

## Job Title: Vacuum & Cryogenics Engineer PED-068

Req ID **1180** - Posted **17/12/2019** - (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.

**Application deadline:** 26/01/2020

**Domain:** Construction

**Department:** Machine Construction

**Division:** Tokamak Complex

**Section:** Vacuum Delivery & Installation

**Job Family:** Project Engineering

**Job Role:** Engineer - 2

**Job Grade:** P3

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

**Contract duration:** Up to 5 years

### **Purpose**

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In this position, you will be part of a team responsible for the design, manufacturing, testing, installation and commissioning of ITER's large custom cryogenic pumps and their cryogenic distribution systems. You will also follow the Procurement Arrangements (PAs) for the cryogenic pumping systems. Throughout all of your activities, you will ensure that the highest standard is achieved.

### **Background**

The vacuums of ITER are achieved and sustained with ~20 large custom cryo-pumps of ~4 different designs. The cryo-pumping system is “first of a kind” in terms of size and complexity. Contracts have been awarded for the manufacture of many of the pumping systems and over the coming years this position will support the vacuum systems finalization, delivery, construction and operation.

### **Major Duties/Roles & Responsibilities**

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- Follows PAs for the delivery of cryogenic pumping systems as based on the ITER designs;
- Identifies and surveys critical activities in the manufacturing of the torus, cryostat and neutral beam cryopumps and cryogenic distribution, solving issues as necessary;
- Surveils manufacturing of the systems ensuring that the control points for the manufacturing and inspection plans are achieved;
- Maintains and coordinates the interfaces of the cryo-pumping systems;
- Controls interfaces and integrates vacuum components and systems with other pertinent ITER systems;

- Prepares work schemes, and develops procedures and engineering work packages for the installation of the cryo-pumps;
- Prepares and performs acceptance testing, commissioning, and operational schemes to ensure the cryo-pumping systems will operate reliably as per their specification;
- Follows up the supply of the cryogenic pumping systems, including, review of quality documents, management of NCRs and control points within the relevant cost and schedule;
- Controls interfaces and integrates vacuum components and systems with other pertinent ITER 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.

Note: 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.

### Measure of Effectiveness

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- Ensures that contracts progress according to quality and schedule ;
- Achieves components fabrication , installation and testing according to the defined cost and schedule;
- Coordinates and directs efficiently efforts of the IO and the DA's in respect to achieving component deliveries;
- Communicates effectively and establishes good work relations and a collaborative attitude on vacuum related issues with all staff members and external stakeholders consistent with the IO project values.

### Experience & Profile

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- **Professional Experience:**
  - At least 8 years' experience of manufacturing, testing, installing, and commissioning bespoke vacuum or cryogenic components and systems.
- **Education:**
  - Master's Degree or equivalent in mechanical 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 in:**
  - Vacuum and cryogenic design;
  - Pressure equipment directives and other quality and safety standards;
  - Project Management experience is desirable;
  - Engineering in harsh and nuclear environments;
  - Commissioning vacuum systems or cryogenic systems;
  - Contract management experience from specifications to the delivery;
  - Using CAD tools and MS Office;
  - Fusion or other high energy physics experience would be 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 gather and analyze multiple and diverse sources of information to understand problems accurately before moving to proposals;
- Instill trust: Ability to motivate 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.