

TITLE: Diagnostic Engineer		CHD 024
CODAC&IT, H&CD and Diagnostics / Diagnostics		
REPORTS TO LINE MANAGER: Divisional Head (DH) for Diagnostics		
DIRECT EMPLOYMENT : NOT REQUIRED		GRADE RANGE: P2 - P4
DATE WRITTEN:	DATE REVISED:	DATE REVISED:

Purpose:

Support the Division Head for Diagnostics in all matters relating to the implementation of ITER diagnostics. Develop the design of interfaces of diagnostic components with the main tokamak components. Perform engineering analyses as required. Manage scope and schedule of procurement of diagnostic systems and supporting hardware through specified procurement packages.

Major Duties/Responsibilities:

- Supports the DH in all matters related to the Diagnostic system for ITER construction.
- Develops the design interfaces of diagnostic components with the main tokamak components. Potential topics to be addressed include heat loads, cooling requirements and options, e-m forces, particle fluxes and protection of optical components, electrical connections, remote-handling, calibration, alignment, testing, and maintenance schemes.
- Develops conceptual, outline engineering designs for key diagnostic components located in the harsh ITER environment.
- Performs any necessary analysis of electro-magnetic and thermal stresses, dynamic analysis, neutronics assessment, and provision for mitigation of environmental factors of diagnostic equipment.
- Help preparing technical specifications of allocated diagnostic procurement packages.
- Manage procurement of diagnostics through procurement packages interacting with the teams working in the Domestic Agencies of the ITER Partners as necessary.
- Specifies and drives ongoing diagnostic design and integration activities in the Participant Teams, and update and integrate these designs.
- Develops and use project engineering tools for the procurement of diagnostic systems.
- Prepares for the installation of the diagnostic systems on ITER.
- Maintains interface documentation and keeps it up to date.
- Reports variances on all technical, cost and schedule aspects immediately to the DH.
- Supports effective risk identification and management.
- Manages the change control process for his scope of work and communicates changes to the DH. Guarantees integration with other technical interfaces.
- Shows strong commitment to the ITER safety program and enforces it through individual behaviour and in his organization.
- Maintains a strong commitment to the implementation and perpetuation of ITER values and ethics.

Qualifications Required:

Training and qualifications to professional engineer status. At least five years project engineering experience, preferably with specific design, project management and/or procurement experience in a high technology field such as plasma physics, high energy particle physics, fission reactors or UHV systems. Familiarity with some aspects of mechanical and/or electrical engineering design for tokamak diagnostic systems, such as optical engineering, vacuum systems, microwave and cabled electrical transmission, water cooling systems and mechanical handling schemes, would be an advantage.

Work Direction and Interfaces:

Reports to the Division Head (DH) for Diagnostics.

Authority/Approval Levels:

Has authority and approval levels defined by the DH for his scope of work.

Measures of Effectiveness:

- Successfully develops the design of interfaces of diagnostic components with the main tokamak components.
- Successfully develops conceptual, outline engineering designs for key diagnostic components located in the harsh ITER environment.
- Successfully prepares technical specifications of allocated diagnostic procurement packages.
- Successfully manages procurement of diagnostics through procurement packages.
- Successfully prepares for the installation of the diagnostic systems on ITER.
- Successfully supports the diagnostic needs of the project.