

# Job Title: Manufacturing & Assembly Engineer IO0971

Req ID **1681** - Posted **24/04/2020** - (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:** 07/06/2020

**Domain:** Engineering

**Department:** Engineering Design

**Division:** Port Plugs & Diagnostics

**Section:** Diagnostic Engineering

**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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As the Manufacturing and Assembly Engineer, you will lead and follow-up the integration, manufacturing and assembly of diagnostic ports, associated external diagnostic support structures and their integration within ITER (IO). You will also follow-up integration of diagnostics inside diagnostic ports within IO and through Domestic Agencies (DAs). You will be expected to provide engineering solutions that fulfil integration, manufacturing and assembly requirements.

## **Background**

On ITER machine, 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 the support equipment.

The integrated ports, i.e. the port housing structures assembled with diagnostic systems, are also subject to the harsh ITER environment, which must comply with defined (safety) requirements, and must also be installable, operable and maintainable, consistent with the ITER facility requirements, i.e. to the highest possible level of standardization and commonality.

The design and build of the populated diagnostic ports have been provided by IO and the seven ITER DAs via “in-kind” contributions. One of the key objectives for this position is to ensure that these diagnostic ports and associated support structures, integrate harmoniously on site.

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

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- Leads the engineering design development of diagnostics ports, through design and manufacturing stages, interacting with experts at IO and DAs;
- Ensures that requirements and interfaces are followed through compliance checking and other means, in addition to ensuring that common engineering and maintenance solutions are achieved by all stakeholders for the ports specifically;
- Leads the integration of the diagnostic ports and associated external diagnostic support structures during the various life stages of the related components;
- Prepares and obtains approval for technical and functional specifications and documents as required, in preparation for manufacturing the diagnostic port components and associated tooling in compliances with quality and safety codes & standards;
- Follows up procurement arrangements of diagnostic port components with industry suppliers in collaboration with the support of Procurement and Contracts Division;
- Performs and supervises necessary quality control (QC) with industry suppliers during manufacturing and acceptance tests of integrated diagnostic port components;
- Checks analysis of mechanical and thermal stresses, stresses due to electro-magnetic forces, dynamic analysis, in addition to neutronics assessment for port-based components and makes recommendations accordingly;
- Leads the development and record of operational and safety procedures for integrated diagnostic ports;
- Develops, follows up and approves installation plans for diagnostic ports;
- Leads the assembly and commissioning of integrated diagnostic ports in preparation for installation on the machine on site;
- 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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- Develops and follows up work packages for diagnostic ports to agreed quality, costs and deadlines;
- Develops, approves and records accurate interface documentation, schematics plans and databases for diagnostic ports in line with relevant quality and safety requirements;
- Collaborates successfully with technical partners in DAs and other technical units at IO;
- Ensures that any issues encountered during manufacturing, acceptance tests or installation phases are remedied as soon as possible and escalated appropriately via the relevant channels;
- Throughout all tasks, follows the necessary practices, codes and standards.

### Experience & Profile

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- **Professional Experience:**
  - At least 8 years' experience in managing integration, manufacturing and assembly of complex systems related to mechanical, nuclear or diagnostics engineering installations.
- **Education:**
  - Master's degree or equivalent in mechanical, nuclear or diagnostic engineering fields;
  - 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:**

- Mechanical engineering in a nuclear-relevant field;
- Overseeing or leading the manufacturing of mechanical or diagnostic components which follow dedicated codes and standards, such as ASME and/or RCC-MR(x);
- Technical procurement follow-up and quality control of mechanical components with industry suppliers;
- Reviewing CAD activities (familiarity with CAD oversight; familiarity with P&I Diagrams; familiarity with 2D manufacturing and assembly drawings);
- Delivering high quality technical consolidated reports and documentation in English;
- Proven risk assessment, 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.

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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.