

Job Title: Port Plug Engineer IO1063

Requisition ID **6260** - 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: 22/06/2022

Domain: Engineering Domain

Department: Engineering Design Department

Division: Port Plugs & Diagnostics Division

Section: Diagnostic Engineering Section

Group: Common Systems, EQ and PIF

Job Family: Engineering

Job Role: Engineer – 3

Job Grade: P3

Language requirements: Fluent in English (written & spoken)

Contract duration: Up to 5 years

Purpose

As the Port Plug Engineer, you will lead and follow-up on development, integration and procurement of common diagnostic port components in ITER. You will follow-up on manufacturing for common diagnostic port components with industry and to ensure that they are delivered and installed on schedule. You will also manage the interfaces between common port components and diagnostic systems inside diagnostic ports within ITER Organization (IO) and through Domestic Agencies (DA), to ensure they full compatibility and operation.

Background

At ITER, a large set of plasma diagnostics and other equipment are integrated in the upper (x14), equatorial (x8) and lower (x3) ports, into dedicated housing structures incorporating support equipment. The integrated ports, i.e. the port housing structures assembled with diagnostic systems, are also subject to the harsh ITER environment, must comply with defined (safety) requirements, and must also be installable, operable and maintainable consistent with the ITER facility requirements, i.e. with the highest possible level of standardization and commonality.

To design and build the diagnostic systems, the 7 Domestic Agencies (DAs) are contributing in-kind, under functional specifications Procurement Arrangements (PAs) while IO-CT also undertakes directly parts of the ITER diagnostics and integration scope. Diagnostic Engineering Section provides engineering justification and support to diagnostic developers at IO and DAs. Also, DE section supports technical

interface development with other PBSs to ensure that diagnostic systems are designed and developed to fulfil their mission.

Key Duties, Scope, and Level of Accountability

- Identifies, defines, and follows procurement strategy for common components in diagnostic ports, such as Port Plug Structures, Diagnostic First Walls, Diagnostic Shield Modules, feedthroughs, neutron and gamma radiation shielding blocks;
- Coordinates the preparation of technical specifications and documents as required for procurement and manufacturing of common diagnostic port components and associated tooling for their assembly, following necessary practices, codes and standards;
- Ensures that requirements and interfaces for diagnostic integration in port structures are followed, and resolves common engineering and maintenance solutions for the ports;
- Develops and justifies the engineering design of common diagnostics port components towards their manufacturing together with experts at IO and DAs;
- Coordinates the procurement of common port plug and diagnostic components with industry;
- Coordinates and supervises necessary quality control (QC) with industry during manufacturing and acceptance of common diagnostic port components;
- Checks analysis of mechanical and thermal stresses, stresses due to electro-magnetic forces, dynamic analysis, and neutronics assessment for common diagnostic port components to ensure that they are manufactures according to design margins;
- Leads acceptance tests of common diagnostic port components before they are installed on ITER;
- 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

- Proactively follows up work packages for procurement, manufacturing and installation of common diagnostic port components to agreed deadlines;
- Ensures interface documentation, schematics plans and databases for common diagnostic port components are accurately maintained;
- Develops, follows up and approves technical documentation for procurement of common diagnostic port components in a timely manner;
- Collaborates successfully with technical partners in Domestic Agencies, other Directorates at IO and Contractors;
- Ensures that lessons learned and engineering solutions are well propagated within the team and implemented to mitigate future issues.

Experience & Profile

- **Professional Experience:**
 - Minimum 8 years' experience in the development, integration and procurement of common diagnostic port components in the field of fusion installations within complex international environments or projects.
- **Education:**
 - Master's degree or equivalent in mechanical engineering, nuclear engineering, diagnostic 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:**

- Specialised Domains of Expertise (Mechanical Engineering): Manufacturing of mechanical or diagnostic components following dedicated codes and standards, such as ASME and/or RCC-MR(x);
- Quality Control: Verifying the compliance of mechanical components within nuclear industry with all applicable requirements;
- Technical follow-up of CAD activity (familiarity with CAD oversight, familiarity with 2D manufacturing and assembly drawings, familiarity with mechanical interfaces management);
- Procurement and Contract Management: define needs and requirements, author technical specifications, evaluate tender submissions, monitor contract execution, costs, risks and reporting, and manage external resources to ensure implementation within contractual requirements;
- Proven planning and costing ability for mechanical 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/define 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.