

<b>TITLE: Cryoplant Engineer</b>		<b>CEP-012</b>
<b>REPORTS TO LINE MANAGER:</b> Leader of Cryoplant Section Department of Central Engineering and Plant Support		
<b>DIRECT EMPLOYMENT NOT REQUIRED</b>		<b>GRADE RANGE: P3 -P4</b>
<b>DATE WRITTEN:</b> December 2007	<b>DATE REVISED:</b>	<b>DATE REVISED:</b>

**Purpose:**

- The layout, procurement, installation and testing of the ITER cryogenic system and in particular the Cryoplant which includes the complex of the cryogenic process boxes and compressor stations of liquid helium and nitrogen plants linked with a 80 K helium loop for the cooling of the tokamak thermal shields.

**Major Duties/Responsibilities:**

- Functional analysis of all the operating modes of the cryogenic system;
- Drawing up and revision of process and flow diagrams for the entire cryogenic system;
- Detailed layout of equipment inside the cryoplant cold box and compressor buildings;
- Revision and improvement of process/design interfaces of the cryoplant process boxes;
- Preparation of technical specifications for the procurement of the cryoplant and revision of the Project Integration documents related to the cryoplant;
- Preparation of programs and schedules to build, test and commission the cryoplant.

**Qualifications Required:**

- Experience in the development of large cryogenic systems for fusion or accelerator applications;
- Knowledge of industrially proven cryogenic equipment in the world market, including liquid helium and nitrogen plants, purification/dryer systems, gas storage and compressors;
- Knowledge of the design Codes and Standards for experimental cryogenic equipment;
- Knowledge of process engineering and analysis of operating modes for cryoplants and large cryogenic distribution systems;
- Good communication skills, ability to develop and maintain international contacts for efficient performance of tasks in a multicultural environment;

- Good communication skills in written and spoken English.

**Work Direction and Interfaces**

- Interfaces with the designers of the cryoplant equipment, which includes the compressors and their building, to facilitate systems' integration;
- Interfaces with other systems for the definition of the functional analysis and operating modes of the entire cryogenic system.

**Authority/Approval Levels:**

- Has authority and approval defined by the section leader for his/her work.

**Measures of Effectiveness:**

- Successfully defines and implements the functional analysis and operating modes of the cryogenic system;
- Successfully defines and implements the 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 subsystems.