

ITER 국제기구 공모 직위 직무기술서 (제234차)

○ 5개 직위

구분	분야	소속	직위	Job No.	등급
①	토카막 엔지니어링 (TED)	Heating & Current Drive Division Neutral Beam Section	High Voltage Electrical Engineer	TED-227	P4
②		Heating & Current Drive Division Ion Cyclotron & Lower Hybrid Section	Control System Engineer	TED-155	P3
③		Tokamak Engineering Department Internal Components Division	Mechanical Coordinator	TED-228	P2
④		Port Plugs & Diagnostics Integration Division In-Vessel Diagnostics Section	Magnetics Development Officer	TED-165	P2
⑤	플랜트 엔지니어링 (PED)	Fuel Cycle Engineering Division Vacuum Section	Vacuum Process/Instrumentation Engineer	PED-155	P2

IO1952 High Voltage Electrical Engineer TED-227

General information

Job category	Standard
Status	Published
Department	TED / Tokamak Engineering Department
Division	TED / Heating & Current Drive Division
Section	TED / HCD / Neutral Beam Section

Job description

Main job	Engineering - Electricity
Title of the position	High Voltage Electrical Engineer TED-227
Job family	Coordinating Engineer
Grade	P4
Direct employment	Not required
Purpose	<p>To oversee the functional specifications, procurement, installation and commissioning of the Neutral Beam (NB) Power Supplies (PS); including the prototypes that will be procured for, commissioned and operated at the NB Test Facility (TF), thereby giving experience of the power supplies prior to their installation at the ITER Organization (IO) site;</p> <p>To be responsible for the integration of the NB Power Supplies; To be part of the transverse team on the Heating and Current Drive (H&CD) PS, ensuring an efficient sharing of information and resources across the division.</p>
Main duties / Responsibilities	<ul style="list-style-type: none">-Prepares relevant procurement documentation and manages work being carried out the Domestic Agencies(DAs) under the Procurement Arrangement (PA) of the NB PS which are procured for the NBTF and the NB system at ITER.-Ensures system design and integration of the relevant NBPS, which are function specifications, and performs all those actions for meeting technical, cost and schedule milestones for ensuring proper performance of PS systems including safety and control;-Liaises as a primary point of contact with DAs in all technical aspects of the PS components, ensuring the implementation of Quality Assurance(QA) requirements;-Defines interfaces between the PSs being procured by the different DAs, maintaining interface documentation and Ensures internal interfaces at IO and transfers the necessary information to the relevant DA; Manages all the work related interfaces and integration of the systems in terms of functionality and operation;-Participates in the factory acceptance tests, site acceptance tests, integration and commissioning activities at both ITER site and NBTF site, raising Non-Conformance Reports when necessary and making their follow-up;-Supports effective risk identification and management;-Reports on the progress of NB PS design, procurement, and variance on all technical, cost and schedule aspects immediately to the line management;-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;-Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.-Reports to the Neutral Beam Section Leader;-Acts as an interface between the relevant DAs and the IO NB team;-In response to requests from the Director-General and/or Department Head of Tokamak Engineering Department (TED), or proactively, informs the DG/TED 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.-Manages efficiently the PA of the NB PS ensuring compliance with the ITER NB requirements;-Monitors effectively task agreements for the PS of the HNB and DNB and assess the impact on

Measures of effectiveness	<p>the overall design;</p> <ul style="list-style-type: none"> -Manages the design and integration specifically the interfaces of components relevant to the PS; -Develops PS interface with NB and ITER plant systems according to the phased development requirements of NB and interfacing systems. -Assures proper integration of PS components by implementing strategies and solutions to efficiently define, validate execute and control the installation and commissioning of electrical aspects of the Neutral Beam systems within the project baseline defined cost and schedule; -Issues deviation and non-conformance reports as and when required and manages effectively their progress through relevant QA process; -Generates and maintains coherent, comprehensive, and understandable documentation within the defined time line. <p>Project Construction Phase SAP Id: 50000307</p>
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Applicant criteria

Level of study	Master or equivalent degree
Diploma	Electrical or power electronic engineering
Level of experience	At least 10 years
Technical experience/knowledge	<ul style="list-style-type: none"> -At least 10 years' electrical engineering experience including 5 years' experience in the high voltage engineering; -Experience in electric field stress analysis required; -Experience in the design of High Voltage systems is essential; -Understanding of the neutral beam or other heating and current drive systems an advantage; -Experience in providing guidance and coordinating technicians in procuring and/or installation of high voltage electrical equipment is desirable; -Knowledge of International and/or French electrical standards (e.g IEC)is required.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	<ul style="list-style-type: none"> -Ability to facilitate dialogue with a wide variety of contributors and stakeholders; -Ability to adjust communication content and style to deliver messages; -Ability to persist in the face of challenges to meet deadlines with high standards; -Ability to comply with high standards of team mindset, trust, excellence, loyalty and integrity.
Languages	English (Fluent)
Specific skills	Ansys, MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	-Proficiency of MATLAB, PSIM and ANSYS required.

