

Job Title: Mechanical Engineer PED-058

Req ID **842** - Posted **17/10/2019** - (France, 13067 St Paul Lez Duranc) - **Engineering support - 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 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.

Application deadline: 24/11/2019

Domain: Construction

Department: Plant Construction

Division: Mechanical Implementation

Section: Cooling Mechanical & Welding

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 mechanical engineer, you will design and perform 3D modelling for mechanical components, piping and systems under your scope of responsibilities for Vacuum-Vessel Pressure Suppression System (VVPSS).

Another purpose of the job is to design and to perform structural analysis as well as piping stress analysis for piping configurations and mechanical systems.

The additional function of this position is to work closely with the team in charge of the systems process to produce the most suitable design to fulfill the requirements, by supporting them with calculations and verifications involving thermal analysis, as well as shock wave propagation phenomena.

The scope also includes production of Engineering Work Packages (EWP) and coordinating procurements by preparing the technical specifications and following the process set out by the ITER project.

Major Duties/Roles & Responsibilities

- Develops the design of piping, components and mechanical systems for VVPSS;
- Produces static and dynamic structural analyses, as well as pipe stress analyses and associated reports of the piping systems, supports and mechanical components;
- Manages the compliance of the mechanical design with the project requirements, assuring the proper management of the interfaces and integration with the building and other systems;
- Performs calculations of the loads on the supports, assuring the compliance of the design with the allowable loads on the building interfaces;

- Performs compliance checks with the thermal and process analysis in a fully integrated manner;
- Develops 3D models as part of the design process assuring the proper integration with the overall ITER configuration;
- Follows up and provides guidance to CAD designers to enable them to produce models and drawings;
- Produces inputs for safety analysis as required for the ITER project;
- Updates the load specification of the VVPSS system along with the justifications and calculations as per project requirements;
- Understands construction requirements in terms of engineering documents of the project and prepares EWP's according to procedures;
- Prepares technical specifications required for the procurement of piping and components designed as per the project requirements;
- 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

- Issues the accurate stress analysis reports of the piping systems, updated load specification document, pipe supports and mechanical structures on time, of a high quality standard and within the defined costs;
- Issues the EWP's as required to support construction activities on time and of a high quality standard;
- Issues the technical procurement specifications for piping, on line components, supports and other mechanical structures on time and of a high quality standard;
- Supports efficiently the design and manufacturing activities;
- Keeps up to date with international codes and standards to ensure their proper application throughout all tasks;
- Ensures compliance with safety and functional requirements.

Experience & Profile

- **Professional Experience:**
 - At least 5 years' experience in nuclear or mechanical engineering specifically related to the seismic design of piping systems, supports and steel structures for large conventional or nuclear facilities.
- **Education:**
 - Master Degree in Mechanical or in Nuclear Engineering or equivalent;
 - 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 in:**
 - Understanding system engineering of complex project and designing piping systems, piping supports and mechanical systems ;
 - Performing linear and non-linear structural analysis, including buckling analysis and pipe stress analysis;
 - Using piping codes, structural design codes (AISC, Eurocode, ASME, RCC M is desirable);
 - Knowledge of fluid processing, simulation tools for process design as well as of Computational Fluid Dynamic tools would be desirable;
 - Knowledge of safety aspects for Nuclear systems will be an added advantage;

- Knowledge of the EU PED or French ESP/ESPN regulations and practical application will be considered advantageous;
- Preparing procurement and engineering documents for constructions and technical specifications for piping system and supports;
- Excellent Knowledge of Caesar II / CAE Pipe piping structural analysis software and GT – Strudl, Staad Pro or similar software;
- Good knowledge of FEM analysis software (ANSYS);
- Good knowledge of 2D-3D CAD software (AVEVA PDMS and Catia).
- **Behavioral 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;
 - Manage Complexity: Ability to gather multiple and diverse sources of information to understand problems accurately before moving to proposals/solutions;
 - 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.