

TITLE: Electro-Mechanical Engineer		CEP-081
REPORTS TO LINE MANAGER: Leader of Coil Power Supply Section, Electrical Engineering Division, Department for Central Engineering and Plant Support		
DIRECT EMPLOYMENT: NOT REQUIRED		GRADE RANGE: P3-P4
Date Written: July 2008	Date Revised:	Date Revised:

Purpose:

To supervise the design, procurement, construction, factory testing, installation, commissioning, final acceptance of the Direct Current (DC) busbars, power cables, protective switches, earthing system and instrumentation of the ITER Coil Power Supplies.

Major Duties/Responsibilities:

- Be responsible for preparation and revision of technical specification and associated documents required for the design, procurement, construction, installation and commissioning of components and systems under her/his responsibility;
- Be responsible for design integration and layout of the DC busbars, power cables, protective switches, earthing systems, fault detection systems, current and voltage sensors and instrumentations;
- Manages all interfaces within the components of the Switching Network, Fast Discharge Units and DC busbars, Alternative Current/DC converters and the other ITER systems, particularly magnets, plasma control, interlocks, protection systems, safety control, cooling water system, pressurized air, auxiliary power, buildings and site layout;
- Supervises the contributions from the ITER Domestic Agencies, including design activities, manufacturing, testing and installation of the components delivered by the Domestic Agencies;
- Be responsible for the development and monitoring of budget, resources, procurement and construction plans related to the activities under her/his responsibility;
- Evaluates design issues and provide reports to the Section Leader;
- Develops the procedures for acceptance test and integrated commissioning;
- Supports the licensing activities and assessment of safety related functions in close contact to the safety group;
- Revises regularly the Project Schedule associated to the fabrication, installation, testing and commissioning of the components and systems;
- Implements guidelines and rules established by the line management;
- Maintains a strong commitment to the implementation and perpetuation of ITER safety the program, values and ethics.

Qualifications and Experience:

- **Education:** University Degree in Electrical/Electromechanical Engineering, or equivalent.
- **Experience:** At least 5 years' work experience in managing design, installation and testing of high power, high current DC busbars and power cables, earthing resistors and fault detection system, DC components instrumentation in industrial, or scientific

environment, comparable to those of the ITER Coil Power Supply System (maximum 70 kA DC current), or projects of similar complexity;

- Good knowledge of the design details, technical requirements and installation of high current DC busbars and cables, instrumentation comparable to those required for ITER;
- Good knowledge of the design details and technical requirements of earthing systems and ground fault detection systems comparable to those required for ITER;
- Good experience in the preparation of technical specifications for procurement contracts of large electrical components/subsystems;
- Ability to work effectively in a multi-cultural environment.
- **Language requirements:** Good communication skills in written and spoken English.

➤ ***The following optional qualifications will be considered an advantage:***

- Previous work experience in the design, construction and operation of high-current DC busbars and cables for Tokamak fusion devices, or large science facilities;
- Previous work experience in design, construction and operation of fast discharge systems for the quench protection of large superconductive magnets;
- Previous work experience in design, construction and operation of power supply systems for Tokamak fusion devices, or large science facilities;
- Previous work experience in design, construction and operation of high current mechanical/semiconductor switching system (e.g. above 20 kA) and huge energy dissipation systems (e.g. above 300 MJ) in industrial application fields;
- Previous work experience in the design, construction and operation of monitoring systems for main and auxiliary systems, such as cooling water, pressurized air, utility power and temperature.

Work Direction and Interfaces:

- Reports to the Leader of Coil Power Supply Section. Interfaces with the relevant technical divisions to support excellent integration;
- Interfaces with the construction design team on building and site requirements;
- Interacts with members of the ITER Team and Domestic Agency Personnel as required.

Authority/Approval Levels:

This position has authority and approval levels generally defined by the Leader of Coil Power Supply Section for her/his scope of work.

Measures of Effectiveness:

- Successfully implements guidelines and rules established by the Leader of Coil Power Supply Section and the Head of the Electrical Engineering Division;
- Successfully provides engineering support to the Coil Power Supply Section and the Electrical Engineering Division;
- Successfully manages interface between ITER divisions and Domestic Agencies;
- Successfully provides engineering and installation support for the project;
- Successfully develops, in agreement with the ITER general project schedule, cost effective installation and testing plans;
- Successfully maintains effective communications with all parties delivering subsystems.