Job Title: Diagnostics Coordinating Scientist IO0976

Req ID **1725** - Posted **07/05/2020** - (France, 13067 St Paul Lez Durance Cedex) - **Science and Technology Expertise** - **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: 21/06/2020
Domain: Engineering
Department: Engineering Design
Division: Port Plugs & Diagnostics
Section: Ex-Vessel Diagnostics
Job Family: Scientific Coordination
Job Role: Coordinating Scientist
Job Grade: P4
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

As Diagnostics Coordinating Scientist, you will lead the designs and implementation of a range of spectroscopic systems, in particular for the Vacuum Ultraviolet (VUV) and X-Ray spectroscopic diagnostic systems.
You will specify, lead and coordinate work in the laboratories and institutes of the ITER Organization (IO) Partners, including any relevant supporting Research & Development (R&D).
You also will manage the scope, schedule, safety, quality control and cost of procuring the diagnostic spectroscopy systems and supporting hardware, through specified procurement packages and by direct contracts.
Finally you will support the coordinated and synchronized integration of the above mentioned diagnostics and potentially other diagnostics as required, especially in the ports but also all other relevant parts of ITER machine, such as galleries and diagnostics building.

Background

The Port Plugs and Diagnostic Integration Division has the function to provide all the Diagnostics for ITER along with the engineering infrastructures and test system to support these. The Ex-Vessel Section will take responsibility for approximately half of the diagnostics and guide them through design, manufacturing, installation and commissioning always keeping efficient operation in view. The Division also has an In-vessel Diagnostics Section along with an Engineering Section that manages engineering justification and integration.

Major Duties/Roles & Responsibilities

- Manages all VUV and X-Ray spectroscopic diagnostics, and other related systems as required;
- Leads and coordinates the design of the diagnostics interfaces with the main tokamak components;
- Drives integration activities to ensure that the diagnostics achieve specified requirements;
- Specifies and monitors R&D packages;

- Leads the Design Review processes related to VUV and X-Ray spectroscopic diagnostics, and other related systems as required;
- Leads technical specification creation and manages the procurement of spectroscopy diagnostic systems through procurement packages and direct contracts, interacting with the teams working in the Domestic Agencies (DAs) and IO Procurement and Contracts Division as necessary;
- Monitors the procurement of diagnostic systems by using relevant tools, with the support of Corporate Domain (e.g. project planning, work-breakdown, technical schedule);
- Manages and maintains the systems' data in the relevant ITER databases;
- Maintains communication with other organizations within the ITER collaboration and the fusion community in particular for spectroscopy systems;
- Develops plans for the construction, installation, commissioning and operation of the diagnostic systems at ITER;
- Reports variances on all technical, cost and schedule aspects, analyses the impact(s) and proposes recovery plans;
- Performs and reviews effective risk identification and management of related documentation;
- Manages the change control process and communicates changes as necessary;
- Manages and maintains up to date the documentation for the systems under your control;
- Contributes within the IO and within the fusion community as a reference from a physics and engineering perspective;
- 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.

Measures of Effectiveness

- Ensures that work packages are completed to agreed quality, deadlines and costs;
- Developed and approved accurate design and interface documentation, schematics plans and databases;
- Developed and approved high quality technical documentation for procurement including risks;
- Developed and approved operation and installation plans within the defined schedule and cost;
- Effectively coordinates and delegates when appropriate to people and teams for different projects activities;
- Successfully collaborates and communicates well with technical partners in Domestic Agencies and other ITER Organization (IO) Departments / Offices;
- Successfully coordinates and synchronizes the integration of diagnostics, especially in the ports but also all other relevant parts of ITER such as galleries and diagnostic building;
- Ensures that data and documents are properly kept, in the correct format and to a high standard of accuracy.

Experience & Profile

- *Professional Experience:*
  - At least 8 years' experience of full project lifecycle management of instrumentation or diagnostics projects, (including the development, integration or operation of diagnostics in nuclear installations or in other complex environments, such as satellites or large scientific projects) within in the field of scientific or industrial projects.
- *Education:*
  - PhD degree or equivalent in a relevant engineering or science discipline, such as spectroscopy or instrumentation and control;
  - 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:*
  - Expertise in the design, supervision of construction, calibration, installation, commissioning and exploitation of X-ray and VUV spectroscopic and imaging systems; X-ray and VUV optics,

raytracing, spectrometers and detectors and data-acquisition; vacuum systems and vacuum environment is required;
    - Interface management including resolving complex and challenging technical issues is required;
    - Project management, such as the capability to identify issues and delays in projects, development of recovery plans and cost, scope and schedule negotiations with international stakeholders is required;
    - The modelling of plasma emissions and impurity transport is advantageous;
    - Analysis and interpretation of plasma imaging and spectroscopic data, including spectral fitting and tomographic techniques are considered an advantage;
    - Systems Engineering and Design control such as functional analysis, requirement management, change control, and design reviews are considered 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 gather and analyze multiple and diverse sources of information to understand problems accurately before moving to proposals;
    - Instill trust: Ability to model 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 lline management and that may jeopardize the achievement of the Project's objectives.