Job Title: Explosion Safety Analyst IO0879

Requisition ID **4022** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Safety and Security** - **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: 04/07/2021
Domain: Director-General
Department: Safety & Quality
Division: Environmental Protection & Nuclear Safety
Job Family: Organizational Support
Job Role: Functional Officer - 2
Job Grade: P3
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

In this role, you will perform specific safety analyses to verify that the design, construction, commissioning, and operation of ITER Organization (IO) installations comply with safety criteria, including those related to explosions, combustion and other exothermic phenomena (gas, dust and/or “gas + dust”). Additionally, you will oversee the surveillance of the Protection Important Components and the Protection Important Activities associated with the systems needed to prevent, detect, or mitigate exothermic incidents.

Background

Within the Safety and Quality Department, the Environmental Protection and Nuclear Safety Division (EPNS) is in charge of the analysis of all risks associated with nuclear safety functions, impacts to people, and the environment. These risks can be due to internal hazards (fire, explosion, thermohydraulic, etc.) or to external hazards (earthquakes, rods traffic, neighboring industrial facilities, etc.). EPNS oversees the licensing documents, and specifically the safety demonstration (safety case), by studying all risks to integrate and propagate the appropriate lines of defense against into design, procurement, construction, assembly, qualification, commissioning and operation phases of ITER nuclear facility.

Major Duties/Roles & Responsibilities

- Performs safety analyses relevant to the compliance of the design, construction, assembly, commissioning, and operation with the safety case, specifically for the systems needed to prevent, detect or mitigate combustible gas and dust combustion phenomena;

- Acts as safety responsible officer for the systems that may create exothermic phenomena risks;
- Coordinates activities related to the control of exothermic phenomena needed for the safety demonstrations;
- Develops documentation for the propagation of defined requirements for all protection important components, and protection important activities, for the systems needed to prevent, detect or mitigate exothermic phenomena;
- Ensures consistency between the input data of the safety cases and those used in calculations associated with routine situations, as well as with postulated incident and accident scenarios, in particular those associated with hydrogen and dust combustion or explosion;
- Ensures the surveillance of the propagation of the defined requirements for the design, construction, assembly, commissioning and operation;
- Provides guidance to other stakeholders with regards to the safety cases and defined requirements for all the duties related to design, construction, assembly, commission or operation of the IO facility;
- Performs calculations related to the exothermic phenomena needed for the safety demonstration and coordinate associated R&D;
- Prepares and provides documentation in support of design, construction, assembly or operation changes;
- Performs surveillance to identify change management opportunities in safety case, including efficient dissemination of information across IO;
- Interfaces with the IO Responsible Officers (RO) and Domestic Agencies (DA), in particular with regards to construction and assembly activities;
- Develops and / or updates relevant chapters of licensing documentation prepared for submission to the French nuclear safety authorities as part of the ITER licensing process;
- Prepares technical responses or presentations for the nuclear safety authority or their technical advisors;
- 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

- Performs and delivers analysis within defined timeframes;
- Manages safety cases related to exothermic risks through oversight, development, update, and maintaining content for the specific chapter of internal hazards of the safety demonstration in the Preliminary Safety Report update;
- Prepares and coordinates activities (studies, R&D, technical survey, assessments) related to exothermic hazards for the integration of safety provisions against these hazards in the safety demonstration;
- Reports adequately and periodically about progress made on the tasks.

Experience & Profile

- ***Professional Experience:***
  - At least 8 years' experience in gas and dust explosion:
    - Either for safety cases' writing or assessment, reporting, and requirements definition;
    - And/or on operational role describing safety operating rules for complex nuclear facilities in interaction with a nuclear safety regulator.
- ***Education:***
  - Master's degree or equivalent in the nuclear engineering 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;
  - Ability to obtain and maintain French Security clearance.
- ***Language requirements:***

- Fluent in English (written and spoken);
- The ability to read and respond to documents in French is considered advantageous.

- ***Technical competencies and demonstrated experience in:***
  - Gas, dust and/or "gas + dust" combustion/explosion safety analysis in a nuclear regulated environment;
  - Performing or managing R&D and calculations for hydrogen and/or dust combustion/explosion;
  - Analysis, requirements definition, risk identification and management: analyze, anticipate, and adapt proposed solutions, tasks and procedures to the environment and constraints, cascading customized requirements to stakeholders;
  - Implementation surveillance: surveying the correct implementation of requirements in all project phases;
  - Writing or assessing safety demonstrations for nuclear facilities and the application of nuclear safety principles (safety culture);
  - Ability to make clear summary and synthesis of documents and to write reports;
  - Safety codes related to hydrogen and/or dust combustion or explosion; the knowledge and practice of other safety codes with regards to thermohydraulic phenomena and fire is an advantage;
  - Fusion technology, design, configuration, and experience in analyzing fusion systems 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

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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.