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JOB DETAIL

Ref. IO2149 - 8/5/2019

Instrumentation and Control Engineer TED-236

Main job	Control system
Department	TED / Tokamak Engineering Department
Division	TED / Heating & Current Drive Division
Section	TED / HCD / Neutral Beam Section
Job Family	Engineer - 2
Application Deadline (MM/DD/YYYY)	09/08/2019
Grade	P3
Direct employment	Not required
Purpose	SAP Id: 50001068 To oversee the design, procurement and installation and testing of sensors, instrumentation and control (I&C) and safety interlocks for the Neutral Beam Testing Facility (NBTF) in Italy and for ITER neutral beams of both Heating Neutral Beam (HNB) and Diagnostic Neutral Beam (DNB) at ITER in the south of France This position envisages participation in commissioning and operations in NBTF in Italy and translation of experience with respect to sensors, instrumentation, control, safety interlocks systems to ITER systems. This position is to be based at the ITER Organization with frequent travel required to the NBTF in Italy for extended periods. Background: "Production of Ion of Deuterium Extracted from Radio Frequency", that is a 100kV Ion Source Facility Source called SPIDER which has been in operation since 2018 in Italy whilst a Multi Megavolt ITER Injector & Concept Advancement, a 1MV beam facility called MITICA is currently under construction, which is planned to be in operation in 2023. . The experience gained from these facilities is to be employed in the construction and operation of ITER's HNB and DNB. An additional challenge to be addressed in for the ITER systems is to make them compatible with a complex fusion nuclear environment (i.e. sensors and their allied systems are to be radiation resistant).
Main duties / Responsibilities	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. Is the Technical Responsible Officer (TRO) for sensors, instrumentation, control systems and safety interlock systems needed for SPIDER, MITICA, HNB and DNB; Participates in the I&C part of operation for SPIDER, as well as in the construction and testing of sensors, I&C and interlock systems required for MITICA; Exploits and develops the technical experience gained from the construction and operation of the NBTF to define the requirements and necessary customizations for sensors, I&C and interlocks for HNB and DNB with respect to ITER's specific technical, quality and safety requirement; Defines, reviews and monitors change control of configuration items of the above systems for both HNB and DNB throughout the entire lifecycle including design, manufacturing, installation, commissioning and operation. Defines and controls technical interfaces not only with the NB mechanical and electrical systems but also the auxiliary systems such as the gas supply, water, vacuum etc.; Regarding NB procurement arrangements (PA), ensures that, the technical advancement of sensors, I&C and interlock systems for both HNB and DNB comply with ITER's baseline technical requirements. Issues progress reports, monitors and reports variances on all technical, cost and schedule aspects of these project variables; Identifies the technical, cost and schedule risks and contributes to risk management; May be requested to be part of any of the project/construction teams and to perform other duties in support of the project; May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays.

Measures of effectiveness	Analyses efficiently NBTF construction and operational activities to propose and implements technical solutions for I&C for ITER NB systems within the defined quality, cost and schedule; Establishes the conceptual design and associated technical specifications, and further ensures that they are in compliance with IO functional requirements as per the agreed time schedule and within cost objectives; Oversees efficiently the technical development under procurement arrangements and ensures that the technical scope is completed in line with IO requirements; Identifies technical interfaces adequately in a timely manner and manages them effectively throughout the life cycle of the I&C systems; Ensures that all interface documentation is kept up to date; Reports regularly on the progress of sensors, I&C systems and interlock systems during design and procurement to the Section Leader; Issues deviation and non-conformity reports and monitors their progress through the relevant QA processes on an as needed basis.
Level of study	Master or equivalent degree
Diploma	Instrumentation and Control field or other
Level of experience	At least 8 years
Technical experience/knowledge	At least 8 years' experience in Instrumentation and Control, in the field of Neutral Beams, high power heating systems or any other multidisciplinary scientific systems; Write and reviews high standard technical specifications, providing technical instructions. and technical guidance; Identify issues and delays in a project and take corrective action within scope of responsibility, proposing recovery plan when necessary; Resolve complex and challenging technical issues or problems, drawing on experience and expertise, proposing proper solutions to the technical interface issues; Supervise non-conformance and deviation and propose corrective actions; Develop basic models and calculations; Understand codes & standards related to sensors and I&C; Demonstrate knowledge of I&C Neutral Beams is an advantage.
General skills	Collaborate: Ability to conduct dialogues with a wide variety of actors and stakeholders; Communicate: 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 assimilate multiple and diverse sources of information to understand problems accurately before moving to proposals/solutions; Ethical values to instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity and to adopt to cultural diversity.
Others	The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
Languages	English (Fluent)