

# IO1530 Thermal Hydraulic Engineer TCWS-024

## General information

Job category	Standard
Status	Published
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	<p>To perform the thermal hydraulic design and transient analyses of the Primary Heat Transfer Systems (PHTSs) of ITER Tokamak Cooling Water Systems (TCWS))</p> <p>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.</p> <p>To contribute to the preparation of the Technical Specification for the procurement, the fabrication and testing of the TCWS equipment.</p>
Main duties / Responsibilities	<p>Background information:</p> <p>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.</p> <p>Performs thermal-hydraulic analyses to assess the operational transients of the PHTSs;</p> <p>Performs thermal-hydraulic analyses to assess the incidental and accidental scenarios (LOCA, LOFA, LOSP, etc.) of the PHTSs;</p> <p>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;</p> <p>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;</p> <p>Performs other duties in support of the project schedule as described in the Detailed Work Schedule and the Strategic Management Plan;</p> <p>Performs other duties linked to the above purpose upon management request, as necessary;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>
Measures of effectiveness	<p>Reports to the Cooling Water System Section Leader;</p> <p>Acts as an interface with other internal and external resources for the thermal hydraulic design and analyses of the PHTS's;</p> <p>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.</p> <p>Performs the thermal hydraulic design/analyses of the PHTSs in a timely manner;</p> <p>Ensures satisfaction of functional thermal hydraulic requirements flow down;</p> <p>Provides the accurate thermal-hydraulic transient analyses of the TCWS in a timely manner;</p> <p>Produces regular requested reports on time and with a high quality standard.</p> <p>Project Construction Phase</p>

## Applicant criteria

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.