

## Cryogenic Process and Integration Technical Engineer

CEP-108

<b>Reports to Line Manager:</b>	Cryogenic System Engineering Section Leader, Plant Engineering Division, Central Engineering and Plant Support Department	<b>Job Code:</b>	CEP-108
<b>Direct Employment:</b>	Required	<b>Grade:</b>	G4

### Purpose

To participate in the design, layout, procurement, installation and testing of the cryogenic system components for the ITER Tokamak. This includes the cryoplants and cryogenic distribution boxes for forced flow cooling of ITER magnets and cryopumps.

To provide technical support for the study of interfaces and the preparation of assembly, integration and test procedures for the commissioning and validation program.

china

eu

india

japan

korea

russia

usa

### Major Duties/Responsibilities

- Revises and improves the process diagrams and design interfaces for the cryogenic system;
- Develops the detailed layout, conceptual design and integration studies for the cryogenic distribution boxes;
- Develops the detailed layout, conceptual design and integration studies for the cryoplants;
- Develops the layout, routing and integration studies for the cryogenic transfer lines;
- Develops the technical specifications and revision of the Project Integration documents related to the cryogenic system;
- Creates the interface documents between cryogenic components and end users (magnets, thermal shields, cryopumps);
- Develops the programs and schedules to build, test and commission the cryogenic system;
- Monitors the procurement of the cryogenic components;
- Maintains a strong commitment to the implementation and perpetuation of the ITER safety program, values and ethics.

### Qualifications and Experience

- **Education:**
  - Degree at least equivalent to 2-4 years of study after the High School Diploma in Science (BSC) or in cryogenics, mechanical engineering or related subjects.
- **Technical experience:**
  - At least 8 years' experience in the development, design, procurements and commissioning of cryogenic components and installations for large cryogenic systems designed for fusion or accelerator applications;
  - Working knowledge of industrially proven cryogenic equipment, instrumentation and controls on the world market and associated R&D for specific applications;
  - Working knowledge of design codes and standards;

- Excellent knowledge of process engineering and analysis of operating modes for large cryogenic distribution system;
  - Good practical knowledge of factory acceptance tests and commissioning of complex cryogenic equipments;
  - Good working knowledge of fabrication, welding and leak testing techniques.
- ***Social Skills:***
  - Ability to develop and maintain effective international relations, and to perform tasks in multicultural environment, covering the international project;
  - Ability to work effectively in a multi-cultural environment;
  - Ability to work in a team and to promote team work.
- ***Language requirements:***
  - Fluent in English (written and spoken).

## **Direct Supervisor and Interfaces**

---

- Reports to the Leader of the Cryogenic System Engineering Section;
- Acts as an interface between the magnet designers, the Tokamak 80K thermal shields, the cryo-vacuum pumps, the cryoplant and the buildings to support integration.

## **Authority / Approval Levels**

---

This position has authority and approval levels generally defined by the Section Leader for his/her work.

## **Measures of Effectiveness**

---

- Successfully defines and implements the concept of the cryoplant, cryolines and cryodistribution systems;
- Successfully manages the interfaces between the cryogenic system and cryogenic users;
- Successfully manages plans for installation, tests and commissioning;
- Successfully maintains effective communication with all parties delivering the subsystem.