

IO1625 Plasma Boundary Diagnostician - TED-044

General information

Job category	Standard
Status	Published
Department	TED / Tokamak Engineering Department
Division	TED / Port Plugs & Diagnostics Integration Division
Section	TED / PPD / In-Vessel Diagnostics Section

Job description

Main job	Science - Plasma physics
Title of the position	Plasma Boundary Diagnostician - TED-044
Job family	Scientist-2
Grade	P3
Direct employment	Required
Purpose	<p>To lead the steady-state magnetic sensor project from detailed design, through Research & Development (R&D) and qualification to delivery. To oversee construction of other plasma boundary systems. To contribute to the modeling of the plasma boundary. To resolve issues of boundary layer diagnostics.</p> <p>Manages the steady-state magnetic sensor project: Leads the supply of the system; Determines, organizes and executes all supporting R&D; Manages the electronics, hardware and software direct procurement activity; Manages the commissioning preparation; Plans and specifies assembly and integration on site; Develops the detailed design of the steady state sensors: Develops calibration strategies in the context of other magnetic systems; Develops the interfaces of the sensors with the tokamak; Drives and contributes to relevant integration activities; Checks and ensures maintenance of relevant ITER databases; Specifies and updates of electrical diagrams; Updates and takes through review all relevant supporting engineering documents; Leads the design review processes; Prepares technical specifications for procurement with industry; Oversees construction of Infrared (IR) systems; Provides oversight to Domestic Agencies (DA) activities for IR and visible camera systems; Leads interfaces and other ITER Organization (IO) activities related to IR systems; Manages the commissioning preparation activities;</p> <p>Plans and specifies assembly and integration on site; Ensures DA and IO schedules are compatible at all times. Resolves design issues related to boundary layer diagnostics, such as Langmuir Probes, particle (alphas, CX-neutrals) detector systems: Calculates typical plasma-wall interaction related loads; Updates load specifications; Assesses interface and other change requests; Estimates signal levels; Organizes, specifies and executes supporting R&D, as needed. Contributes to the modeling of the plasma boundary region Models the edge region, including effects of component misalignment on the edge plasma and plasma-wall contact; Magnetic field mapping; Models detector and component responses to fast ions; Supervises external contractor, visitor and technicians' work; Communicates with other organizations within the ITER collaboration and the fusion community; Reports variances on all technical, cost and schedule aspects immediately to the Section</p>
Main duties / Responsibilities	<p>Leader;</p> <p>Supports effective risk identification and management;</p> <p>Manages the change control process for the work and communicates changes to the line</p>

Measures of effectiveness	<p>management;</p> <p>Maintains related documentation at all times on the ITER Document System and ensure it is updated and in the correct formats;</p> <p>Ensures the Division is well represented from an engineering perspective;</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>May be requested to be part of any of the project team dealing with the above activities and perform other duties upon management request;;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER safety program, values and ethics.</p>
	<p>Reports to the In-Vessel Section Leader;</p> <p>Interfaces with ITER Technical Departments, as required;</p> <p>In response to requests from the Director-General and/or Tokamak Engineering Department Head (TED), or proactively, informs the DG/ TED Department Head 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>Work packages completed to agreed quality and deadlines;</p> <p>Developed and approved interface documentation, schematics plans and databases;</p> <p>Developed and approved technical documentation for procurement;</p> <p>Developed and approved installation plans;</p> <p>Collaborates efficiently with technical partners in Domestic Agencies and other Departments at IO;</p> <p>Works efficiently at all times with other Diagnostics team members.</p>
Project Construction Phase	

Applicant criteria

Technical experience/knowledge	Level of study	PhD or equivalent degree
	Diploma	Physics or Engineering or equivalent
	Level of experience	At least 6 years
		<p>At least 6 years' experience in fusion;</p> <p>Proven experience in the design of complex sensors & moving systems in vacuum;</p> <p>Proven participation in fusion experimental operations;</p> <p>Documented expertise in plasma boundary and plasma wall interaction physics;</p> <p>Documented ability to coordinate experimental teams;</p> <p>Ability to project costs and resources for technical projects;</p> <p>Basic knowledge of nuclear effects on materials;</p> <p>Experience with design defense in technical design reviews;</p> <p>Familiarity with electrical diagrams;</p> <p>Experience with electrical tests and magnetic measurement.</p>
	Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
	Languages	English (Fluent)
	Others	<p>Proven presentation writing skills;</p> <p>Track record of first author publications in English;</p> <p>Documented coding experience (e.g. C++, IDL, Matlab, other);</p> <p>Documented expertise in numerical modeling;</p> <p>Use of 3D mechanical design and plasma modeling packages;</p> <p>Experience with the technical follow-up of CAD activity;</p> <p>Familiarity with CATIA;</p> <p>MS Office standard (Word, Excel, PowerPoint, Outlook).</p>

