

# Job Title: Nuclear Pressure Equipment Engineer IO0872

Requisition ID **5601** - 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:** 23/01/2022

**Domain:** Engineering

**Department:** Engineering Design

**Division:** Internal Components

**Section:** Tritium Breeding Blanket Systems

**Job Family:** Engineering

**Job Role:** Engineer – 3

**Job Grade:** P3

**Language requirements:** Fluent in English (written & spoken)

**Contract duration:** Up to 5 years

## **Purpose**

In this role as a Nuclear Pressure Equipment Engineer, you will ensure the completion of design, procurement, manufacturing, pre-assembly, assembly and final proof testing of specific components being part of the Test Blanket System's (TBS) Connection Pipes (CPs) system (including coolant systems and tritium circuits) in compliance with the relevant French regulations, whilst ensuring efficient management of the interfaces with the IO construction team.

Additionally, you will monitor and follow-up the contracts, from technical specification development to component delivery, assembly and final testing of specific nuclear mechanical structures and pressure and nuclear pressure equipment being part of the TBS CPs system.

## **Background**

*ITER should test tritium breeding module concepts that would lead in a future reactor to tritium self-sufficiency, the extraction of high grade heat and electricity production. All the ITER Organization activities related to this mission form the so-called “Test Blanket Module (TBM) Program”. It includes the design, procurement, testing, assembly, commissioning and operation in ITER of the TBSs that are formed by the TBMs (the in-vessel part) and by the associated ancillary systems (e.g., Tritium extraction systems, coolant systems, I&C systems). All the sub-system pipes connecting one room to another room are called*

*TBS CPs. These pipes are captive by First Plasma System and, there they need to be manufactured and installed before the First Plasma.*

### **Key Duties, Scope, and Level of Accountability**

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- Prepares documents required for the Engineering Work Packages (EWPs) concerning the TBS CPs system including, in particular, relevant design and engineering aspects with the purpose of piping installation by specialized companies and ensures consistency of the mechanical and piping systems installation against the EWPs;
- Ensures compliance of the procurement of base materials and manufacturing of components of the TBS CPs with the safety defined requirements and follows up with the associated licensing procedures;
- Monitors the manufacturing activities of the TBS CPs and associated components and verifies their compliance with the relevant French regulations for Non-Nuclear & Nuclear Pressure Equipment;
- Prepares documentation required for the pre-assembly and the on-site assembly of the TBS CPs system and interacts with the construction team accordingly;
- Contributes to the resolution of plant issues that could occur during in-field installation of the TBS CPs system;
- Follows-up the manufacturing process by reviewing all supplier documentation and drawings, integrating updates from design/site construction, defines and releases manufacturing hold points,
- Supports the management of supplier Deviation Requests (DRs), of Non-Conformities (NCRs) etc.;
- Monitors contracts performance, schedule, and cost and control changes in the best interest of the project;
- Prepares Manufacturing Readiness Reviews and Delivery Readiness Reviews and subsequently makes sure that all identified issues are resolved in a timely manner;
- 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**

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- Contributes efficiently to the preparation of the EWPs in a timely manner and contributes efficiently to the assigned activities on TBS CPs procurement and manufacturing within defined schedule and to the oversight of pre-assembly, installation and final testing;
- Ensures compliance for delivered components with the relevant French regulations for Non-Nuclear & Nuclear Pressure Equipment and selected codes and standards;
- Generates and maintains coherent, comprehensive and understandable manufacturing documentation including monitoring and following-up of deviation requests and non-conformities;
- Establishes appropriate Quality Assurance and Quality Control procedures for TBM-related activities under the responsibility of the ITER Organization;
- Succeeds in attaining required milestones, costs and schedules concerning the relevant procurement and manufacturing activities.
- Communicates effectively with the IO group liaising with the Agreed Notified Body (ANB), with the various suppliers and contractors,

### **Experience & Profile**

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- **Professional Experience:**
  - Minimum 8 years' experience in the design, manufacturing and procurement of plant systems, pressure equipment and components in the construction and installations of large power plant project, 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).
  - Knowledge of French would be advantageous.
- **Technical competencies and demonstrated experience in:**
  - **Design:** The design and fabrication of pressure vessel and/or piping in a nuclear environment; , including working to European Directive for pressure equipment (PED) and French nuclear pressure regulation (ESPN Ministerial Order) or EN-13480, EN-13445 and ASME B31.3 would be advantageous;
  - **Interface Management:** Identify, resolve and maintain technical and functional interfaces;
  - **Construction, project and contract management:** Writing procurement technical specifications for mechanical equipment; Planning, measuring of project work, managing risks/costs and reporting on progress;
  - **Quality Control:** Verify the compliance of the products with all applicable requirements;
  - Nuclear Safety codes and procedures associated with preparing design analyses and documentation in a nuclear facility would be advantageous;
  - Materials and fabrication technology aspects, such as welding process and non-destructive tests (NDT), in relation to the design, construction and operation of high-temperature high-pressure piping and systems 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.

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***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.

