TITLE: High Voltage Magnet Engineer		TKM-014
<b>REPORTS TO LINE MANAGER:</b> TF Coil Section Leader, Department for Tokamak		
DIRECT EMPLOYMENT: NOT REQUIRED		GRADE RANGE: P3-P4
DATE WRITTEN:	DATE REVISED:	DATE REVISED:
October, 2006	February, 2007	March, 2008

## **Purpose:**

To be responsible for the electrical design aspects of the ITER Toroidal Field (TF) coils, and to contribute to the electrical design of the feeders, CTBs (Coil Terminal Box) (including current leads), Central Solenoid (CS), Poloidal Field (PF) and Correction Coils, and Instrumentation.

## Major Duties/Responsibilities:

- Provides high voltage electrical engineering expertise to the Magnet Division.
- Provides design input to the layout of coil instrumentation systems (especially connection wiring), high voltage cabling in the feeders and interfaces to the instrumentation panels adjacent to the CTBs.
- Is responsible for the electrical design aspects of the TF coils, including insulation specification and layout.
- Contributes to the definition of electrical design criteria for the magnets.
- Is responsible for defining qualification and quality control tests for the TF coils.
- Provides design assistance to other groups, particularly in the areas of coil instrumentation, qualification and quality control and the design of the current leads.
- Contributes to the preparation of design and procurement specifications relating to the electrical design and testing.
- Participates in the monitoring of TF coil fabrication, in particular electrical testing.
- Prepares CAD drawings defining the electrical design of the TF coils.
- Maintains a strong commitment to the implementation and perpetuation of ITER safety program, values and ethics.

# **Qualifications and Experience**:

- University degree (Dip. Eng or Bachelors) in Engineering (mechanical or electrical).
- At least 10 years' postgraduate experience in high voltage electrical. engineering and in the problems associated with cryogenic vacuum systems.
- Familiarity with magnetic field coil design and superconductivity.

- Some knowledge of superconducting coil instrumentation.
- Good command of both written and spoken English.
- Ability to write technical reports and specifications.

## Work Direction and Interfaces:

- Reports to the TF Coil Section leader.
- Interfaces extensively with other sections in the Magnet Division.
- Interfaces with other Departments as required by the magnet design, in particular to the CAD Office.
- Interfaces with the Field Teams and their industries regarding electrical quality control testing.

### Authority/Approval Levels:

Has authority and approval levels generally defined by the Magnet Division head for his/her scope of work.

### Measures of Effectiveness:

- Completes design of electrical aspects of coil design.
- Successful qualification and quality control testing of coils and auxiliary systems during procurement.