

ITER 국제기구 공모 직위 직무기술서(제53차)

○ 4개(P급) 직위(제53차)

구분	분야/소속	직 위	Job No.	등급
제53차	중앙통합엔지니어링(CIE) /Central Integration & Engineering	Senior System Engineering Resp Officer	CIE-205	P4
	중앙엔지니어링(CEP) /Central Engineering & Plant	Senior Cooling Water System Resp Officer	CEP-003	
	토카막(TKM) /Tokamak	Magnet Responsible Officer	TKM-038	
		Coil Instrumentation & Controls Eng Officer	TKM-049	P3

IO1144 Senior System Engineering Resp Officer CIE-205

Job description

Main job	Engineering - Generalist
Title of the position	Senior System Engineering Resp Officer CIE-205
Job family	Project engineering
Grade	P4
Direct employment	Not required
Purpose	<p>For the success of ITER design and construction, 1) to implement technical integration, considering nuclear safety and environment, assembly and operation; 2) to initiate and implement necessary system engineering to successfully manage and execute these objectives; 3) to create the required infrastructure for effective configuration control and requirement management; 4) to coordinate and integrate the machine layout; 5) to enforce and maintain ensure the Quality Assurance program and safety requirements are upheld; 6) to effectively interface with the Domestic Agencies in matters related to technical integration and engineering.</p> <p>The Senior System Engineering Responsible Officer plans and develops the strategy of engineering considering cost and schedule, and responding to the request from Central Integration & Engineering (CIE) Directorate Director (CIE) Directorate Director; including design integration, configuration control, systems engineering, Computer-Aided Design & Drawings, system analysis, application of codes & standards, safety design and assessment, on-site assembly and installation, remote handling, machine operations, RAMI (Reliability, Availability, Maintainability & Inspectability) and integral logistics.</p> <p>Plans and develops the strategy to satisfy the overall requirements from project specifications, engineering and safety requirements including consistency among technologies, i.e. fabricability of components, ease of initial assembly and remote maintenance, cost containment and minimization of engineering schedule;</p> <p>Coordinates CIE's activities such as:</p> <ol style="list-style-type: none">1. Ensures all requirements are consistent during the flowing down of the overall project specifications to components;2. Constantly maintains and updates the Project Requirements until operation;3. Oversees design reviews and concludes the design readiness by ensuring that the design of each component meets the requirements and that the interfaces are taken into account at each level of the project, including the manufacturing phase;4. Ensures that manufacturing, acceptance acceptance acceptance, and assembly are compliant with procedures defined;5. Ensures that technical documents are provided with a sufficiently high level of quality to support the decision;6. Develops and maintains systems for the configuration control of the ITER project technical scope and cost;7. Ensures the interface with Domestic Agencies with respect to the technical integration and engineering, safety implications, and assembly and operationers; <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p> <p>Successfully plans and develops the integration and engineering framework strategy, considering the cost and schedule, and coordinates CIE's activities to realize implement the requests from the CIE Directorate Director as described above;</p> <p>Successfully supports the CIE Directorate Director;</p> <p>Successfully maintains strong cooperation with responsible officers;</p> <p>Successfully establishes the framework of support from industries.</p>
Main duties / Responsibilities	
Measures of effectiveness	

Applicant criteria

Level of study	Master or higher degree
Diploma	Engineering
Level of experience	At least 15 years

Technical experience	<p>At least 15 years' relevant experience managing a technical team on a complex development project on fusion research;</p> <p>Experience in the technical development and integration, system engineering, assembly and operation of a large experimental device or relevant facility;</p> <p>At least 10 years' relevant experience working in industry for manufacturing and assembly departments;</p> <p>10 to 15 years' project management experience;</p> <p>Knowledge of design aspects of tokamak systems and ITER design & configuration;</p> <p>Experience working on one of the world's leading institutes and industries for fusion development would be considered an advantage;</p> <p>Knowledge of fabrication and assembly;</p> <p>Detailed knowledge of Tokamak systems would be considered an advantage.</p>
Project experience	At least 15 years
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	Computer and IT skills consistent with managing a relevant complex developmental project.
Languages	English (Working)
Free criteria	Interfaces with all other Departments within the ITER Organization, as required.