IO1954 Control System Engineer - TED-155

General information

Job category	Standard
Status	Confirmed
Department	TED / Tokamak Engineering Department
Division	TED / Heating & Current Drive Division
Section	TED / HCD / Ion Cyclotron & Lower Hybrid Section

Job description

Main job	Engineering - Control system
Title of the position	Control System Engineer - TED-155
Job family	Engineer - 2
Grade	P3
Direct employment	Not required
Purpose	<p>To be responsible for the design, procurement and integration of the Ion Cyclotron, Heating & Current Drive (IC, H&CD) Instrumentation and Control system.</p> <p>To support the activities of the division in all matters relating to the instrumentation /standardization of the Ion Cyclotron & Lower Hybrid (IC&LH) section. The candidate will also work to support port integration and contribute to the definition of the technical specifications. He/she will also interface between various activities and analysis work done by the Domestic Agencies (DAs) involved in the procurement activities of H & CD systems.</p>
Main duties / Responsibilities	<ul style="list-style-type: none">-Is the Technical Responsible Officer for the design and procurement of the IC H&CD control system;-Prepares the design reviews of IC H&CD control system in respect with requirements and data available from other IC H&CD sub-systems;-Drafts the definition of instrumentation and standardization of the IC H&CD system for the procurement activities according to the Control, Data Access and Communication (CODAC) standards of the ITER project;-Oversees Domestic Agency (DA) design activities and coordinates for instrumentation and control; as the primary point of contact with DA counterparts;-Reviews and maintains the Project Integration documents relevant to IC H&CD Instrumentation and control;-Prepares the relevant procurement and contract packages and follows-up;-Issues and maintains the interface documentation;-Assists with the preparations for the installation of the IC H&CD systems on ITER site;-Coordinates and manages interfaces with I&C for other H&CD systems and with Control System Division;-Reports variances on all technical, cost and schedule aspects and proposes mitigations solutions;-Supports effective risk identification and management;-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;-Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.-Reports to the Ion Cyclotron & Lower Hybrid Section Leader;-In response to requests from the Director-General and/or Head of Tokamak Engineering Department (TED), or proactively, informs the DG/ TED 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.-Successfully develops the IC H&CD Plant Controller;

Measures of effectiveness	<ul style="list-style-type: none"> -Manages efficiently the procurement of the IC H&CD control system within the defined quality, cost and schedule; -Maintains good communication with DAs to follow up efficiently I&C development; -Issues and maintains accurate documentation related to IC H&CD Instrumentation and control; -Develops the interfaces with other IC H&CD subsystems and other plant systems within the defined schedule; -Ensures a proper implementation of the CODAC standards in IC H&CD.
	Project Construction Phase

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Control and instrumentation area
Level of experience	At least 8 years
Technical experience/knowledge	<ul style="list-style-type: none"> -At least 8 years' relevant experience in technical design, -Experience in control system design, development and implementation, -Experience in fast data acquisition and real time control loop, -Experience in large experimental device commissioning and operation, -Extensive experience in similar jobs (involving similar work responsibilities) and/or additional training certificates in relevant domains may be considered a reasonable substitute for the required educational degree.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	<ul style="list-style-type: none"> -Ability to facilitate dialogue with a wide variety of contributors and stakeholders; -Ability to adjust communication content and style to deliver messages; -Ability to persist in the face of challenges to meet deadlines with high standards; -Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.
Languages	English (Fluent)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<ul style="list-style-type: none"> -Linux OS; C/C++ -Standard office package -FPGA, PLC and EPICS programming;

IO1951 Mechanical Coordinator - TED-228

General information

Job category	Standard
Status	Published
Department	TED / Tokamak Engineering Department
Division	TED / Internal Components Division

