

# IO1369 Coil Instrumentation Electronics Engineer CIE-317

## General information

Job category	Standard
Status	Published
Department	DIP/Directorate for Project Control & Assembly

## Job description

Main job	Engineering - Electronics
Title of the position	Coil Instrumentation Electronics Engineer CIE-317
Job family	Coordinating Engineer
Grade	P4
Direct employment	Required
Purpose	<p>To be responsible for the design of electronic circuits for control and instrumentation, launching the corresponding procurement contracts and conducting their follow-up in the field of superconducting magnets quench detection, high voltage instrumentation and control systems;</p> <p>To integrate, install and commission the electronic systems related to all types of magnet instrumentation, including the instrumentation for the superconductive magnet feeders.</p> <p>Designs and develops quench detection electronics to be compliant with specific environmental conditions including large static (10 T) and variable magnetic fields (10 T/s), and nuclear radiation;</p> <p>In close interaction with the magnet systems designers, designs and develops high voltage instrumentation components compatible with a cryogenic (-270 °C) and high vacuum environment (10-6 mbar);</p> <p>Writes procurement specifications for the instrumentation electronic equipment, places the contracts thereto related and performs the follow-up with strong involvement in the quality assurance and control aspects;</p> <p>Responsible for the integration of electronics equipment in the Tokamak Complex environment, following up in detail all issues with respect to installation of the corresponding local control and instrumentation cubicles (space, power supply, heat dissipation, connection to the ITER central control and interlock systems and networks, electro-magnetic compatibility, etc), including the specific requirements to be taken into account for the nuclear safety important components;</p> <p>Ensures a proactive behavior to solve problems at suppliers, test laboratories and during the development manufacturing and testing of the instrumentation at the magnet coil and feeder suppliers;</p> <p>Supports the Section Leader in building a strong instrumentation team for on-site assembly and commissioning of magnet instrumentation and feeders.</p> <p>Maintains progress data and prepares reports related to quality assurance and controls; makes sure that all reports are available within the ITER Data Management system;</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>Reports to the Director for Project Control and Assembly Directorate;</p> <p>Interfaces with other Divisions inside the IO, in particular the ones responsible for Tokamak Machine, Data Acquisition and Controls, Interlocks and Machine Protection, Vacuum System, etc.</p> <p>In response to requests from the Director-General a, or proactively, informs the DG 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>
Measures of effectiveness	<p>Writes the relevant documentation and makes it available at defined steps of the development/manufacturing/installation process;</p> <p>Completes the procurement activities in a timely manner and within the defined costs; electronic equipment must be available at the milestones fixed by the project;</p> <p>Conducts and completes the follow-up of contracts in a timely manner, ensuring electronics and control equipment are delivered at the milestones fixed by the project;</p>

Communicates critical information to his/her superiors in a timely manner in order not to jeopardise the progress of activities.

Project Construction Phase

## Applicant criteria

Level of study	At least Master's Degree or equivalent
Diploma	Analog/digital electronics, controls systems
Level of experience	At least 10 years
Technical experience	<p>At least 10 years' experience:</p> <ul style="list-style-type: none"><li>- in the design of analog/digital electronics, in particular control and instrumentation for high voltage systems (some-tens of kilovolts);</li><li>- of work related to high-voltage applications under vacuum; good understanding of related physics phenomena would be an advantage;</li><li>- in writing technical specifications for supply contracts and follow-up and related quality assurance aspects(manufacturing and inspection plan, quality assurance programme, factory acceptance tests, etc);</li></ul> <p>Experience in Electro-Magnetic Compatibility for instrumentation with very low power measurement signals operating in harsh environments;</p> <p>Experience with nuclear safety, radiation-hard and tolerant electronic components will be an advantage;</p> <p>Experience of at least 3 years work in a large experimental/ scientific facility in an international environment;</p> <p>Good understanding of the related to quench detection and protection in superconducting magnets systems will be an advantage.</p>
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	Technical Project Management experience is required; Good understanding of an engineering document plan.
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	A PhD in subjects related to Electronics and Controls would be an advantage; Knowledge of a Computer Aided Electronics package.