

# Job Title: Mechanical Engineer IO0287

Requisition ID **6842** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Construction and Installation - 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.

ITER Organization (IO) is an Equal Opportunity/Inclusive organization committed to diversity in the workplace, with diversity and Inclusiveness being one of the ITER Values.

As IO attracts and retains people coming from a vast array of different backgrounds and cultures, bias and exclusion cannot be tolerated. IO believes it is our diverse perspectives and backgrounds that gives unique strength and value to the ITER mission, regardless of race, member nation, gender, religion, status, sexual orientation, or disability - all are welcome and respected at ITER.

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:** 12/03/2023

**Domain:** Construction Domain

**Department:** Machine Construction Department

**Division:** Sector Modules Delivery & Ass. Division

**Section:** Toroidal Field Coil Section

**Group:** Thermal Shield

**Job Family:** Construction

**Job Role:** Engineer – 3

**Job Grade:** P3

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

**Contract duration:** Up to 5 years

## **Purpose**

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As a Mechanical Engineer, you will prepare and issue documentation in support of the Thermal Shield (TS) preparation and assembly. You will coordinate the TS assembly preparation, execution, commissioning and the maintenance interfaces, in addition to managing complex interfaces between the Vacuum Vessel (VV), TS pipes and the surrounding systems.

## **Background**

The role of ITER TS is to minimize the radiation heat load from the warm components, such as vacuum vessel and cryostat, to magnet operating at 4.5 K. The TS consists of vacuum vessel thermal shield, cryostat thermal shield and support thermal shield. The main material is 304LN, and DN8 cooling pipes

are welded on the panel and pressurized helium gas flows inside the cooling pipes. The temperature of helium is 80K and its pressure is 1.8 MPa at the inlet. Today these components have been manufactured and delivered to IO for assembly.

### **Key Duties, Scope, and Level of Accountability**

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- Manages the VVTS assembly and installation interfaces, and identifies areas of risks and opportunities during assembling phase, subsequently organizing the needed actions for full resolution;
- Coordinates assembly preparation for the TS, as well as supervises the onsite execution of the work, from the delivery and Site Acceptance Tests, along the main assembly tasks and up to the final surveys before validation;
- Manages and implements TS pipe installation plan and strategy;
- Acts as main interface with the contractor for related assembly tasks on site;
- Manages complex interfaces between VVTS, TS pipes and the surrounding systems;
- Coordinates the VVTS commissioning and manages the relevant interfaces for maintenance;
- Works in close collaboration with Reverse Engineering (RE) team to organize the related tasks and find together the best possible strategies for VVTS assembly in the best suitable location by analyzing the metrology data;
- May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays.

### **Measure of Effectiveness**

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- Manages the quality and schedule of VVTS piping assembly activities efficiently by ensuring regular monitoring and reprioritization of tasks as necessary;
- Ensures the proper implementation of assembly requirements by anticipating, and/or altering and fixing technical issues promptly;
- Effectively manages RE in collaboration with the RE team, achieving the required tolerances by drawing from experience and collaborating well with appropriate colleagues;
- Efficiently propagates and transfers know-how with relevant stakeholders;
- Ensures that Engineering and Construction Work Packages are well detailed and available on time;
- Maintains effective communication and excellent relations with all stakeholders, interfacing teams within ITER and with external contractors;
- Complies with applicable assembly procedures, Codes & Standards, and propagates their use where necessary.

### **Experience & Profile**

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- **Professional Experience:**
  - Minimum 8 years' experience as a mechanical engineer for large mechanical components within complex international environments or projects;
- **Education:**
  - Master degree or equivalent in Mechanical Engineering field or other relevant 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:**
  - Specialised Domains of Expertise (Mechanical Engineering): Design, manufacture, inspection, and testing of large mechanical components;
  - Large scale mechanical assembly procedures, including experience preparing and supervising assembly activities;
  - Project and Contract Management: planning, measuring progress of work, in particular in the areas of risk assessment and mitigation plans is a plus;

- Familiarity with analysis procedures for structures and mechanical components in the context of cryogenic piping, cryogenic systems is a plus;
- Familiarity with mechanical design codes and standards such as ASME or similar is a plus;
- Familiarity with welding techniques and NDE procedures is a plus;
- Software: CATIA basics, ANSYS basics;
- Experience in monitoring or supervising fabrication in industry highly desirable.
- ***IO Core 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 (Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members) :
  - 1) Nuclear Safety, Environment, Radioprotection and Pressured Equipment
  - 2) Occupational Health, Safety & Security
  - 3) Quality Assurance Processes
- 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.
- For staff expected to perform on-call, shift hours, or other work outside ITER Organization reference working hours, including nights, weekends, and public holidays, the possession of a driving license valid in France is required. No commuting vehicle will be provided by the ITER Organization.