

Title: Leader of Cryogenic System Engineering Group Central Engineering and Plant Support		CEP 005
Reports to Line Manager: Director of Plant Engineering Division		
DIRECT EMPLOYMENT: NOT REQUIRED		GRADE RANGE: P3 ~P5
Date Written:	Date Revised:	Date Revised:

Purpose:

Support the DDG in all matter related to integration of the design, layout, procurement, installation, testing and commissioning of the ITER cryogenic system, including process/design interfaces with the all different ITER cryogenic users, namely the magnets, the cryo-vacuum pumps and the 80 K thermal shields of tokamak.

Major Duties/Responsibilities:

- Support the DDG in all matter related to integration of the design and layout for construction of the ITER cryogenic system.
- Oversees process/design interfaces and flow diagrams for cooling of all different ITER cryogenic users.
- Oversees design interfaces for the LHe plant and the LN2 plant linked with the 80K He loop and the cryodistribution boxes, including cryogenic transfer lines.
- Analysis of cooling efficiency of the cryogenic system, its flexibility and reliability to operate over full range of plasma scenarios and other cryoplant operating modes.
- Revision of technical specifications and the Project Integration documents related to the ITER cryogenic system.
- Support the DDG in preparation of the schedule to build the cryogenic system and programs for testing and commissioning of the cryogenic equipment.

Qualifications Required:

- Outstanding experience (10 years since graduating with at least 3 years in construction field) in the development of large cryogenic system for superconducting magnets and cryo-vacuum pumps for fusion or accelerator applications.
- Excellent knowledge of the modern and industrially proven cryogenic equipment in world market, including cryogenic process cycles, distribution boxes and infrastructure as cryogenic valves, sensors, helium circulating pumps and compressors, heat exchangers and cryogenic transfer lines.
- Knowledge of the design code and standards of experimental cryogenic equipment and thermal-hydraulic analysis of different operating modes, including regeneration of the cryo-vacuum pumps and operation of the cryoplant with variable heat loads deposited in the magnets.
- Good communication skill, ability to develop and maintain effective international contacts to perform tasks in multicultural environment, covering the international project.

Work Direction and Interfaces

Reports to the DDG. Interfaces with designers of the magnets, the tokamak 80K thermal shields, the cryo-vacuum pumps and the buildings to support excellent integration.

Authority/Approval Levels:

Has authority and approval defined by the DDG for his/her work

Measures of Effectiveness

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