Job Title: Cryogenic Engineer, Construction & Testing IO0521 & IO0678

Requisition ID **7101** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Construction and Installation** - **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: 10/09/2023
Department: Plant Construction Department
Division: Mechanical Implementation Division
Section: Cryogenic Section
Group:
Job Family: Construction
Job Role: Engineer – 3
Job Grade: P3
Language Requirements: Fluent in English (written & spoken)
Contract Duration: Up to 5 years
Two openings
Special note: We may consider candidates with fewer years' experience for this position. The appointment to a position may be made at a lower grade if the qualifications and professional experience of the selected applicant correspond to a lower grade; the duties and responsibilities assigned will be adjusted accordingly.

Purpose

In this role as a Cryogenic Engineer, you will prepare and lead the construction completion, pre-commissioning and commissioning activities of the ITER Cryogenic Plant and distribution system, for given sub packages.
One position will focus on Cryogenic plant operation for testing activities, whilst the other will mainly focus on the Distribution process and network installed in the reactor building. .

Both positions will lead the construction completion, the preparation of the operating procedures to be issued and will be part of the commissioning team in charge of operational and site acceptance testing phase, as specialist of cryogenic processes.

Background

The cryogenic system (plant and distribution boxes) provides the cold flows to cool the magnet, vacuum and thermal shield system of the ITER machine. The cryogenic plant and distribution system is composed by industrial equipment's such as, screw and centrifugal compressors, expansion turbines, refrigeration and distribution cold boxes and piping network, and sets of other industrial machines driven and monitored by a complex instrumentation and control architecture system. The plant is currently in the commissioning stage for the next 2 years, and will be in operation thereafter, while the distribution system in the tokamak building is ongoing and will enter the testing phase during the coming 5 years.

Key Duties, Scope and Level of Accountability

- Together with Cryogenic plant Responsible officer, defines the Cryoplant System process description in preparation for the commissioning and operation;
- Together with other groups responsible officer (Magnet and Cryopump), defines and implements the changes and procedures needed for the testing program for equipment qualification;
- Manages and leads the implementation of project changes that are identified during the course of system testing which are required to reach defined requirement of the cryogenic system;
- Defines and monitors the cryogenic plant and distribution system efficiency key parameters, to ensure the best achievable efficiency of cryogenic fluid production and distribution;
- Reviews, compiles, classifies and record documentation related to electrical equipment and instrumentation start-up and operation;
- Provides medium and low voltage /instrumentation expertise, in close relationship with electrical operation team during pre-commissioning, start-up and plant tuning / operation;
- Defines, for the instrumentation package, the plant system maintenance management plan;
- 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

- Ensure that cryoplant testing procedures are approved, and issue high quality and accurate test reports within the defined schedule;
- Defines and implements the cryoplant electrical distribution and protection system operating procedures on time and to the required quality;
- Ensures the sub systems Test readiness review preparation on time, as per the internal clients testing programs and needs
- Monitor actions follow-up and solve problems according to defined quality, schedule and cost;
- Develops an efficient surveillance plan for plant and distribution system global efficiency
- Maintains effective communications with all parties delivering subsystem.

Experience & Profile

- ***Professional Experience:***
  - Minimum 8 years' experience in engineering (including commissioning experience) on Process Plants for a large complex international project.
- ***Education:***
  - Master's degree or equivalent in electrical, instrumentation or cryogenics engineering or related subjects;
  - 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:***

- Site Installation, pre-commissioning and commissioning phases of a complex chemical or gas system;
- Problem Solving: assesses problems related to cryogenic systems, identifies root causes and reaches practical solutions in a consistent way to reach project objectives;
- Construction Oversight: Coordination experience ensuring installation, surveillance and testing works are executed in accordance with requirements;
- Excellent knowledge of fabrication, welding techniques and specificities and Helium leak testing techniques;
- Good experience of assembly, factory acceptance tests and commissioning of cryogenic equipment;
- Reviewing or preparing documentation: processes, procedures, reports, technical assessments, engineering documents, etc.;
- Quality Control: preparing the compliance of the procedures for the pre-commissioning and commissioning of cryogenic systems and electrical subsystems with all applicable requirements;
- Project management: planning, measuring progress of work, managing risks and costs, executing within defined resources and reporting on progress;
- Using common IT tools usage (Microsoft Office, ERP such as SAP PM, …);
- Preparing work engineering packages, contract technical specifications and following up on procurement would be an asset.
- Knowledge of Caneco software and PLC Siemens S7 software is 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/define 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 (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.