JOB DETAIL

Ref. IO2069 - 1/17/2019

Process Engineer TCWS-028

Main job	Mechanics
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)	03/03/2019
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 Tokamak Cooling Water Systems (TCWS) and ancillary systems; To develop Process Flow Diagrams and Process &Instrumentation Diagrams for the TCWS; To select preliminary size and prepare data sheets for TCWS equipment; To prepare Technical Specification for the procurement, and the fabrication and testing of the TCWS piping and equipment; To produce the valid documentation for the commissioning of TCWS (Commissioning Technical specifications and Commissioning Procedures); To work closely with other Divisions within the ITER Organization, including Safety, on Department.
Main duties / Responsibilities	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 US-Domestic Agency (DA) and US Department Of Energy officials on process engineering matters, including writing reports, and making presentations on work progress; Develops and finalizes Process Flow & Instrumentation Diagrams for the whole TCWS; Develops and finalizes the functional analysis, control logic design studies and operational guidelines for all the TCWS; Performs specific sizing calculations for TCWS equipment (e.g. valves, pumps, heat exchangers, filters, demineralizers, etc.), selects equipment and produces data sheet; Finalizes equipment procurement specifications and follows up on their manufacturing, Factory Acceptance Tests, and delivery to the IO site; Manages the interfaces and Quality Assurance (QA) procedures related to PHTS Develops and finalizes commissioning procedures, implementing the necessary features in 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 for the design, procurement, assembly and/or installation and operation of the TCWS piping and components in close collaboration with the US DA and other ITER IO Departments; May be required to work shifts during the ITER assembly and commissioning phase; May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule; 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; 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 datasheets for the procurement of the TCWS equipment in a timely manner; Finalizes efficiently the Technical Specifications for the TCWS equipment procurement in a timely manner.
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 nuclear projects, with particular reference to process design (e. g. sizing of cooling systems), Process and Instrumentation Diagram development, equipment selection and sizing; Basic experience in the Thermal-Hydraulic and Thermal-Mechanics Engineering of complex systems; Basic experience in the Control Processes of Cooling Systems for Nuclear Power Plants or nuclear facilities.
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 define problems accurately before moving to proposals; Instill trust: 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)