

# Job Title: Instrumentation & Control Engineer IO0338

Requisition ID **5241** - 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:** 16/01/2022

**Domain:** Engineering

**Department:** Engineering Design

**Division:** Fuel Cycle

**Section:** Tritium Plant

**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 of Instrumentation & Control Engineer, you will be responsible for instrumentation and control (I&C) associated with the ITER Organization (IO) Tritium Plant. Current work is at the design stage, and will be followed by fabrication, installation, commissioning, operation and maintenance. This will require interfacing – technically and functionally - with IO central control systems and team. Work shall be performed in a formal, quality-assured environment consistent with a nuclear facility.

## **Background**

The Tritium Plant Section is responsible for the delivery of two Plant Systems at ITER – the Tritium Plant and the Radiological & Environmental Monitoring System. This delivery responsibility ranges from performing concept and preliminary design through to technical surveillance of final design and fabrication and then supporting commissioning of the systems. A high degree of automated devices (e.g. valves) and instrumentation will be used, and hence the need for an I&C Engineer to design, co-ordinate and contribute to the development and delivery of the plant systems.

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

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- Oversees the design and selection (in conjunction with Process Engineering) of field mounted instruments and control devices used in Tritium Plant systems (including control system interfaces and layout of control/electrical cabinets);
- Identifies, defines and manages technical and functional interfaces with ITER's centralized control systems;
- Plans and prepares I&C integration between the Plant systems and other ITER systems;
- Participates in the design and implementation of interlocks necessary for safety and equipment protection;
- Manages follow up of instrumentation and control procurements with suppliers and contractors to ensure delivery and implementation;
- Responsible for compiling and maintaining I&C design basis documentation, and supporting documents, using formal review procedures according to ITER guidance documents such as the Tritium Engineering Handbook;
- Ensures provisions are made in designs for installation, testing, maintenance and commissioning;
- Provides input to the equipment qualification program;
- Monitors design/build work performed by contractors, including procurement specifications to ensure requirements from ITER (the design authority) are properly propagated;
- 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.

Special notice: 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.

### **Measures of Effectiveness**

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- Delivers design work in a timely, cost-effective manner and meeting quality requirements;
- Performs work safely and securely in all aspects of work including design;
- Proposes and implements solutions for problems encountered to achieve integration and commissioning within defined schedule;
- Ensures procurement is delivered within defined schedule and cost;
- Updates and maintains I & C design documentation to the expected standards.

### **Experience & Profile**

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- *Professional Experience:*

- Minimum 8 years' experience working as instrumentation design engineer in the field of chemical processing system control.
- **Education:**
  - Master's degree or equivalent in electronic or instrumentation & control engineering field 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.
- **Languages**
  - Fluent in English (written and spoken).
- **Technical competencies and demonstrated experience in:**
  - Instrumentation engineering design, integration and commissioning of complicated process plants; preferably tritium/hydrogen facilities;
  - Complicated chemical processing system control; preferably linked to nuclear facilities;
  - Instrumentation calibration and qualification, particularly for devices used in high vacuum, clean and small bore tubing installations;
  - Industrial control and instrumentation equipment including PLCs, Field bus, HMI, SCADA, etc;
  - Quality Assurance and Quality Control: knowledge of requirements for international quality standards (for both management and product), methods, and practices;
  - Interface management; identify, resolve and maintain technical and functional interfaces;
  - Vacuum measurement techniques, clean environments and/or cryogenic instrumentation;
  - Engineering in nuclear environment and of the susceptibility of electronics to ionizing radiation and magnetic fields would be an advantage;
  - Good knowledge of CAD software (e.g. AVEVA).
- **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.