Job Title: Tritium Plant Engineer IO0652

Requisition ID **5603** - 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: 30/01/2022
Domain: Engineering
Department: Engineering Design
Division: Fuel Cycle
Section: Tritium Plant
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 ITER's Tritium Plant Engineer, you will perform a crucial role in the project lifecycle of supporting the delivery of the Tritium Plant. From ensuring that foreseeable hazards are identified, assessed and subsequently integrated into the design of the Tritium Plant, to ensuring that the plant meets relevant safety requirements. Based both in office and on site, you will draw on your engineering expertise to integrate safety functions consistently and appropriately into the Tritium Plant.

Background

The Tritium Plant comprises the tokamak fuel cycle processing systems, as well as tritium confinement and Tritium Plant systems. The Tritium Plant has multiple sub systems that collect, purify, enrich and store the fuel (Tritium and Deuterium) for the Tokamak reactor.

Key Duties, Scope, and Level of Accountability

- Develops deep understanding of technologies and propagates requirements associated with Tritium Plant systems, ensuring the compliance;
- Evaluates Tritium Plant system hazards and sets common safety controls approach and monitoring across all systems;
- Performs process hazard analysis, safety analysis and accident analysis for Tritium Plant systems following, generating and recording safety documentation;

- Communicates Tritium handling safety best practices and applicable standards to the Tritium Plant Section and wider project and upon request, including reviewing Tritium Class allocation;
- Provides expertise ensuring that Tritium Plant systems meet safety requirements and proposes solutions to fix issues;
- Develops, reviews and maintains safety operating and maintenance procedures;
- Serves as the primary point-of-contact between the Tritium Plant Section and the ITER safety and security teams;
- 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, weekends and public holidays.

Measure of Effectiveness

- Demonstrates that proposed design solutions are compliant with quality & safety requirements and implemented with the overall ITER schedule;
- Provides clear and thorough expertise/guidance;
- Produces, maintains and records up to date documentation;
- Delivers high quality and timely work products;
- Anticipates and/or proposes practical, cost-effective, manageable and efficient solutions to issues;
- Communicates efficiently with all stakeholders associated with interfacing systems and management;
- Works effectively in teams and contribute to the overall success of the Fuel Cycle design/build project.

Experience & Profile

- ***Professional Experience:***
  - Minimum 8 years' experience in performing and managing radioactive gas processing system safety analyses, including nuclear and hydrogen technologies within complex international environments or projects.
- ***Education:***
  - Master degree or equivalent in Nuclear, Mechanical or Chemical 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);
  - Knowledge of French Language for interaction with French Safety Authority would be advantageous.
- ***Technical competencies and demonstrated experience in:***
  - Developing and delivering capital engineering projects through all phases, i.e. conceptual, preliminary and final design, followed by manufacturing, installation and commissioning;
  - Nuclear safety approaches for hazardous and radioactive (beta) material handling including defense;
  - Defending design decisions in technical design reviews ensuring requirements compliance;
  - Safety system technologies; in particular hydrogen safety and material confinement solutions e.g. gloveboxes;
  - Design substantiation and supporting evidence: writing/reviewing reports on safety analyses to support decision making, and transmitting technical knowledge/data with clarity and precision, processing and recording them;
  - Problem solving; assess problems, identify root causes, and reach solutions in a way to reach project objectives within time and cost;

    - Modern day nuclear safety approaches, in particular confinement solutions and their application in France is desirable;
    - Hydrogen and Tritium handling experience is desirable;
    - Using safety Analysis software (e.g. fault tree) would be advantageous.
- ***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.