

# IO1450 Coil Power Supply System Engineer PSE-161

## General information

Job category	Standard
Status	Published
Department	DIP/Department for ITER Project
Division	PSE / Electrical Engineering Division
Section	PSE/ EED/ Coil Power Supply Section

## Job description

Main job	Engineering - Control system
Title of the position	Coil Power Supply System Engineer PSE-161
Job family	Engineer - 1
Grade	P1
Direct employment	Required
Purpose	<p>To perform functional analyses of the Coil Power Supply component and their interfaces systems, during manufacturing, factory tests, installation and on-site acceptance tests, for preparing commissioning and operation.</p> <p>To draft, review and/or monitor all the technical documents (e.g. Interphase Control Documents, Interphase Sheets) and drawings (e.g. One Line Diagrams, Control Logic Diagrams and P&amp;ID) of the Coil Power Supplies and its interfaced systems.</p> <p>To perform and implement global and local control logic system properly supported by the instrumentation and control of the Coil Power Supplies and its interfaced systems.</p> <p>To develop and to implement the Coil Power Supply system simulator(s) considering the interfaces systems.</p> <p>Develops and support the electrical functional analysis and the process control logic design studies for the Coil Power Supply system, including its interfaced systems, for establishing nominal performances and to assess the off-normal safety scenarios (for both incidental and accidental analyses);</p> <p>Performs steady state and transient analyses of the Coil Power Supply components, for both normal and off-normal conditions, including the interfaces with the following interconnected systems:</p> <ul style="list-style-type: none"><li>the main components of the Coil Power supplies,</li><li>the magnets (superconductive and normal conductive),</li><li>the Heating and Current Drive power supplies,</li><li>the 400 kV supply grid,</li><li>and the plasma shape and control system.</li></ul> <p>Ensures the integration among the Coil Power Supply Systems and its interfaces systems also issuing technical specifications and procedure for the relevant integrated testing and commissioning;</p> <p>May be required to work shifts during the ITER assembly and commissioning phase;</p> <p>Performs other duties in support of the project schedule as described in the Detailed Work Schedule and the Strategic Management Plan;</p> <p>Performs other duties linked to the above purpose upon management request, as necessary;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>
Main duties / Responsibilities	<p>Under close functional supervision of the Plant Systems Chief Engineer, reports to the Coil Power Supply Section Leader;</p> <p>Acts as an interface between the Coil Power Supply System and its interfaced systems.</p> <p>In response to requests from the Director-General and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/Director of PSE Directorate of any important and urgent issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives.</p> <p>Provides analyses to support effectively the systems integration among the Coil Power Supply components and their interfaces systems, in a timely manner;</p> <p>Ensures satisfaction of safety and functional requirements flow down;</p>

Measures of effectiveness	<p>Supports the interface parameters among the Coil Power Supplies and their interfaced systems, extensively implementing functional analysis;</p> <p>Assesses the flexibility of Coil Power Supply System performance to be adapted to possible further enlargement of the operating space and scenarios.</p>
	Project Construction Phase

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Electrical Engineering field or equivalent.
Level of experience	At least 2 years
Technical experience	<p>At least 2 years' experience in analysis of electrical circuits and power conversion systems including their control systems;</p> <p>Experience in design, testing, commissioning and operation of large complex electrical systems would be an advantage;</p> <p>Experience in the design and installation of power supply systems for Tokamak and/or large superconducting magnets would be an advantage.</p>
Social skills	<p>Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit</p> <p>Other main education shall include at least one the following specializations:</p> <ul style="list-style-type: none"> <li>- Power Systems,</li> <li>- Power Transmission,</li> <li>- Power Conversion,</li> </ul>
General skills	<ul style="list-style-type: none"> <li>- Theory and Practice of Control Systems,</li> <li>- Transient Analysis of Electrical Circuits, including computer simulations;</li> </ul> <p>Knowledge of international electrical QA/QC standards would be an advantage;</p> <p>Knowledge of the design details, technical requirements of power conversion system would be an advantage.</p>
Languages	<p>English (Working)</p> <p>French (Basic)</p>
Specific skills	<p>MS Office standard (Word, Excel, PowerPoint, Outlook)</p> <p>Basic knowledge of French for electrical engineering is required to interact with the French Transmission System Operator;</p>
Others	<p>Basic knowledge of running computer codes for transient and steady-state analysis of electrical system, including power converters, SVCs and power systems is required;</p> <p>Experience using 2D-3D CAD software would be considered as an advantage.</p>