

# Job Title: Cooling Water Process Engineer IO1022

Requisition ID **4021** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Engineering of Systems - New Posting**

The ITER Organization brings together people from all over the world to be part of a thrilling human adventure in southern France—building the ITER Tokamak. We require the best people in every domain.

We offer challenging full-time assignments in a wide range of areas and encourage applications from candidates with all levels of experience, from recent graduates to experienced professionals. Applications from under-represented ITER Members and from female candidates are strongly encouraged as the ITER Organization supports diversity and gender equality in the workplace.

Our working environment is truly multi-cultural, with 29 different nationalities represented among staff. The ITER Organization Code of Conduct gives guidance in matters of professional ethics to all staff and serves as a reference for the public with regards to the standards of conduct that third parties are entitled to expect when dealing with the ITER Organization.

The south of France is blessed with a very privileged living environment and a mild and sunny climate. The ITER Project is based in Saint Paul-lez-Durance, located between the southern Alps and the Mediterranean Sea—an area offering every conceivable sporting, leisure, and cultural opportunity.

To see why ITER is a great place to work, please look at this video

**Application deadline:** 04/07/2021

**Domain:** Construction

**Department:** Plant Construction

**Division:** Mechanical Implementation

**Section:** Cooling Mechanical & Welding

**Job Family:** Project Engineering

**Job Role:** Engineer - 1

**Job Grade:** P2

**Language requirements:** Fluent in English (written & spoken)

**Contract duration:** Up to 5 years

## **Purpose**

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In this role, you will contribute to the completion and finalization of the process engineering activities performed for the ITER Cooling Water Systems (CWSs), primarily for new circuits in final design status. Additionally, you will prepare Technical Specifications and follow up on the procurement agreements of related CWS components (e.g. valves) and equipment (e.g. pumps, heat exchangers).

## **Background**

The Cooling, Mechanical and Welding Section (CMW) is responsible of the design and procurement of new Secondary Cooling Water Systems (SCWSs). This role contributes to the completion of these activities through collaboration with engineers, analysts, and designers across ITER Organization (IO) to ensure the design is finalized according to quality, engineering, and industrial standards.

## **Major Duties/Roles & Responsibilities**

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- Supports the CMW Section and the TROs for the process design finalization and the relevant procurement of CWS circuits including Chiller Water Circuits and Component Cooling Water Circuits;
- Coordinates the preparation of documents and presentations for the Final Design Reviews of the new SCWSs;

- Performs specific engineering thermal hydraulic calculations and/or analyses for the finalization of the SCWS processes to perform cooling for the plant breakdown structure (PBS) clients (e.g. flow distributions/balances/pressure drops) according to the scheduled operational scenario (e.g. First Plasma, Pre-operation phases, Deuterium-Tritium phase etc.);
- Prepares lists of components (namely valves) and equipment (e.g. pumps and heat exchangers), selects them from available catalogues/data sheets for the finalization of the SCWSs;
- Produces high quality Technical Specifications, Data Sheets, and contractual requirements for the tenders for the SCWSs components/equipment procurements;
- Participates in the vendor selections and awarding of contracts for the components and equipment in collaboration with Procurement & Contracts Division;
- Ensures that the vendors produce high quality drawings, data sheets, operative and maintenance manuals according the ITER requirement;
- Participates to the Factory Acceptance Tests of the various SCWSs components/equipment;
- Ensure and implements the requirement of Nuclear safety in the engineering outputs applicable to the SCWSs;
- Support the line management on material procurement for construction based on the engineering work packages;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays.

### Measure of Effectiveness

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- Performs the high quality thermal hydraulic design/analyses of the CWS systems in a timely manner;
- Ensures the functional thermal hydraulic requirements are met as indicated in the Interface Sheets with the SCWS clients;
- Efficiently and effectively provides support to SCWS for launching tenders and supply orders;
- Implements procurement agreements within defined schedule(s);
- Ensures all documentation related to procurement(s) are reviewed and distributed on schedule;
- Distributes information to IO Construction engineers during the Construction, and eventual operation phase, to ensure SCWS engineering design is implemented correctly.

### Experience & Profile

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- **Professional Experience:**
  - At least 5 years' experience working as process engineer for complex installations, preferably in the Thermal/Nuclear Power Plants or Oil & Gas industry.
- **Education:**
  - Master's Degree in Industrial, Chemical or Nuclear Engineering or other relevant similar discipline;
  - The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
- **Language requirements:**
  - Fluent in English (written and spoken).
- **Technical competencies and demonstrated experience in:**
  - Thermal hydraulic design of complex processes for Thermal and/or Nuclear Power Plants or Oil & Gas systems;
  - Software for thermal hydraulic design of cooling systems (e.g. Fathom), HTRI for designing heat exchangers, and similar for selecting pumps;
  - Design development and procurement of valves, pumps, and heat exchangers etc.;
  - Procurement of components (e.g. valves) and equipment (Pumps and Heat exchanges) is required: knowledge and practice of procurement procedures, delivery, management of external parties, and

- implementation within contractual requirements;
  - Quality Assurance and Quality Control: knowledge of requirements for international quality standards (for both management and product), methods, and practices;
  - Knowledge of 3D CAD (e.g. AVEVA E3D, CATIA/ENOVIA, AutoCAD) is considered advantageous;
  - Knowledge of SMART PLANT is considered advantageous.
  - **Behavioral Competencies:**
    - Collaborate: Ability to facilitate dialogue with a wide variety of contributors and stakeholders;
    - Communicate Effectively: Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment;
    - Drive results: Ability to persist in the face of challenges to meet deadlines with high standards;
    - Manage Complexity: Ability to analyze multiple and diverse sources of information to understand problems accurately before moving to proposals;
    - Instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.
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***The following important information shall apply to all jobs at ITER Organization:***

- Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, ITER Values (Trust; Loyalty; Integrity; Excellence; Team mind set; Diversity and Inclusiveness) and Code of Conduct;
- ITER Core technical competencies of 1) Nuclear Safety, environment, radioprotection and pressured equipment 2) Occupational Health, safety & security 3) Quality assurance processes. Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members;
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- Informs the IO Director-General, Domain Head, or Department/Office Head of any important and urgent issues that cannot be handled by line management and that may jeopardize the achievement of the Project's objectives.