Job description

Main job	Engineering - Mechanics
Title of the position	Mechanical Coordinator - TED-228
Job family	Engineer - 1
Grade	P2
Direct employment	Not required
Purpose	<p>To monitor the design evolution and progress of the Divertor and Blanket Systems over the entire life-cycle of the concerned components (from design to machine operation) under the instruction of the relevant Responsible Officer(s);</p> <p>To assist the Internal Components Division in integration, configuration and physical interfaces;</p> <p>To support the Internal Components Division Responsible Officers in following up the manufacturing activities in the Domestic Agencies.</p> <p>To ensure harmonization among the mechanical design of the different Divertor and Blanket Systems.</p>
Main duties / Responsibilities	<ul style="list-style-type: none">-Manages the interfaces of the Divertor and Blanket Systems with the interfacing systems and follows up their implementation over the design, manufacturing and installation phase;-Supervises the manufacturing design to ensure consistencies with the interfaces and with the technical requirements;-Studies, reviews and proposes manufacturing solutions;-Prepares the installation and maintenance documentation of the Divertor and Blanket systems;-Supports the Responsible Officers in the monitoring of procurement activities with the concerned Domestic Agencies;-May be required to work outside normal working hours, including nights, weekends and public holidays;-Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;;-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.
Measures of effectiveness	<p>Special notice: May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Full training and support will be provided by the ITER Organization.</p> <ul style="list-style-type: none">-Reports to the Internal Components Division Head;-Interacts on a daily basis with the relevant ITER Component Responsible Officers (in charge of the technical solutions), the Integration Responsible Officers (in charge of the configuration control), Design Office Management and Support Team and Design Coordinators and Designers aiming at the required level of quality and at an efficient development of the design.-In response to requests from the Director-General (DG) and/or Tokamak Engineering Department (TED) head, or proactively, informs the DG/TED 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. <ul style="list-style-type: none">-Successfully contributes to an effective development, hamonization and maintenance of the mechanical design of the internal components within the defined schedule;-Manages interfaces and ensure a good integration of the Divertor and Blanket Systems;-Successfully contributes to the procurement of internal components within the prescribed specifications, cost and schedule;

-Maintains effective communication within the ITER Organization and the Domestic Agencies as required by this position.

Project Construction Phase
SAP-ID: 50000981

Applicant criteria

Level of study	Bachelor or equivalent degree
Diploma	Mechanical Engineering or Computer-Aided Design
Level of experience	At least 7 years
Technical experience/knowledge	<ul style="list-style-type: none">-At least 7 years' experience in the implementation of engineering activities (requirement definition; conceptual, pre-detailed and detailed studies; definition of complex interface systems; preliminary sizing; contribution to the development of manufacturing specifications);-Good experience in the design of complex high heat flux components, preferably in the fusion and/or nuclear field, and involving large components and structures, support systems, complex interfaces with cooling systems, diagnostics, assembly and remote handling tools would be advantageous;-Good experience in manufacturing technologies and follow up of manufacturing activities, including witnessing of Control Points and Quality Controls;-Extensive experience in similar jobs (involving similar work responsibilities) and/or additional training certificates in relevant domains may be considered a reasonable substitute for the required educational degree.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	<ul style="list-style-type: none">-Ability to adjust communication content and style to deliver messages;-Ability to work towards predefined goals with a high level of autonomy while sustaining a high working pressure;-Ability to comply with high standards of team mindset, trust, excellence, loyalty and integrity.
Languages	English (Fluent)
Specific skills	CATIA, Computer Aided Design, MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<ul style="list-style-type: none">-Good command of the Microsoft Office package;-Experience in design work involving an advanced CAD system, past experience with CATIA v5 is an asset;-Experience with ENOVIA LCA - VPM5 and experience with previous versions of VPM or with other integrated database systems would be advantageous.

IO1955 Magnetics Development Officer TED-165

General information

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

Job description

Main job	Engineering - Design
Title of the position	Magnetics Development Officer TED-165
Job family	Engineer - 1
Grade	P2
Direct employment	Not required
Purpose	<p>To develop the designs of magnetic sensors and supporting infrastructures.</p> <p>To support the procurement, manufacture, installation, commissioning and Operation of these systems.</p>
Main duties / Responsibilities	<ul style="list-style-type: none">-Leads the design of the safety-relevant magnetics sub-system;-Develops detailed design and oversees procurement of magnetic sensors;-Develops calibration options;-Develops the interface design of the magnetics with the main tokamak components;-Prepares technical specifications for procurement actions in ITER Domestic Agencies or industry;-Drives the Design Review processes for IO magnetics sub-systems;-Updates and takes through review all relevant supporting engineering documents;-Contributes to construction activities;-Checks and maintains relevant ITER databases;-Communicates with other organizations within the ITER collaboration and the fusion community;-Supports the commissioning preparation activities;-Supports and contributes to relevant integration activities;-Specifies and oversees the creation and updates of electrical diagrams;-Supports assembly activities in practice and by synthesis of documentation;-May be required to work outside normal working hours, including nights, weekends and public holidays;-Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.
Measures of effectiveness	<p>Special notice: May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization;</p> <ul style="list-style-type: none">-Reports to the In-Vessel Diagnostics Section Leader;-In response to requests from the Director-General (DG) and/or Tokamak Engineering Department (TED) Head or proactively, informs the DG/ TED 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. <ul style="list-style-type: none">-Work packages completed to agreed deadlines;-Developed and approved interface documentation, schematics plans and databases;-Developed and approved technical documentation for procurement;-Developed and approved installation and commissioning plans;-Successful collaboration with partners in Domestic Agencies and other Directorates at IO;-Efficient work at all times with other Diagnostics team members

