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Ref. IO1066 - 12/18/2009

Cryogenic Interface Engineer - CEP-022

Main job	Cryogenics
Type of contract	Fixed term contract
Grade	P4
Purpose	<p>To specify the interface between cryo-pumps and their cryogenic supplies;</p> <p>To design the front end cryogenic distribution under the responsibility of the Vacuum Section;</p> <p>To develop cryogenic compressors and traps for the roughing system;</p> <p>To develop the installation, test and commissioning plans for cryo pumping systems.</p>
Main duties / Responsibilities	<p>In the Vacuum Section, during the initial period of assignment, the successful candidate shall have the necessary expertise and skills to carry out several functions among those listed below. In future and as the Vacuum Section develops, this position's duties and responsibilities may be reviewed:</p> <ul style="list-style-type: none"> • Is responsible for the design, layout and integration of the torus, cryostat, neutral beam and pellet injector cryogenic cold valve boxes, including the interface with the cryoplant and cryodistribution; • Selects and adapts the commercial cryo-cooler pumps for tritium and magnetic compatibility, including cryogenic sensors; • Specifies any cryogenic aspects of the cryo-cooler pumps in the Diagnostic Vacuum Pumping Systems including the design and specification of the process helium compressor and associated purification system required to serve the cryo-cooler pumps; • Designs, and specifies the cryo-jumpers connecting the torus, cryostat and neutral beam cryopumps to their respective cold valve boxes, including assembly interfaces of the cryo-transfer lines; • Develops Process and Instrumentation Diagram (P&ID) layouts for cryogenic vacuum components; • Participates in the writing of procurement specifications for the procurement of cryogenic equipment and pipes which are the responsibility of the Vacuum Section and assists in the same task for other client systems using cryopumps; • Designs and integrates overpressure protection for all cryogenic vacuum equipment with overpressure potential; • Initiates and manages leak localization research and development to be performed by industrials and by the ITER Domestic Agencies; • Determines and recommends leak testing methods and procedures minimising worker radiation dosage during leak detection, localization, and measurement under the magnetic and radiological environmental conditions; <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>
Direct employment	Not required
Measures of effectiveness	<p>Successfully implements guidelines and direction received from the Section Leader, Deputy Director General and the ITER top management;</p> <p>Successfully interfaces with ITER Divisions and Domestic Agencies and maintains good communication;</p> <p>Successfully provides engineering support for the project;</p> <p>Successfully completes the tasks assigned under "Main Duties / Responsibilities" above.</p>
Level of study	Bachelor, equivalent or higher degree
Diploma	Engineering field or other relevant discipline

- Level of experience** 8 to 10 years
- Technical experience**
- At least 8 years' engineering experience with at least 5 years of vacuum experience and preferably of leaks in a fusion or nuclear context;
 - Good practical knowledge in vacuum and cryogenics; Ideally good knowledge of the ITER design;
 - Experience working with draftsmen to develop designs on Computer Aided Design systems;
 - Experience manufacturing contracts for complex fabrications.
- 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 work
- Specific skills** Good analytical and problem solving ability.
- Languages** English (Fluent)

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