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JOB DETAIL

Ref. IO1692 - 4/14/2016

Mechanical Engineer TED-061

Main job	Mechanics
Department	TED / Tokamak Engineering Department
Division	TED / Magnet Division
Section	TED / MAG / Superconductor Systems & Auxiliaries Section
Job Family	Engineer - 2
Application Deadline (MM/DD/YYYY)	05/15/2016
Grade	P3
Direct employment	Not required
Purpose	To elaborate the detailed engineering of the In-Vessel Coils, from design to manufacture and assembly inside the vacuum vessel, manage the interfaces with the Vacuum-Vessel (VV), support their procurement, to contribute to the development of the baseline documentation and oversee the development/implementation of quality assurance and quality control.
Main duties / Responsibilities	• Responsible for some aspects of the design of the in-vessel coils; • Implements aspects of the in-vessel-coils within the vacuum vessel; • Manages interfaces with in-vessel components; • Develops the assembly plan of the Edge Localized Mode (ELM) coils and of the in-situ manufacturing plan of the VS coils; • Contributes to the design and develop the assembly plan of the feeders; • Follows the design of full-size mock-up(s) for assembly and in-situ manufacturing trials. • Supervises production of the 3D CAD models, and of the engineering and interface drawings; • Prepares assembly tolerance assessments and means of tolerance mitigation; • Contributes to preparation of Intermediate and Final Design Reviews; coordinates resolution of review chits; • Coordinates structural, thermo-mechanical, and fatigue analyses; • Supports preparation of calls for tender for procurement of the in-vessel coils and supports monitoring of in-vessel coil production; • Supervises manufacture, installation and operation of full-size mock-ups; • Supports development of baseline documents, such as design description document, design plan and interface sheets; • Monitors qualification and testing of critical procedures and sub-assemblies; • Contributes to development of Assembly Inspection Plans; • Develops/implements quality assurance and quality control for all the above activities; • Develops/implements manufacturing database modules for in-vessel-coil related activities; • Performs other duties in support of the project schedule 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 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.
Measures of effectiveness	• Reports to the Superconductor Systems & Auxiliaries Section Leader; • Acts as an interface between sections in the Magnet Division and other Divisions in the Department; • Interfaces with other Departments as required by the In-Vessel coil design, in particular with the CAD office, integration and assembly teams;

	• Interfaces with industries regarding fabrication and quality control as requested; • In response to requests from the Director-General and/or Head of Tokamak Engineering Department (TED), or proactively, informs the DG/ Head of TED of any important and urgent issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives. • Timely develops design plan; design description documents and interface sheets; • Timely generates CAD models, engineering and assembly drawings; • Timely organizes intermediate and final design reviews of in-vessel coil system; • Timely develops assembly plans and of assembly and inspection plans; • Timely realizes critical qualification and testing • Timely realizes full-size mock-up trials; • Timely develops/implements of quality control plans. Project Construction Phase
Level of study	At least Master's Degree or equivalent
Diploma	Mechanical Engineering or other relevant disciplin
Level of experience	At least 8 years
Technical experience/knowledge	– Knowledge in structural and thermo-mechanical design, analysis and engineering assessment; manufacturing and assembly of large components; welding and brazing technologies . – At least 8 years' experience in design, analysis, manufacture, assembly and integration of electro magnets and/or of large bolted/welded mechanical components; – Expce in CAD and/or engineering/manufacturing drawing production and review would be an advantage; – Expce in production and/or assembly of electro magnets and/or of large bolted/welded mechanical would be an advantage; – Familiarity of non-destructive examination techniques (eg visual inspection, dye penetrant inspection, helium leak detection, ultrasonic inspection, and radiographic examination of welds and brazes, applicable codes & standards for the implementation & acceptance criteria; – Expce with international codes and standards such as ISO, EN, RCC-MR, ASTM and ASME for construction of pressure equipment and/or nuclear equipment.
Project experience	2 to 4 years
Social skills	Ability to work effectively in a multi-cultural environment Ability to work in a team and to promote team spirit
Specific skills	CATIA MS Office standard (Word, Excel, PowerPoint, Outlook)
General skills	– Ability to both work in a team and coordinate a group of professionals; – Ability to communicate clearly and write technical reports and specifications in English; Basic knowledge in project management is required.
Languages	English (Fluent)

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