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Engineering, applied physics field or other
Level of experience	At least 5 years
Technical experience/knowledge	<ul style="list-style-type: none"> -At least 5 years' experience in Diagnostic & Project Engineering; -Experience in a nuclear-relevant or industrial field; -Experience in design for magnetics sensors in tokamaks is considered as an advantage; -Experience of tokamak or other fusion device operation is considered an advantage; -Experience with basic electrical tests; -Experience with the technical follow-up of design activity; -Design defense lead in technical design reviews; -Experience in writing specifications for analysis; -Familiarity with codes and standards; -Extensive experience in similar jobs (involving similar work responsibilities) and/or additional training certificates in relevant domains may be considered a reasonable substitute for the required educational degree.
Social skills	<p>Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit</p> <ul style="list-style-type: none"> -Ability to facilitate dialogue with a wide variety of contributors and stakeholders; -Ability to adjust communication content and style to deliver messages;
General skills	<ul style="list-style-type: none"> -Ability to persist in the face of challenges to meet deadlines with high standards; -Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity. -Proven presentation writing skills.
Languages	English (Fluent)
Specific skills	Computer Aided Design, MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<ul style="list-style-type: none"> -Coding experience (C++, Matlab, other); -Familiarity with CAD oversight & with P&I Diagrams.

IO1953 Vacuum Process/Instrumentation Engineer PED-155

General information

Job category	Standard
Status	Published
Department	PED / Plant Engineering Department
Division	PED / Fuel Cycle Engineering Division
Section	PED / FCED / Vacuum Section

Job description

Main job	Engineering - Electronics
Title of the position	Vacuum Process/Instrumentation Engineer PED-155
Job family	Engineer - 1
Grade	P2
Direct employment	Not required
Purpose	<p>To develop the control and instrumentation systems for the ITER Vacuum System (VS). To ensure the production of process diagrams for the complete VS. To define interlocks and control sequences for operation. To develop control sequences for the different phases of the VS commissioning and operation.</p>
Main duties / Responsibilities	<ul style="list-style-type: none">-Participates in the design and integration of ITER VSs (vacuum vessel, cryostat, neutral beam and auxiliary vacuum systems) having responsibilities for design, manufacturing and commissioning of vacuum I&C systems;-Contributes and manages the production of Process Flow Diagrams (PFD), Piping and Instrumentation Diagrams (PID) and electrical schematics to international standards for the complete vacuum system;-Defines process control systems and sequence diagrams for the operation of the various ITER vacuum systems, ensuring functional interfaces between components and sub-systems;-Develops interlocks and software based protection schemes for operational efficiency, investment protection and safety;-Provides support for the validation of vacuum instrumentation being standardized for operation in magnetic fields and radiation environments;-Drafts, reviews and complements installation and commissioning procedures for the vacuum system;-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.
Measures of effectiveness	<ul style="list-style-type: none">-Reports to Vacuum Section Leader;-Acts as an interface between Vacuum and other technical Sections in the ITER Organization (IO) and with Domestic Agencies (DAs) and contractors;-In response to requests from the Director-General and/or Plant Engineering Department (PED) Head , or proactively informs the DG/Director or Head of PED 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>-Completion of tasks associated with Main Duties/Responsibilities on time, within budget and with necessary quality;</p> <p>-Perform work safely and securely;</p> <p>-Work effectively and harmoniously with ITER staff, DAs and contractors;</p> <p>-Responsible for adherence to technical standards.</p>
	Project Construction Phase

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Electronic, Process Engineering or other
Level of experience	At least 5 years
Technical experience/knowledge	<ul style="list-style-type: none"> -At least 5 years' engineering experience including process engineering in a complex high technology engineering environment; -Knowledge of vacuum/cryogenic measurement techniques and industrial control systems; -Experience in the commissioning and operation of vacuum or industrial process plant; -Experience of working with international standards for process definition and protection systems; -Experience in the development of software for PLC controls would be an advantage; -Experience in coordinating industrial commissioning activities with high standards of performance; -Extensive experience in similar jobs (involving similar work responsibilities) and/or additional training certificates in relevant domains may be considered a reasonable substitute for the required educational degree.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	<ul style="list-style-type: none"> -Ability to facilitate dialogue with a wide variety of contributors and stakeholders; -Ability to adjust communication content and style to deliver messages; -Ability to persist in the face of challenges to meet deadlines with high standards; -Ability to comply with high standards of team mindset, trust, excellence, loyalty and integrity.
Languages	English (Fluent)
Specific skills	Computer Aided Design, MS Office professional (Access, Project, Publisher, Visio), MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<ul style="list-style-type: none"> -Microsoft Word, Excel, Access, Visio and PowerPoint; -Knowledge on software for project management, CAD, document control and process modeling is desirable