

IO1531 Nuclear Engineer TCWS-026

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 - Nuclear Power
Title of the position	Nuclear Engineer TCWS-026
Job family	Engineer - 1
Grade	P2
Direct employment	Not required
Purpose	<p>To prepare the Nuclear and Thermal Hydraulic Analyses for the Tokamak Cooling Water Systems (TCWS), in particular for operational transients of the Primary Heat Transfer Systems (PHTSs)</p> <p>To support the Cooling Water System (CWS) Section in assessing the design solutions for the radiation shielding of the TCWS equipment according to the safety and investment protection requirements and proposing alternative solutions when required.</p> <p>To draft safety procedures, reports and guidelines.</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 & accidental scenarios of the PHTSs;</p> <p>Collaborates with the Nuclear Safety, Licensing and Environmental Protection Division and with the other System Engineers in the CWS Section to assess the incidental and accidental scenarios, the possible consequences and impact on the TCWS design;</p> <p>Participates in the TCWS thermal-hydraulic design ensuring a proper compliance to the RPrS (Preliminary Safety Report) and implementation of the prescriptions of the French Nuclear Regulator - Autorité de Sûreté Nucléaire (ASN);</p> <p>Assesses design solutions to mitigate the postulated initiating events, within and beyond the design basis, and performs the related accidental analyses for ITER TCWS;</p> <p>Develops TCWS emergency operating procedures and guidelines;</p> <p>Assesses the design solutions for the radiation shielding of the TCWS equipment according to the safety and investment protection requirements & alerting the line management of any potential issue;</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>In response to requests from the Director-General and/or Plant System Engineering (PSE) Directorate Director, or proactively, informs the DG and 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 and Nuclear Analysis of the TCWS in a timely manner;</p> <p>Contributes to ensuring the satisfaction of the TCWS functional thermal hydraulic requirements;</p> <p>Develops documents for the TCWS safety analyses within the defined schedule;</p> <p>Contributes to assessing the compliance of TCWS design against the RPrS (Preliminary Safety</p>

Report) and the prescriptions of the French Nuclear Regulator (Autorité de Sûreté Nucléaire ASN).

Project Construction Phase

Applicant criteria

Level of study	Master or higher degree
Diploma	Nuclear Engineering or other relevant
Level of experience	At least 5 years
Technical experience	At least 5 years' experience in the System Engineering of complex nuclear projects; Good experience in performing Thermal-Hydraulic and Radiation Transport Analyses; Good knowledge in primary coolant systems of nuclear plants.
Project experience	1 to 2 years
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	MS Office standard (Word, Excel, PowerPoint, Outlook) Computer and IT skills: Knowledge of MS Office standard (Word, Excel, PowerPoint, Outlook) is required; Knowledge of RELAP software or similar tool is required;
Others	Knowledge of other software for Thermal Hydraulic transient analyses (e.g. TRACE, MELCOR etc.) is considered an advantage; Knowledge of Monte-Carlo radiation transport code MCNP is required; Knowledge of 2D-3D CAD software is an advantage.