

# IO2125 Superconductor Engineer TED-220

## General information

Job category	Standard
Status	Published
Department	TED / Tokamak Engineering Department
Division	TED / Magnet Division
Section	TED / MAG / CS, Supports & Performance Section

## Job description

Main job	Engineering - Mechanics
Title of the position	Superconductor Engineer TED-220
Job family	Coordinating Engineer
Grade	P4
Direct employment	Not required SAP ID: 50000155
Purpose	<p>To be the Technical Responsible Officer (TRO) for the Central Solenoid System, covering the design and performance assessment, procurement under a Procurement Arrangement with US and supporting contracts, the on-site stacking of the individual coil modules, the installation into the cryostat and the commissioning of the system.</p> <p>Background</p> <p>The ITER magnet system consists of 4 main magnet systems, the Toroidal Field (TF) coils, the Poloidal Field (PF) coils, the Correction Coils (CC) and the Central Solenoid (CS) coils. The CS is a stack of 6 coil modules at the centre of the machine, using Nb3Sn superconductor operating at fields up to 13T and with a total weight of 1000t.</p> <p>Please note that an organizational restructuring is planned in accordance with the needs of the organization and the evolution of the project phases. In this context, the unit of assignment of the present position may be updated in late 2019, early 2020.</p> <p>Responsible to manage the CS, CS Precompression Structure, and CS assembly tooling manufacture:</p> <ul style="list-style-type: none"><li>o Ensures that quality controls are properly implemented,</li><li>o Takes effective action where quality problems are found,</li><li>o Follows up work under the Procurement Arrangement with US Domestic Agency and their suppliers;</li></ul> <p>Responsible for design, at this stage processing deviation requests and Non Conformance Reports, providing performance predictions (structural, superconducting, electrical); Oversees the on-site stacking of the CS coil modules and the precompression structure by contractors, the preparation of special assembly procedures and drawings, the preparation of the Engineering Work Package and handing over to the contractors;</p>
Main duties / Responsibilities	<p>Ensures that the CS and pre-compression structure design, manufacturing and assembly processes and materials are fully qualified;</p> <p>Provides strategic options for ITER operations of the CS stack;</p> <p>Defines and manages interfaces between the CS coil/structure system and power supplies, cryoplant, feeders, instrumentation, vacuum as well as the construction organization;</p> <p>Prepares and monitors the budget for the CS work programme;</p> <p>May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;</p> <p>May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays.</p> <p>Monitors efficiently procurement activities as per the ITER quality, cost and schedule requirements for delivery, as well as meeting intermediate ITER milestones;</p> <p>Maintains the performance requirements of the CS coil system;</p>
Measures of effectiveness	Manages efficiently interfaces, anticipates and solves issues when necessary;

Meets the construction schedule requirements for stacking and precompressing the CS on-site;  
Meets the quality requirements for the CS system for the recording of manufacturing data, non-conformances and deviation requests.

## Applicant criteria

Level of study	Master or equivalent degree
Diploma	Engineering (Mechanical or Electrical) or other
Level of experience	At least 10 years
Technical experience/knowledge	At least 10 years' experience specifically in superconducting coil & conductor design, analysis, testing, manufacturing, commissioning and operation;
	Master Degree or equivalent in the Engineering (Mechanical or Electrical) field or other relevant discipline;
	Recognized as an international superconductor expert in the field of superconducting magnets, with a good record of publications in respected journals;
	Able to anticipate complex and challenging technical issues or problems, drawing on experience and expertise;
General skills	Able to formulate a technical strategy and present it to senior managers and stakeholders
	Able to identify, resolve and maintain technical and functional interfaces;
	Able to plan verification of compliance of the products with all applicable requirements and formulate and execute recovery plans.
	Collaborate: Ability to lead a dialogue with a wide variety of contributors and stakeholders;
Others	Communicate Effectively: Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment;
	Drive results: Ability to persist in the face of challenges to meet deadlines with high standards;
	Manage Complexity: Ability to gather multiple and diverse sources of information to understand problems accurately before moving to proposals/solutions;.
Languages	English (Fluent)
Others	The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.