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Vacuum Integration Engineer CEP-116

Reports to Line Manager:	Vacuum Section Leader, Fuel Cycle Engineering Division, Central Engineering and Plant Support Department	**Job Code:**	CEP-116
Direct Employment:	Not Required	**Grade:**	P4

china
eu
india
japan
korea
russia
usa

Purpose

To contribute to the ITER vacuum pumping and leak detection systems which are part of one of the largest vacuum systems ever to be built;

To initiate and monitor the leak localization research and development;

To conceive, specify and integrate the leak detection and localisation equipment under the responsibility of the ITER Vacuum Group;

To give expert advice to designers of all systems requiring leak detection/localisation capability for optimum leak detection/localisation;

To interface with designers of components providing Tokamak and cryostat vacuum containment to ensure assembly and operational testability and integrity.

Major Duties/Responsibilities

During the initial period of assignment, the successful candidate shall have the necessary expertise and skills to take several functions among those listed below. In future and as the Vacuum Group develops, this position's duties and responsibility will be reviewed.

- Initiates and manages leak localization research and development to be performed in industry and in the ITER Domestic Agencies;
- Determines and recommends leak testing methods and procedures for minimising the workers' risk of exposure to radiation during leak detection and localisation, and to also determine the proportionate magnetic and radiological environmental conditions;
- Oversees the system design, development, prototyping and proofing of the leak detection system, including formulating the research or prototyping by the relevant ITER Domestic Agencies;
- Collaborates with the remote handling experts to design the remote leak test detection and localisation tools for use following interventions and assembly;
- Specifies the systems needed for the Hot Cell to ensure that the leak testing confines all active substances before the systems were replaced;
- Interfaces and supports the designers of the Tokamak and cryostat vacuum containment components to ensure their proper assembly, and also their operational integrity and testability.
- Assesses the design of systems to improve their availability, to protect the investment and to shorten the cycle time of leak detection, localisation and repair;
- Maintains a "state of the art" review to identify and evaluate new developments with the potential to improve leak detection and localisation;
- Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.

Qualifications and Experience

- ***Education:***
  - Degree at least equivalent to 4-6 years of study after the High School Diploma, in the Engineering field or other related discipline.
- ***Technical experience:***
  - At least 10 years' engineering experience with at least 5 years of vacuum experience and preferably dealing with a fusion leaks or working on nuclear activities;
  - Sound theoretical and practical experience with vacuum instruments and devices used for leak detection and localization including the effects of ionizing radiation;
  - Ideally good knowledge of the ITER design;
  - Experience with remote handling;
  - Experience working with draftsmen to develop designs on CAD systems;
  - Experience dealing with manufacturing contracts for complex fabrications;
  - Good knowledge of sealing techniques including weld quality and design;
  - Experience working with tritium is desirable.
- ***Project experience:***
  - Basic project management experience required.
- ***Social Skills:***
  - Good analytical and problem solving ability;
  - Ability to work effectively in a multi-cultural environment;
  - Ability to work in a team and to promote team work.
- ***Language requirements:***
  - Fluent in English (written and spoken).

Direct Supervisor and Interfaces

- Reports to the Vacuum Section Leader.

Authority / Approval Levels

This position has authority and approval levels generally defined by the Vacuum Section Leader for his/her scope of work.

Measures of Effectiveness

- Successfully implements guidelines and directives received from the Section Leader, DDG and the ITER top management;
- Successfully interfaces between ITER Divisions and Domestic Agencies and maintains good communication and relations;
- Successfully provides engineering support for the project;
- Successfully completes the tasks assigned under "Main Duties/Responsibilities" above.