Job Title: High Voltage Bushing Engineer IO1010

Requisition ID **4422** - 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: 12/09/2021
Domain: Engineering
Department: Engineering Design
Division: Heating & Current Drive
Section: Neutral Beam
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

As the Technical Responsible Officer (TRO) of Heating Neutral Beam (HNB) High Voltage Bushing (HVB) and the Air Circulation System (ACS), you will be responsible for:

1. Design, interface and integration management.
2. ITER technical and safety requirements implementation.
3. Interfaces and interactions with Domestic Agency (DA) and their contractors (through DA) for qualification, manufacturing and testing for the above mentioned systems.

Background

Neutral Beams (NB) is one of three ITER Heating and Current Drive Systems (HCD) in ITER. ITER NB has two Heating Neutral Beam (HNB) systems capable of injecting 33MW of power with provision for a third HNB of 16.5MW. NB mechanical systems are to be installed in a large room called NB cell at Level 2 and HVB connects the transmission installed in Level 3 to injectors in level 2. HVB is a complex mechanical component which incorporate large rings (around 1.6 meter diameter) of Ceramic as well as Fibre-Reinforced Plastic (FRP) and is to be realised complying with ITER safety requirements. Ongoing design activities and safety qualifications are to be concluded and procurement arrangements are to be finalised so that manufacturing activities will start in 2023.

Major Duties/Roles & Responsibilities

- Is responsible for the technical advancement of design, interface and integration of HVB and ACS;

- Leads the definition of physical and functional interfaces of HVB and ACS with other components/systems and produces/maintains the interface;
- Manages the preparation of Final Design Review (FDR) of the HVB and ACS;
- Performs, after completion of FDR/s, the activities towards resolution of chits of the FDR so as to finalize the design;
- Prepares and finalizes, in collaboration with DA TRO, the technical part of the Procurement Arrangement (PA) documentation;
- Follows up with procuring DA/suppliers, the qualification program for the Fiber Re-enforced Plastic (FRP) and Ceramic rings;
- Monitors, in collaboration with DA TRO, the progression of technical manufacturing activities for HVB and ACS for ensuring that all the requirements set in PA are met;
- Manages Deviation Requests (DRs) and Non-Conformance Reports (NCRs) during the execution of the PA/contracts as needed;
- Supports risk/opportunities management, identifying and implementing specific development tasks which may be needed;
- Reports regularly on the progress of the design and procurement ;
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- 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.

Note: 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.

Measure of Effectiveness

- Ensures design HVB and ACS is implemented correctly resulting in successful completion of design and/or system integration reviews;
- Completes activities required for procurement and completion of PA documentation within defined schedule;
- Manages physical and functional interfaces design as well as manufacturing phases of the components within defined timeline;
- Monitors the qualification follow up and ensures that technical documentation is recorded and up to date;
- Collaborates with procuring DA and controls accurately technical progression of HVB and ACS manufacture and handles effectively the non-conformances and deviations, proposing solutions as necessary;
- Ensures that deliverables meet technical standards, safety standards, quality, schedule and cost requirements.

Experience & Profile

- ***Professional Experience:***
  - At least 8 years' experience in mechanical engineering, nuclear engineering and/or design of Heating and Current Drive system(s) in the field of complex engineering systems.
- ***Education:***
  - Master's degree or equivalent in mechanical engineering, nuclear 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:***

- Mechanical engineering of complex systems in relevant areas (such as thermal-mechanical applications, cooling, tolerance analysis, assembly);
- Design and/or manufacturing as per nuclear/non-nuclear codes and standards (for example: RCC- MR, ,ASME-III, ASME-VIII, EN, etc);
- Knowledge and/or experience in implementing nuclear safety requirements;
- Interface management; identify, resolve and maintain technical and functional interfaces;
- Procurement: knowledge and practice of procurement procedures, delivery, management of external parties, and implementation within contractual requirements;
- Development of complex systems, particularly of those in which non-metallic materials are used with nuclear safety functions is an advantage;
- Experience of working with nuclear regulations is an advantage;
- Participation in an NB components development program is an advantage.

- ***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.