JOB DETAIL

Ref. IO2064 - 12/20/2018

Process Engineer TCWS-037

Main job	Nuclear Power
Department	PED / Plant Engineering Department
Division	PED / Tokamak Cooling Water System Division
Section	PED / TCWS / Tokamak Cooling Water System Design Section
Job Family	Engineer - 1
Application Deadline (MM/DD/YYYY)	02/03/2019
Grade	P2
Direct employment	Not required
Purpose	To develop the process engineering and the control logic of the Primary Heat Transfer Systems (PHTS's) of ITER's Tokamak Cooling Water Systems (TCWS) and ancillary systems; To develop Process Flow Diagrams and Process &Instrumentation Diagrams for the TCWS; To select the preliminary sizes and prepare data sheets for TCWS equipment; To prepare Technical Specifications needed for the procurement, fabrication and testing of the TCWS piping and equipment. Develops and finalizes the process engineering of TCWS namely for the PHTSs, the chemical and volume control systems, the draining and refilling system and drying system; Interfaces with the US-Domestic Agency (DA) and US Department of Energy officials on process engineering matters, including writing reports and making presentations on work progress;
Main duties / Responsibilities	Develops and finalizes Process Flow & Instrumentation Diagrams for the whole TCWS, in collaboration with Safety Department; Develops and finalizes the functional analysis, control logic design studies and operational guidelines for all the TCWS; Produces valid documentation for the commissioning of the TCWS (for technical specifications and procedures); Performs specific sizing calculations for TCWS equipment (e.g. valves, pumps, heat exchangers, filters, demineralizers, etc.), selects equipment and produces data sheets; Finalizes equipment procurement specifications in collaboration with Safety Department and other relevant Departments and follows up on their manufacturing, Factory Acceptance Tests and delivery to the ITER Organization (IO) site; Develops and finalizes commissioning procedures, implementing the necessary features into the design; Collaborates with the Instrumentation & Control Engineers to develop the control logic design studies and their integration in the TCWS system; Supports the TCWS Design Section in the design, procurement, assembly and/or installation and operation of the TCWS piping and components in close collaboration with the US DAs and other ITER IO Departments; May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays; Implements the surveillance and/ or technical control of the Protection Important Activities, as well as their propagation to the entire supply chain; May be requested to be part of any of the project/construction teams and to perform assigned duties; Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, ITER Values (Trust; Loyalty; Integrity; Excellence; Team mind set; Diversity and Inclusiveness) and Code of Conduct.
Measures of effectiveness	Reports to the TCWS Design Section Leader; Acts as an interface with other internal and external resources for the TCWS system; In response to requests from the Director-General (DG) and/or Plant Engineering Department (PED) Head, or proactively, informs the DG/ PED Head 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. Ensures the satisfaction of safety and functional thermal

	hydraulic requirements flow down; Develops & finalizes P&IDs and equipment selection/sizing in a timely manner within the defined costs; Develops effectively accurate operating guidelines in a timely manner; Produces detailed data sheets for the procurement of the TCWS equipment on time; Reviews efficiently the preparation of the technical specifications for the TCWS equipment procurement within the defined schedule.
Level of study	Master or equivalent degree
Diploma	Mechanical, Civil, or Nuclear Engineering
Level of experience	At least 5 years
Technical experience/knowledge	At least 5 years' experience in the System Engineering of complex projects, in nuclear or hazardous environment; Good experience on process design (e. g. sizing of cooling systems), Process & Instrumentation Diagrams development, equipment selection and sizing; Basic experience in Thermal-Hydraulic and Thermal-Mechanics Engineering of complex systems; Basic experience in the Control Processes of Cooling Systems for nuclear or oil and gas facilities; Basic Project Management experience is required. The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
Specific skills	Ansys Computer Aided Design
General skills	Ability to dialogue with a wide variety of contributors and stakeholders; Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment; Ability to persist in the face of challenges to meet deadlines with high standards; Ability to gather multiple and diverse sources of information to define problems accurately before moving to proposals; Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.
Others	Knowledge of MS Office standard (Word, Excel, PowerPoint, Outlook) is required; Knowledge of 2D-3D CAD software is required; Knowledge of specific software for sizing equipment (e.g. HTRI, ASPEN, HONEYWELL etc.) is an advantage; Knowledge of specific software for Thermal-Hydraulic circuits calculations (e.g. Fathom) is an advantage; Knowledge of specific software for Thermal-Hydraulic and Thermal-Mechanics calculations (e.g. ANSYS) is an advantage.
Languages	English (Fluent)