

## **DEMO Cooling Systems Engineer**

### **Job Description**

The DEMO Cooling Systems Engineer in the DEMO Central Team (DCT)<sup>1</sup> is responsible for the design, analysis and integration of all the active cooling systems in the DCT. He/she is expected to provide engineering solutions that ensure safe performance during normal and Plant Operation and accidents. The post holder must liaise with a large number of Work Packages, especially Balance Of Plant (WPBOP), to ensure consistency of design and analysis assumptions and control of interfaces.

### **Main Duties and Responsibilities**

- Lead the sizing and the integration of the DEMO cooling and power conversion systems defining suitable operational parameters to provide on one side the required cooling functions and on the other side enable the heat transfer to the power conversion system;
- Contribute the conceptual design development of the DEMO active cooling systems, in particular those of the in-vessel components, the vacuum vessel, plant components etc.
- Ensure that requirements and interfaces are identified, documented and managed;
- Conduct required thermal-hydraulic analyses to address baseline performance, evaluate impact on performance variances on BoP components during normal operation and accidents. Oversee the preparation of drawings and documentation for the cooling systems.
- Define and coordinate all the tasks in the WPDES with European Fusion Laboratories or industry to assess and/or test identified solutions.
- Establish and maintain an effective dialogue with the WPBOP to ensure the definition and maintenance of system design interfaces that track the evolution of the design and communicated the design changes.
- Support the DCT in the preparation of the required technical documentation.

### **Required / desired qualifications and competencies**

- MSc or PhD degree in Engineering or Equivalent
- At least 3 years of relevant work experience in the design and analysis of cooling systems and applicable codes and standards, ideally in nuclear or fusion applications.
- Good knowledge of integrated thermo-hydraulic simulation tools for nuclear reactors.
- Ability to use Computer Aided Design (CAD) tools;
- Broad understanding of design, qualification, manufacturing, testing and inspection processes and related codes and standards and industry best-practice
- Ability to work effectively both independently and as part of a team.
- Good interpersonal skills to help resolve difficult issues when they arise.
- Excellent written and verbal communication skills in English

The post holder will work in Garching (Germany) and will report to the Head of the DCT Plant Architecture & System Design Division. In the initial phase before the Head of that Division is installed, reporting will be directly to the FTD Head.

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<sup>1</sup> In FP9, the DCT is foreseen to advance the design basis (physics and technology) of a DEMO fusion power plant, by implementing and agile architectural design capability, impartial analysis of options, and quick access to the expertise distributed in the EU fusion laboratories, universities and industry is needed to ensure the rapid convergence towards a feasible DEMO plant architecture (see G. Federici, C. Baylard, DEMO Project Charter Proposal, IDM reference: 2P3ZEP. April 2020).

**Date of Job Vacancy: January 1<sup>st</sup>, 2021**

**Application Deadline: September 15<sup>th</sup>, 2020**

The applicant will ideally already have a work contract with a EUROfusion Beneficiary and will be seconded to the EUROfusion Programme Management Unit (PMU) in Garching. Otherwise, she/he will have to secure a work contract with one of the Beneficiaries, to be seconded to the PMU in Garching.

The EUROfusion secondment will ideally run until the end of the Horizon Europe framework period (31 December 2027), but the actual labour contract might be subject to the rules, regulations and conditions of the Beneficiary that employs the applicant.

EUROfusion strives for diversity and inclusion, and explicitly encourages members of minority groups, and females, to apply for this position.

In case the candidate is shortlisted, the interviews will take place by the mid of October. Please send your completed application including CV, cover letter and examples of your past-related work experience to: [anne.graebner@euro-fusion.org](mailto:anne.graebner@euro-fusion.org).

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