

Senior Cryogenic System Engineer

CEP-006

Reports to Line Manager:	Leader of Cryogenic System Engineering Section, Plant Engineering Division, Department for Central Engineering and Plant Support	Job Code:	CEP-006
Direct Employment:	Not required	Grade:	P4

Purpose

To support the Cryogenic System Engineering Section Leader in all matters related to the integration, design, layout and construction of the ITER cryogenic system;
To perform the required analysis and numerical simulations needed to support and validate the design and operational efficiency and reliability of the cryogenic system;
To support the Cryogenic System Engineering Section Leader in preparing the schedule to build the cryogenic system and the programs for testing and commissioning the cryogenic equipment.

china

eu

india

japan

korea

russia

usa

Major Duties/Responsibilities

- Contributes to and reviews the preparation of technical specifications for the cryoplant, cryolines and cryodistribution systems;
- Contributes to and reviews the process and design interfaces of the cryogenic components and subsystems;
- Provides the analysis and thermodynamic efficiency optimization for the cryogenic system;
- Performs and/or monitors the development and implementation of thermohydraulic simulation codes for the ITER cryogenic system;
- Writes and reviews the technical specifications and baseline documentation for the ITER cryogenic system;
- Performs the required analysis to validate and improve the cryogenic system flexibility and reliability to operate over a full range of plasma scenarios;
- Prepares, revises and maintains the schedule to build the cryogenic system as well as the testing and commissioning program;
- Maintains a strong commitment to the implementation and perpetuation of ITER Safety Program, values and ethics.

Qualifications and Experience

- **Education:**
 - Advanced university degree (preferably PhD) in or related subjects
 - Degree at least equivalent to 5-8 years of study after the High School Diploma (preferably a PhD), in the Cryogenics or Process Engineering field, or other relevant discipline.
- **Technical & Project Experience:**
 - At least 15 years' experience in the development, design, procurement and commissioning of large cryoplant and cryodistribution systems for fusion or accelerator applications;
 - Excellent knowledge of industrially proven cryogenic equipment in world market and associated R&D for specific applications;
 - Excellent knowledge and experience in thermohydraulic analysis and numerical codes;
 - Excellent knowledge of the design code and standards;
 - Excellent knowledge of process engineering and analysis of operating modes for large cryogenic systems;
 - Good knowledge of factory acceptance tests and commissioning of complex equipment;
 - Basic Project Management experience is required.
- **Social Skills:**
 - Ability to develop and maintain effective international contacts to perform tasks in multicultural environment, covering the international project;
 - Ability to work in a team and to promote team work.
- **Language requirements:**
 - Excellent communication skills in written and spoken English.

Direct Supervisor and Interfaces

- Reports to the Cryogenic System Engineering Section Leader;
- Interfaces with designers of the magnets, the Tokamak 80K thermal shields, the cryo-vacuum pumps and the buildings to support integration.

Authority / Approval Levels

This position has authority and approval defined by the Division Head for his/her work.

Measures of Effectiveness

- Successfully manages interfaces between the cryogenic system and cryogenic users;
- Successfully manages plans for procurement, installation, tests and commissioning;
- Successfully maintains effective communication with all parties delivering subsystems.