Job Title: Investment Protection Engineer IO1103

Requisition ID **7082** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Machine Operations** - **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.

ITER Organization (IO) is an Equal Opportunity/Inclusive organization committed to diversity in the workplace, with diversity and Inclusiveness being one of the ITER Values.

As IO attracts and retains people coming from a vast array of different backgrounds and cultures, bias and exclusion cannot be tolerated. IO believes it is our diverse perspectives and backgrounds that gives unique strength and value to the ITER mission, regardless of race, member nation, gender, religion, status, sexual orientation, or disability - all are welcome and respected at ITER.

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: 31/08/2023
Department: Science, Controls & Operation Department
Division: Operations Division
Section: Commissioning & Op. Readiness Section
Group:
Job Family: Commissioning & Operations
Job Role: Operations Coordinator – 2
Job Grade: P3
Language Requirements: Fluent in English (written & spoken)
Contract Duration: Up to 5 years

Purpose

As an Investment Protection Engineer, you will play a key role in the team that defines and co-ordinates the implementation of the Investment Protection strategy of ITER Machine, transversally and of individual plant systems.
You will implement the ITER risk assessment process (methodology) in collaboration with the plant systems' responsible officers and work closely with system experts and fusion specialists on site, in addition to external stakeholders to ensure successful global operation of the plant/associated systems.

Background

This role will play an active part in the Machine Protection Panel (MPP) which falls under the responsibility of the Operations Division. The MPP is responsible for the definition and final development of the Investment Protection Functions at ITER to prevent or guarantee that loss of investment will not occur due to any fault or failure in Structures, Systems or Components. Such failure may be direct, through the action of other Systems or due to events related to the operation of the plant or the plasma.

Key Duties, Scope, and Level of Accountability

- Performs transversal operational risk analysis and assessment based on Failure Mode and Effect Analysis (FMEA) and HAZard & Operability (HAZOP) analysis methodology of the ITER plant systems, required to define the Investment Protection strategy for the ITER operation;
- Identifies the Investment Protection strategy for any given plant systems during ITER operation in liaison with the plant system's Responsible Officer;
- Manages the Investment Protection Risk Register, in line with the ITER Policy for Investment Protection and identifies risks then makes recommendations to mitigate them;
- Leads MPP technical activities in support to the MPP Chair & produces technical documentation such as: Investment Protection plans for any given individual system and for the overall operation of the ITER tokamak and then derived Investment Protection functions specification documents;
- Follows the principles of the industry functional safety standards (i.e. IEC-61508) for protection functions identification and lifecycle management;
- Contributes to the Integrated Commissioning plan for the Investment Protection functions at ITER;
- Liaises with the Central Interlock System and the plant systems teams to assure a proper transfer of the functional specifications to the control systems in charge of the implementation;
- Implements Risk reduction and Opportunities management; defines and implements optimization, as well as needed recovery, mitigation or acceleration;
- May be requested to perform other duties in support of the project;
- May be required to work outside the ITER Organization (IO) reference working hours, including nights, week-ends and public holidays.

Measure of Effectiveness

- Proactively communicates with the stakeholders for the different systems;
- Ensures that the transversal operational risk assessment is provided on time to allow the assessment and definition of the Investment Protection functions required for system commissioning;
- Ensures effective co-ordination of the Investment Protection functions with the Integrated Commissioning steps;
- Executes the tasks in co-ordination with the Machine Protection Panel in a prompt, proactive manner;
- Produces high quality documentation for the Investment Protection functions technical specifications definition;
- Ensures compliance of the Investment Protection functions technical specifications with the other MPP relevant documentation and the ITER high level documentation;
- Promptly report to the MPP chair/co-chair identified possible risks which require prompt action from all stakeholders.

Experience & Profile

- ***Professional Experience:***
  - Minimum of 8 years' experience working as an engineer in the fields of risk assessment for either machine or systems investment protection, and/or operations experience in large industrial, research or nuclear facilities.
- ***Education:***
  - Master's Degree or equivalent in engineering, physics 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 Expertise (Risk Assessment): for complex systems using FMEA and HAZOP methodology;
  - International standards applicable to machine protection (e.g.: IEC 61508);
  - Quality management: knowledge of requirements, methods, and practices for international quality standards;

- Planning: identify the steps and related timing to reach goals and execute initiatives within timeline;
- Problem solving: assess problems, identify root causes, and reach solutions to reach project objectives within time and/or cost;
- Presentation writing: write, review, and present technical documents in the domain of expertise, transmitting knowledge and data with precision;
- Experience in fusion operation is a plus as it is key to understand how plant systems interact in the context of fault propagation and mitigation.
- A previous usage of a MSBA (Model Safety Based Analysis) software tool would be a plus

- ***IO Core 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.
- ***Additional Behavioral Competencies:***
  - Build networks: Ability to build effectively formal and informal relationship network inside and outside the organization;
  - Be resilient: ability to rebound from setbacks and adversity when facing difficult situations.

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 (Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members) :
  1) Nuclear Safety, Environment, Radioprotection and Pressured Equipment
  2) Occupational Health, Safety & Security
  3) Quality Assurance Processes
- 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 or Department 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.
- For staff expected to perform on-call, shift hours, or other work outside ITER Organization reference working hours, including nights, weekends, and public holidays, the possession of a driving license valid in France is required. No commuting vehicle will be provided by the ITER Organization.