Job Title: High Voltage Electrical Engineer IO0643

Requisition ID **4861** - 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: 12/12/2021
Domain: Engineering
Department: Engineering Design
Division: Heating & Current Drive
Section: Electron Cyclotron
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 a High Voltage Electrical Engineer, you will contribute to the procurement and integration of the Electron Cyclotron Resonance Heating system High Voltage Power Supplies (ECRH HVPS). Your main responsibility will be to ensure that critical milestones in terms of procurement, installation, commissioning and operation are achieved for the HVPS.

Background

The Electron Cyclotron Resonance Heating system (ECRH) system will be used at ITER for Heating and Current Drive (H&CD) in a number of plasma operating scenarios, providing 20MW of power to the plasma by means of four upper launchers and one equatorial launcher. The ECRH power is used to heat the plasma, drive current and assist with plasma instabilities. The ECRH system is the only H&CD system installed for First Plasma (FP) and will be used throughout the rest of the ITER research plan. The 12 ECRH HVPS installed in the Radio Frequency building at ITER will supply the 24 gyrotrons installed, which provide the microwave power to the launchers through transmission lines. The system can provide 20MW of power for 3600 seconds operation at a frequency of 170GHz.

Key Duties, Scope, and Level of Accountability

- Is the primary point of contact with the Domestic Agencies (DA) in all technical aspects of the HVPS and their components, ensuring the implementation of Quality Assurance requirements;
- Communicates with the DAs in the contact with industries involved in the development, procurement and commissioning of the power supply components for technical follow up;

- Defines the technical interfaces for the HVPS in terms of functionality and operation;
- Leads the definition and follow up of the technical interfaces between the HVPS being procured by the different DAs;
- Coordinates and supervises the integration, installation, acceptance testing, commissioning and operation requirements of the HVPS;
- Manages the scope, schedule and cost of procurement of the systems and supporting hardware of the HVPS through the specified procurement packages
- Coordinates the installation, commissioning and preparation for operation at IO site and transfers the necessary information, schedule and documentation to the relevant DA;
- Reports variances on all technical, cost and schedule aspects, in addition to providing regular progress updates on the design, procurement installation and commissioning to the Section Leader;
- Supports effective risk and opportunities identification and management;
- Supports electrical activities across the EC system as required;
- 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

- Completes the IO activities related to establishing the required technical specifications for the HVPS according to the relevant milestones;
- Oversees the DA's development, procurement program, installation and commissioning according to the DAs Detailed Work Schedule (DWS) and Construction Work Packages (CWP);
- Ensures up to date HVPS interface descriptions with ITER plant systems;
- Elaborates, together with the DA, suitable commissioning and operation plans for the PS, in line with system requirements;
- Issues the deviation and non-conformity reports on a timely basis and manages their progress through the relevant Quality Assurance/ Quality Control processes on an as needed basis.
- Produces and maintains accurate system and interface documentation and keeps it up to date;
- Monitors the overall project execution and milestones of the HVPS closely, and anticipates/resolves related issues promptly to minimize disruption to the schedule;
- Maintains effective communication with the interfacing teams with respect to the HVPS within ITER, Domestic Agencies and with external stakeholder.

Experience & Profile

- ***Professional Experience:***
  - Minimum 8 years' experience in the field of HVPS systems, or complex electrical systems within complex international environment or projects.
- ***Education:***
  - Master degree in High Voltage (HV) Power Supply field, electrical / electronics 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:***
  - **Specialized Domains of Work**: (Design, procurement and operation of HVPS systems or complex electrical systems is required);
  - HVPS system application to Electron Cyclotron and/or Ion Cyclotron and/or Neutral Beam system(s) would be advantageous;
  - **Interface Management**: Identify, resolve and maintain technical and functional interfaces of HV PS systems or complex electrical systems;
  - **Integrated Management of Construction and Engineering**: Manage overall plant installation strategies and engineering solutions within a reasonable time and cost;

- **Project Management (including procurement and contracts)**: Planning, measuring progress of project work, managing risks/costs and reporting on progress of P2P process;
- Resources Management: Providing guidance and coordinating technicians in installation and operation of high voltage electrical equipment/complex electrical systems is desirable;
- **Simulation Tools:** Matlab, PSIM or equivalent is desirable.

- ***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.

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.