of Supplier Deviation Request and In-Field Non Conformities;

- Support the other divisions for the production of engineering design packages of safety and non-safety mechanical systems including pipes, piping supports, valves, cable trays, etc. up to the penetrations into the walls.

Major Duties/Roles & Responsibilities

- Supports the resolution of in-field design changes generated during construction activities and promotes their real time resolution, ensuring to fully satisfy Safety and Quality Assurance rules as well as space management integration requirements;
- Performs and leads the final design and analysis of pipe whip restraints, and of the structural supports for all the piping systems, considering properly the primary and secondary loads according to ANSI / AISC and Eurocodes;
- Reviews piping isometric drawings and associated spooling, with supports locations and supports detailed drawings as required for construction work packages preparation; using tools such as AVEVA PDMS 3 Models.
- Coordinates and manages the real-time resolution of "Requests For Information" and Non-Conformities raised during the installations of piping systems by providing technical solutions, a weekly report status and by closely interfacing with design resources when appropriate.
- Supports the management of the Project Change Requests generated during the construction activities according to safety requirements;
- Produces structural evaluations comprehensive of linear and non-linear buckling analysis;
- Selects constant and variable springs, as well as dynamic shock absorbers or gapped supports, and issues the related technical specifications as required for their procurement;
- Participates in the design and conformity assessment of certain pressure equipment according to the French regulations (ESP/ESPN) and follows the required design codes and standards as per Licensing Design Basis;
- Participates in the manufacturing follow-up of piping, supports, steel frames and equipment;
- Performs technical reviews of the analysis and associated calculation reports for structures and components subject to modification;
- 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

- Performs the stress analysis reports of the piping systems and supporting structure in a timely manner;
- Issues comprehensive technical specifications and construction work packages as required for procurement in a timely manner;
- Efficiently supports design and manufacturing activities, ensuring that issues are anticipated and resolved promptly to minimize disruption to the schedule;
- Complies with applicable quality and safety codes, standards and regulations and propagates their use where necessary;
- Maintains effective communication and excellent relations with interfacing teams within ITER and with external contractors;
- Assures satisfaction of safety and functional requirements flow down.

Experience & Profile

- ***Professional Experience:***
  - At least 5 years' experience working as a Mechanical, Nuclear or Structural Engineer in a nuclear facility or complex construction project.
- ***Education:***

- Master degree or equivalent in a Nuclear or Mechanical Engineering field 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:***
- **Problem Solving (assess problems, identify root causes and reach practical solutions in a consistent way to reach project objectives):**
- Supporting the management of in-field design changes for piping systems generated during construction activities;
- **Writing and presentation:** write technical documents in the engineering domain of expertise with clarity and precision;
- **Design (create technical designs based on project requirements):**
- Seismic design of piping systems /supports and steel structures for Nuclear Facilities;
- Use and application of the EU Pressure Equipment Directive or French ESP/ESPN regulations and practical application will be considered advantageous;
- Performing linear and non-linear structural analysis comprehensive of buckling analysis;
- Use of structural design codes AISC, Eurocode, etc. & knowledge of ASME III related chapters as well as RCC-MR would be beneficial;
- Use of Caesar II / CAE Pipe piping structural analysis software and GT – Strudl, Staad Pro or similar software;
- 2D-3D CAD software (AVEVA PDMS and Catia);
- Finite Element Method analysis software (ANSYS) is advantageous;
- **Quality Control: Quality Assurance/Quality Control procedures for the installation of safety related mechanical components and piping systems.**
- ***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.