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## Title: Postgraduate(s) in Electrical Engineering PGT-3333

### Description:

**Application Deadline:** 17/05/2026

**Department:** Engineering Services Department

**Section / Project:** Electrical Engineering Section

**Job Grade:** P1 ( **SALARY SIMULATOR** )

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

**Contract Duration:** 2 years

*The ITER Organization is opening multiple vacancies for postgraduates. The selection process will be conducted with the objective of filling **multiple positions** with also the purpose of drawing up a reserve list of rostered candidates for future vacant positions.*

*The Postgraduate Program offers early-career professionals the opportunity to gain practical experience in an international environment and contribute to meaningful work. It is designed for recent postgraduates who want to strengthen their technical foundations, develop professional skills, and grow through hands-on responsibilities within a team.*

### Overview

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Are you looking for an exciting **early-career professional opportunity** at the heart of an ambitious fusion energy project?

Join us as an **Electrical Engineer**.

**Depending on the scope of activity**, your goals may include:

- Taking part in day-to-day technical activities which contribute to the engineering lifecycle (specification, design, manufacturing supervision, construction, testing, commissioning and system integration) of electrical components and systems.
- Performing engineering analyses and calculations of electrical components and systems, in addition to drafting design documents, diagrams, and models in accordance with the engineering requirements.
- Developing, under the leadership of your discipline manager, your skills and experience for the benefit of the Project.

## Typical Key Duties & Responsibilities:

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- Provides engineering design input to support the development of technical specifications and associated packages for the tender and procurement of electrical components and systems.
- Witnesses manufacturing and factory acceptance tests, ensuring implementation of quality requirements and drafts associated reports.
- Supports the testing, commissioning and Site Acceptance Tests (SATs), including drafting commissioning plans and testing procedures.
- Performs infield operation, troubleshooting and maintenance of electrical components and systems.

**Please note that job descriptions cannot be exhaustive, and the staff member may be required to undertake other duties, which are broadly in line with the above primary responsibilities.**

## Experience, Competencies & Knowledge

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- **Demonstratable knowledge** in one or more of the following areas of electrical power distribution, large current conversion, DC switching and transmission, high voltage DC power supply, electromagnetic calculation and analysis, infield testing of electrical components.
- **Calculations and analyses** using commercial software like MATLAB/Simulink, ETAP, PSIM, ANSYS, COMSOL Multiphysics, etc., including production of analysis reports and calculation notes.
- **Experience (incl. internships)** in design, procurement, manufacturing, installation and infield troubleshooting of electrical components and/or systems is advantageous.
- **Interpersonal Savvy:** Ability to develop effective relationships with others, including excellent English skills in both oral and written communication
- **Nimble Learning:** Applies lessons from different experiences to new situations and is curious to ask questions to learn from others.
- **Knowledge in one of the fields listed below:**
  - **Power Distribution:** Power distribution at various industrial voltage levels (AC 400V~400kV and DC 48V~110V) including high-voltage switchyards, power transformers, circuit breakers, diesel generators, uninterruptible power supplies, and relay protections. Calculations and analyses for electrical power distribution components and systems including the sizing and coordination of protections and cables. The principles of local instrumentation and control for system operation.
  - **Power Conversion:** Thyristor-based and/or IGBT-based high current power conversion systems, reactive power compensation system, and high DC current switching and transmission system, including AC/DC power conversion system analyses with large superconductive coils, control strategy and protection logic at system level, and electromagnetic analyses at component level.
  - **High Voltage:** High-voltage technology (above 500 kV), including vacuum-based, gas-based, and/or solid-based power conversion components, transmission lines, and electro-mechanical apparatus. The scope includes calculations and analyses based Finite Element Methods (FEMs) for the insulation design and electric field distribution maps. Knowledge in both electrical engineering and high-voltage physics.
  - **Radio Frequency:** Engineering design, development, integration, testing, and maintenance of systems and components operating in the Radio Frequency (RF) fields with typical spectrum of 1 MHz and 170 GHz. This scope includes the AC/DC power

converters supplying high voltages (up to 100 kV) to RF generators; the high-frequency electronics (whether solid-state or vacuum tube-based) used to generate RF power, and the associated wave guides and matching units required for transmission and coupling. Understanding of the protection, control, and operation of actively regulated components and systems.

- **Electro-mechanical Engineering:** Electro-mechanical systems combining electrical and mechanical components, including motors, actuators, drives, electromagnetic latches and releases, and associated control systems. Understanding of P&IDs, mechanical constraints, thermal behavior, and dynamic performance. The principle of instrumentation & control for the operation of local and integrated systems.

## Qualifications

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- Master's degree or equivalent in Electrical Engineering.
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*The following items apply to all jobs and job holders for the duration of tenure at ITER Organization:*

- **The CARE Values are a framework of principles that guide our actions and define the culture and spirit of the ITER Project:**

**Collaboration:** We collaborate with commitment and flexibility using the power of teamwork, building partnerships, and working with others to reach shared objectives;

**Accountability:** We are accountable for the whole project - we take responsibility for our specific actions and are transparent in our daily work, holding self (ourselves) and others accountable to meet commitments;

**Respect:** We treat each other with respect and dignity at all times, knowing that all of us belong here. We appreciate the value that our multicultural and diverse community brings to the ITER Project;

**Excellence:** We are driven by excellence; we are agile and innovative while maintaining the highest standards of safety, quality and integrity;

- **ITER Core Technical Competencies:**

- 1) **Nuclear Safety, Environment, Radioprotection and Pressured Equipment**
- 2) **Occupational Health, Safety & Security**
- 3) **Quality Control & 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 perform other duties in support of the project as defined by your line manager, and when relevant upon the request of the matrix manager;
- May be requested to work outside the ITER Organization reference working hours, including nights, weekends and public holidays, due to business needs - this may include on-call, shift work, etc.

- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- 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.**
- Informs management of any important and urgent issues that cannot be handled by line or matrix management and that may jeopardize the achievement of the Project's objectives;

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