the way to new energy

iter

china eu india japan korea russia usa

JOB DETAIL

Ref. IO1627 - 1/8/2016

Thermal-Hydraulic Engineer - TED-042

Main job	Hydraulics
Department	TED / Tokamak Engineering Department
Division	TED / Magnet Division
Section	TED / MAG / Superconductor Systems & Auxiliaries Section
Job Family	Engineer - 1
Application Deadline (MM/DD/YYYY)	01/31/2016
Grade	P2
Direct employment	Not required
Purpose	To carry out thermal and thermo-hydraulic analysis for the ITER magnets and their supporting systems, maintaining and updating the ITER codes and models, and providing results interpretation to support model verification through qualification tests, updates of performance assessments and the development of magnet commissioning and operations plans.
Main duties / Responsibilities	— Provides thermal and thermal-hydraulic engineering expertise to the magnet division — Identifies thermal and thermal-hydraulic related interactions between systems, so as to ensure appropriate preparation for commissioning and operations — Becomes familiar with the main cryogenic heat loads on the magnets, their causes and methods to contain them — Updates the version of the thermal hydraulic codes and maintain up to date the existing cooling loop representation of the ITER magnet models; — Performs analyses of the magnet during commissioning, operation and fault events; — Monitors and follows up outsourced support contracts; — Analyses and interprets component and coil qualification tests — Makes proposals on the strategy to operate the magnet system in accordance with the cryogenic plant requirements; — Verifies the instrumentation on both magnet and cryogenic systems using thermal analyses; — Performs other duties in support of the project scheduled as described in the Detailed Work Schedule and the Strategic Management Plan; — May be requested to be part of any of the project team dealing with the above activities and perform other duties upon management request; — Maintains a strong commitment to the implementation and perpetuation of the ITER safety program, values and ethics. — Reports to the Superconductor Systems & Auxiliaries (SSA) Section Leader; — Interfaces with other sections in the Magnet Division in particular with the cryogenic section. — Interfaces with other departments as required by the magnet design (physics, power supplies, CODAC).
Measures of effectiveness	— Maintains up to date the existing cooling loops of the ITER magnet. — Defines the strategy to safely operate magnet system in accordance with the cryogenic plant requirements. — Contributes to establish and review baseline documentation, design, procurement, installation, commissioning, operation, control and maintenance of all functions required for the correct and safe operation of the

ITER magnet system.
— Contributes to magnet / component tests.
— Contributes to the verification of having the proper
 instrumentation on both magnet and cryogenic systems
 and check with thermal analyses.

Project Construction Phase

Level of study	Master or equivalent degree
Diploma	Engineering
Level of experience	At least 5 years
Technical experience/knowledge	— Thermal hydraulic and numerical analysis experience are advantages; — At least 5 years' postgraduate experience in magnet thermal hydraulic analysis. — Familiarity with Computational Fluid Dynamics (CFD) analysis, thermal analysis and the use of finite element modeling codes; — Familiarity with cryogenic environment; — Familiarity with superconductivity; — Familiarity with CAD tools; — Basic Project Management experience is required.
Social skills	Ability to work effectively in a multi-cultural environment Ability to work in a team and to promote team spirit Ability to communicate effectively
General skills	Ability to both work in a team and coordinate / supervise activities
Others	– Good experience in finite element software (ANSYS). – Good experience in CFD analysis (FLUENT/CFX/VENECIA/ SUPERMAGNET). – Good experience in programming (fortran, APDL). – Experience in Linux environment. – Good experience in data processing software (MATLAB). – Good command of the Microsoft Office package.
Languages	English (Fluent)