IO1151 Senior Cooling Water System Resp Officer CEP-003

Job description

Main job	Engineering - Nuclear Power
Title of the position	Senior Cooling Water System Resp Officer CEP-003
Job family	Project engineering
Grade	P4
Direct employment	Not required
Purpose	<p>To be responsible for the integration, all design aspects, assembly, installation, commissioning and operation of the ITER Tokamak cooling water systems (TCWS);</p> <p>To collaborate with the internal clients (ITER Divisions/Sections who will use Tokamak cooling water systems) and also with designers in the Domestic Agencies to complete the TCWS procurement in accordance with the client requirements.</p>
Main duties / Responsibilities	<p>Is responsible for designing the TCWS according to the relevant functional requirements;</p> <p>Supports and reviews the TCWS Preliminary and Final Design performed by the US Domestic Agency;</p> <p>Reviews and approves documents and drawings for the procurement and manufacturing of TCWS components;</p> <p>Integrates and coordinates the TCWS design with the rest of the system/components in ITER;</p> <p>Manages the schedule for the design, manufacturing, testing, delivery, installation and commissioning of TCWS;</p> <p>Participates, to provide acceptance of components and sub-systems, on the factory testing of the TCWS;</p> <p>Oversees, coordinates and supports the assembly and the installation of the TCWS to be performed by the Assembly Section;</p> <p>Prepares and updates as required the Design Description (DD) of the TCWS;</p> <p>Performs the on-site testing and commissioning of the TCWS;</p> <p>Prepares the design documents for testing, integrated commissioning and pre-operational activities of TCWS;</p> <p>Supports the licensing activities in close contact with the safety group;</p> <p>Contributes to ensuring quality assurance and to managing interface issues;</p> <p>Maintains a strong commitment to the implementation and perpetuation of ITER values and ethics.</p>
Measures of effectiveness	<p>Successfully communicates with the ITER machine components designers to optimize both component and remote maintenance equipment design and performance;</p> <p>Successfully communicates with other Participant Teams/organizations within the ITER collaboration and the fusion community;</p> <p>Successfully completes tasks assigned under Main Duties / Responsibilities above.</p>

Applicant criteria

Level of study	Master or higher degree
Diploma	Mechanical, Nuclear or Chemical Engineering
Level of experience	At least 10 years
Technical experience	<p>At least 10 years' experience as a mechanical/plant system engineer working on fission power plant design;</p> <p>Experience designing nuclear plant systems and components, and knowledge of water chemistry, layout and construction;</p> <p>At least 5 years' experience managing a wide range of projects involving plant design/construction.</p>
Project experience	2 to 4 years
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
	Reports to the Plant Engineering Division Head, under the coordination of the Cooling Water

Free criteria

System Section Leader;
Interfaces with other ITER Technical Directorates, as required;
Maintains communication with other organizations within the ITER collaboration and the fusion community;
Interacts with personnel throughout the ITER Organization and Domestic Agencies on cooling water matters.

IO1152 Magnet Responsible Officer TKM-038

Job description

Main job	Engineering - Mechanics
Title of the position	Magnet Responsible Officer TKM-038
Job family	Project engineering
Grade	P4
Direct employment	Not required
Purpose	To ensure the follow-up of the manufacturing of the ITER central solenoid (CS) and correction coils (CC) in close cooperation with the Domestic Agencies.
Main duties / Responsibilities	<p>Coordinates the review and assessment of the manufacturing drawings of the CC and the CS; Reviews the documentation supporting the CC design, concentrating on mechanical assessments;</p> <p>Reviews and assesses the qualification and quality control tests for the CS and CC; Coordinates the monitoring of the fabrication of the CS and the CC at the manufacturer's sites; Is responsible for monitoring the documentation related to the execution of the CS and CC procurement agreements (PA);</p> <p>Is responsible for monitoring the schedule of the CS and CC PAs; Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>
Measures of effectiveness	<p>Completes the design of CS structures and CC cases;</p> <p>Acceptance of the coil design by industries;</p> <p>Successful qualification and quality control testing of CS structures during fabrication;</p> <p>Successful assembly and commissioning of CS assembly.</p>

