

IO1656 Vacuum Engineer - PED-043

General information

Job category	Standard
Status	Published
Department	PED / Plant Engineering Department
Division	PED / Fuel Cycle Engineering Division
Section	PED / FCED / Vacuum Section

Job description

Main job	Engineering - Vacuum technologies
Title of the position	Vacuum Engineer - PED-043
Job family	Engineer - 1
Grade	P2
Direct employment	Not required
Purpose	<p>To support the completion of the design and integration of the ITER vacuum systems, providing structural, thermal and thermal hydraulic analyses on components and structures some of which will perform safety functions and are classified as Protection Important Components (PIC).</p> <p>Participates in the design and integration of ITER vacuum systems which cover the ITER vacuum vessel, cryostat, neutral beams and auxiliary vacuum systems having specific responsibility for structural and thermal hydraulic analyses to support design validation throughout the project life cycle;</p> <p>Undertakes and/or supervises contracts for structural analyses using ANSYS to demonstrate that components, structures and systems function within codes;</p> <p>Supports the vacuum component standardization program by providing allowable usage loadings for complex standardized component to be used in varying application under very different loading conditions;</p> <p>Undertakes thermal analyses to investigate the thermal stresses in different operational modes to demonstrate that no structural damage occurs taking into account case by case functioning as required for certain components;</p> <p>Performs modal analyses to substantiate compatibility of design with ITER seismic loads.</p> <p>Performs modelling and analyses to support design optimisation of components and structures within the cryo-pumping systems;</p> <p>Analyses test data from seismic and mechanical loading tests on components and unitizes to enhance analytical models;</p> <p>Supports the implementation of vacuum standards and standardization across the project, by implementing and maintaining validated designs;</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>May be requested to be part of any of the project team and perform other duties upon management request;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics;</p> <p>May be requested to work shifts during the ITER assembly and commissioning phases;</p> <p>Capacity to work on beryllium-containing components, following the established ITER Beryllium Management Program for working safely with beryllium.</p>
Main duties / Responsibilities	<p>Reports to the Vacuum Section Leader;</p> <p>Acts as an interfaces between the ITER Sections and Divisions and with Domestic Agencies;</p> <p>In response to requests from the Director-General and/or Head of Plant Engineering Department (PED), or proactively, informs the DG/Head of PED Department 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>Provides clear and thorough engineering documents;</p> <p>Interfaces efficiently with the ITER divisions and Domestic Agencies, and maintains a good communication and relations;</p>

Measures of effectiveness	<p>Works effectively in teams and contributes to the overall success of the ITER project;</p> <p>Completes the tasks assigned under Main Duties / Responsibilities above within the defined time frame and quality level;</p> <p>Performs work safely and with regard for safety in design.</p>
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Applicant criteria

Level of study	Master or equivalent degree
Diploma	Mechanical Engineering or other discipline
Level of experience	At least 5 years
Technical experience/knowledge	<p>Knowledge of engineering calculations, mechanics, strength of stainless steel and aluminium is required and knowledge of material properties at cryogenic temperatures;</p> <p>Knowledge of Vacuum System Design.</p>
	<p>At least 5 years' design engineering experience including the development and detailing of load conditions including working in a complex, high technology engineering environment;</p> <p>At least 3 years' experience in Structural Finite Element Analysis (linear and non-linear);</p> <p>A professional knowledge of the design method Design by Analysis (DBA) - Method Based on Stress Categories described in Annex C of EN13445-3;</p> <p>Experience in the concepts for cryogenic pump design cooled by forced flow of pressurized helium;</p> <p>Experience in the analysis of nuclear components;</p> <p>Ability to produce high quality analysis reports in English.</p>
	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
	<p>Good presentation skills;</p> <p>Ability to lead technical meetings.</p>
	English (Fluent)
Others	<p>Microsoft Word, Excel, Access, Visio and PowerPoint;</p> <p>Good knowledge in ANSYS software (Mechanical/Workbench/CFX);</p> <p>Good knowledge of the European pressure vessel code EN 13445;</p> <p>Knowledge of CAD and the use of CATIA;</p> <p>Desirable knowledge on software for project management, document control and process modeling.</p>