IO1530 Thermal Hydraulic Engineer TCWS-024

General information

Job category	Standard
Status	Confirmed
Department	DIP/Directorate for Plant System Engineering
Division	PSE/Plant Engineering Division
Section	PSE/ PED/ Cooling Water System Section

Job description

Main job	Engineering - Hydraulics
Title of the position	Thermal Hydraulic Engineer TCWS-024
Job family	Coordinating Technician
Grade	G5
Direct employment	Required
Purpose	To perform the thermal hydraulic design and transient analyses of the Primary Heat Transfer Systems (PHTSs) of ITER Tokamak Cooling Water Systems (TCWS)) To support the Cooling Water System (CWS) Section for the preparation of the transient analyses requested to assess incidents and accidents relevant for the TCWS. To contribute to the preparation of the Technical Specification for the procurement, the fabrication and testing of the TCWS equipment.
	Background information: These PHTSs are designed to remove approximately 1,000 MW of heat from the Vacuum Vessel and the In-Vessel Plasma facing components. The relevant hydraulic circuits have a very complex piping distribution that imposes a detailed design of the flow balance of the parallel cooling lines as well as the inlet pressure to the In-Vessel components.
Main duties / Responsibilities	Performs thermal-hydraulic analyses to assess the operational transients of the PHTSs; Performs thermal-hydraulic analyses to assess the incidental and accidental scenarios (LOCA, LOFA, LOSP, etc.) of the PHTSs; Collaborates with the other System Engineers in the CWS Section to assess the incidental and accidental scenarios, the possible consequences and the impact on the TCWS design; Supports the CWS Section for the design, procurement, assembly and/or installation and operation of the TCWS piping and components in close collaboration with Domestic Agencies and other ITER IO Directorates; Performs other duties in support of the project schedule as described in the Detailed Work Schedule and the Strategic Management Plan; Performs other duties linked to the above purpose upon management request, as necessary; Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.
Measures of effectiveness	Reports to the Cooling Water System Section Leader; Acts as an interface with other internal and external resources for the thermal hydraulic design and analyses of the PHTS's; In response to requests from the Director-General and/or Plant System Engineering (PSE) Directorate Director, or proactively, informs the DG/ PSE Directorate Director 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. Performs the thermal hydraulic design/analyses of the PHTSs in a timely manner; Ensures satisfaction of functional thermal hydraulic requirements flow down; Provides the accurate thermal-hydraulic transient analyses of the TCWS in a timely manner; Produces regular requested reports on time and with a high quality standard.
	Project Construction Phase

Level of study	At least Bachelor's degree or equivalent
Diploma	Nuclear Engineering or equivalent
Level of experience	At least 7 years
Technical experience	At least 7 years' experience in the System Engineering of complex nuclear projects; Sufficient experience in the Thermal Hydraulic Engineering of complex systems and projects; Basic experience in sizing calculations for Cooling circuits' equipment is considered an advantage; Basic experience in the Control Processes of Cooling Systems for Nuclear Power Plants or nuclear facilities is considered an advantage.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
Languages	English (Working)
Specific skills	Ansys, CATIA, Computer Aided Design
Others	Computer and IT skills: Knowledge of MS Office standard (Word, Excel, PowerPoint, Outlook) is required; Knowledge of specific software for Thermal-Hydraulic circuits calculations (e.g. Fathom and RELAP); Specific software for Thermal-Hydraulic FEM calculations (e.g. ANSYS) or CFD is an advantage; Knowledge of specific 2D-3D CAD software (e.g. CATIA, SSD etc.) is an advantage; Knowledge of MELCORE software is an advantage.