Applicant criteria

Level of study	Master or higher degree
Diploma	Mechanical or Electrical Engineering
Level of experience	At least 10 years
Technical experience	<p>At least 10 years' experience in magnet design and manufacture;</p> <p>Familiarity with structural analysis and mechanical assessment;</p> <p>Good knowledge of electromagnetic effects on structural design;</p> <p>Project experience in the follow-up of coil manufacturing;</p> <p>Familiarity with basic metallic joining techniques such as welding, brazing;</p> <p>Familiarity with mechanical design codes and standards such as ASME;</p> <p>Ability to write technical reports and specifications in English.</p>
Project experience	2 to 4 years
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit, Ability to communicate effectively
General skills	<p>Ability to travel frequently to China and USA;</p> <p>Ability to interact with industry.</p>
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Free criteria	<p>Reports to the Magnet Division Head, under the coordination of the Central Solenoid and Correction Coil Section Leader;</p> <p>Interfaces with other Sections in the Magnet Division, with other ITER Departments as required for the magnet design, and with the Field Teams and their industries regarding magnet fabrication.</p>

IO1153 Coil Instrumentation&Controls Eng Officer TKM-049

Job description

Main job	Engineering - Electronics
Title of the position	Coil Instrumentation&Controls Eng Officer TKM-049
Job family	Project engineering
Grade	P3
Direct employment	Not required
Purpose	To design components, launch procurement contracts and conduct their follow-up in the field of superconducting magnets quench detection, high voltage instrumentation and control systems, some of which fall in the domain of nuclear safety.
Main duties / Responsibilities	<p>With the use of electromagnetic analysis results, designs and develops quench detection electronics to be compliant with an environment including changing magnetic fields and nuclear radiation;</p> <p>In close interaction with the magnet systems designers, designs and develops high voltage instrumentation components;</p> <p>Writes procurement specifications for the instrumentation components and control equipment, places the related contracts and performs the follow-up with strong involvement in the quality assurance and control aspects;</p> <p>Understands functionalities of the cryogenic instrumentation and implements a safety quench detection system interfacing with the ITER Central Safety System;</p> <p>Designs and develops control equipment related to the interfaces of the magnets' investment protection equipment with the Central Interlock System;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>
Measures of effectiveness	<p>Completes specifications and places contracts in a timely manner according to the project schedules;</p> <p>Completes the procurement activities in a timely manner and within the defined costs; instrumentation components and control equipment must be available at the milestones fixed by the project;</p> <p>Communicates critical information to his/her superior in a timely manner in order not to jeopardise the progress of activities;</p> <p>Writes the relevant documentation and makes it available at defined steps of the development/manufacturing/installation process.</p>

Applicant criteria

Level of study	Master or higher degree
Diploma	analog/digital electronics, controls systems
Level of experience	At least 8 years
Technical experience	<p>Good understanding of the aspects related to quench detection & protection in superconducting magnets systems, with at least 8 years' experience in this area;</p> <p>Exp in the design & operation of superconducting magnet systems in tokamaks is desirable;</p> <p>At least 5 years' exp in the design of analog/digital electronics, with emphasis in the associated controls aspects like interfacing to data acquisition systems, protection interlocks and safety systems;</p> <p>At least 5 years' exp in the domain of large superconducting magnets facilities, with a clear understanding in cryogenics & high voltage applications;</p> <p>Exp in insulation materials and their applications for vacuum and cryogenic environment;</p> <p>Exp in radiation-hard and tolerant electronic components;</p> <p>At least 5 years' exp in relevant contracts follow-up & related quality assurance aspects (inspection plan, quality assurance programs, factory acceptance tests, etc);</p> <p>Project exp: good understanding of an engineering document plan.</p>
Project experience	2 to 4 years
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>Education: PhD in Electronics/Controls would be an advantage.</p>

General skills	Computer and IT skills: Efficiency running electro-magnetic simulation codes and performing analysis of the results; Some knowledge of a Computer Aided Electronics package.
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook) Reports to the Magnet Division Head, under the coordination of both the Superconductor Systems and Auxiliaries Section Leader and the ITER Magnets' Instrumentation Responsible Officer;
Free criteria	Interfaces extensively with other groups, especially with the one responsible for the controls and data acquisition systems in ITER; Interfaces with the Domestic Agencies' teams which follow the manufacturing contracts for coils, feeders, structures and supports.