

TITLE: MECHANICAL ENGINEER, DEPARTMENT FOR TOKAMAK		TKM-006
REPORTS TO LINE MANAGER: TF Coils Section Leader		
DIRECT EMPLOYMENT: NOT REQUIRED	GRADE RANGE: P3 – P4	
DATE WRITTEN: October, 06	DATE REVISED: 7 June 2007	DATE REVISED:

Purpose:

Contributions to the mechanical and electrical design of the ITER TF coils, in the areas of the TF coil cases, precompression rings, winding packs and radial plates

Major Duties/Responsibilities:

- Responsible for the design, R&D and qualification testing of the TF winding pack and precompression rings
- Contribute to the design of the TF winding packs and TF coil cases
- Preparation of appropriate design and analysis reports on the TF coils
- Contribute to the design of the intercoil structures, the inner poloidal keys and the friction joints
- Contribute to preparation of CAD drawings for the design of the TF coils and structures
- Responsible for administration of the magnet CAD drawings and models, interface to the CAD office, ensuring availability and functionality of drawing control within the division
- Responsible for the administration of the magnet division web based documentation
- Interact with industry regarding TF winding packs, radial plates and precompression rings
- Responsible for the design, R&D and qualification testing of the coil supports (gravity and PF)
- Participate in the monitoring of the TF winding packs fabrication of the coils and structures, ensuring proper application of quality controls such as NDT inspection

Qualifications Required:

- University degree (DipIng or Bachelors) in engineering (mechanical or electrical)
- At least 10 years post graduate experience, 5 of them in design, fabrication and operation of superconducting coils
- Experience of requirements for design and procurement management in large projects
- Familiarity with magnetic field coil design and superconductivity
- Familiarity with electromagnetic effects on structural design

- Knowledge of metal forming techniques such as forging, casting, rolling and welding
- Familiarity with mechanical design codes and standards such as ASME
- Ability to communicate clearly and write technical reports and specifications in English.

Work Direction and Interfaces:

Reports to the TF coil section head. Interfaces with other groups in the magnet division regarding drawing and CAD administration. Interfaces closely with RO for TF structure procurement. 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 fabrication, R&D and distribution of data (documents and CAD models/drawings).

Authority/Approval Levels:

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

Measures of Effectiveness:

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Effective functioning of magnet document and CAD drawing preparation and distribution. Successful qualification of TF winding packs, precompression rings and coil supports. Timely fabrication of rings and supports.