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Ref. IO2148 - 8/2/2019

Fuelling System I&C Engineer PED-232

Main job Mechanics

Department PED / Plant Engineering Department

Division PED / Fuel Cycle Engineering Division

Section PED / FCED / Fuelling & Wall Conditioning Section

Job Family Engineer - 2

Application Deadline (MM/DD/YYYY) 09/08/2019

Grade P3

Direct employment Not required

Purpose To perform and maintain the instrumentation and control (I&C) design of the ITER Fuelling and Wall Conditioning (FWC) System.

To lead the instrumentation and local control design across the FWC System, with special emphasis on the Disruption Mitigation System (DMS) and interface with ITER's central control systems considering both functional and performance requirements, safety, risks, value engineering, interface management and deliverable preparation. This is followed by preliminary and final design, fabrication and procurement of the designed systems.

Activities shall be performed in a formal, quality assured environment consistent with a nuclear facility that requires rigour and systematic way of working.

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.

Main duties / Responsibilities

Is responsible for the design and selection (in conjunction with Process Engineering) of field mounted instruments and control devices used in FWC System ensuring that they meet the functional and performance requirements of systems and interface successfully with the centralized control systems;
Plans and prepares I&C integration activities in the FWC facilities and systems, including control system interfaces and layout of control/electrical cubicles;
Establishes the industrialization and full automation of the DMS to ensure high reliability and safe ITER operation;
Supports the DMS task force in implementing I&C process control for DMS prototypes and test devices in laboratories and tokamaks worldwide considering the specific control system environments and conditions;
Participates in the design and implementation of interlocks necessary for ITER's successful and safe operation to international standards;
Follows up on the FWC System instrumentation and control procurements with relative stakeholders;
Is responsible for compiling and maintaining I&C design basis documentation and supporting documents using formal review procedures;
Identifies, implements and monitors provisions for installation, testing, maintenance and commissioning to be compliant with the process design;
Provides input to the qualification programme for field mounted I&C devices;
Contribute to procurement management of the final design / build related contract, and ongoing support as a member of the Delegated Design Authority of ITER as necessary;
Provides expertise and technical advices to machine assembly and commissioning teams to resolve requirements and performance issues across various systems;
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

Special notice: May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization.

Ensures that the Engineering, procurement and implementation activities are completed according the

	required time schedule, to a high quality and within the authorized budget; Performs work in compliance with IO quality and safety requirements; Efficiently resolves design and interfaces issues for FWC in a systematic and professional manner; Communicates and collaborates effectively and harmoniously with all internal and external stakeholders; Ensures that provisions for installation, testing, maintenance and commissioning are aligned the process design within the agreed framework.
Level of study	Master or equivalent degree
Diploma	Mechanical, Electric Engineering or other
Level of experience	At least 8 years
Technical experience/knowledge	At least 8 years' experience in managing the design, construction, installation, commissioning and operation of the entire life cycle of fueling systems in fusion devices or similar; A certification in Project Management is advantageous; Designing and implementing process control and automation in a tokamak (or similar) environment; Programing and implementing hardware and software interlocks and associated commissioning and fault resolution; Monitoring procurement over the lifecycle of the contract from writing specifications to managing deliverables; Using Siemens S7, EPIC or National Instruments would be advantageous; Coordinating activities and managing interfaces with various stakeholders; Generating single line and control logic diagrams is advantageous; Driving root cause analysis for a system involving various disciplines such as tritium safety, nuclear licensing, cryogenic system, vacuum pumping system and plasma physics knowledge is advantageous;
General skills	Collaborate: Ability to dialogue with a wide variety of contributors and stakeholders; 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; Instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.
Others	Using proficiently Microsoft office standard and beyond (Word, Excel, PowerPoint, Outlook, Visio, Project); 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)

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