

# Job Title: Instrumentation & Control Technician (IO0914)

Req ID **1900** - Posted **30/08/2020** - (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:** 11/10/2020

**Domain:** Construction

**Department:** Plant Construction

**Division:** Mechanical Implementation

**Section:** Cryogenics

**Job Family:** Project Engineering

**Job Role:** Coordinating Technician Engineer - Early Career

**Job Grade:** G5

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

**Contract duration:** Up to 5 years

## **Purpose**

As an Instrumentation & Control (I&C) Technician, you will participate in the functional analysis, process control and software implementation of the cryogenic distribution system.

You will also support the I&C group in performing system tests prior to and during the commissioning activities of the cryogenic system, in close cooperation with the Central Control team and industrial suppliers.

## **Background**

*The cryogenic system (plant and distribution boxes) provides the cold flows to cool the magnet, vacuum and thermal shield system of the ITER machine. The cryogenic plant is composed of industrial equipment such as pumps, compressors, exchangers etc., driven and monitored by a complex instrumentation and control architecture system. The plant is close to entering into commissioning for the next 3 years and will be in operation afterwards. The distribution system needs engineering development and implementation. The selected candidate will be part of a group of 4 to 6 engineers and technicians involved in the field to achieve the project objectives.*

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

- Prepares the instrument and process control design interfaces of the cryogenic components and subsystems;
- Develops, in collaboration with the I&C group, the instrumentation and controls for the cryogenics distribution system (Programmable Logic Controller and Human Machine Interface coding, factory

- acceptance testing plan);
- Prepares and performs the required testing, commissioning and operation plans for the cryogenic system instrumentation and process control;
- Performs the required testing, commissioning of the Machine Monitoring System (MMS);
- Performs plant maintenance and calibration procedures on the basis of the process device management tools for the cryogenic system;
- Proposes recovery plan and follows-up on corrective actions when necessary following implementation of gap analysis;
- Drafts and documents the definition of the instrumentation and controls for the liquid helium, liquid nitrogen and cryogenics distribution system;
- Updates and maintains documentation in compliance with the ITER Management Quality Program and participates in preparing or updating its baseline documentation;
- 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.

### Measure of Effectiveness

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- Contributes to the instrument and process control design interfaces of the cryogenic components and subsystems efficiently and in a timely manner;
- Provides accurate functional analyses and process control design within the defined schedule;
- High quality documents written, maintained and recorded for the defined scope, within the defined timeline;
- Maintains excellent communication with interfaces in the Organization to develop the Instrumentation and Control of the Cryogenic System.

### Experience & Profile

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- **Professional Experience:**
  - At least 7 years' experience in operating PLC or HMI development, design, and commissioning of a complex system for a process plant.
- **Education:**
  - At least Bachelor's degree or equivalent in chemical or industrial engineering, instrumentation and control 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.
- **Language requirements:**
  - Fluent in English (written and spoken).
- **Technical Competencies and demonstrated experience in:**
  - Industrial control equipment including PLC or HMI from design to its implementation;
  - Complicated chemical processing system control;
  - The Siemens PLC family;
  - Maintenance and calibration of instrumentation equipment (valves, sensors, actuators);
  - Experience with Bently Nevada MMS system is considered as a plus;
  - Hands on SCADA system will be a plus.
- **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.