

ITER 국제기구 공모 직위 직무기술서 (제98차)

○ 5개 직위

구분	분야	소속	직위	Job No.	등급
①	플랜트 시스템 엔지니어링 (PSE)	Plant Engineering Division Fuelling & Wall Conditioning Section	Fuelling System Engineer	PSE-141	P3
②		Fuel Cycle Engineering Division Tritium Plant Section	Tritium Confinement System Engineer	PSE-143	P3
③			Tritium Plant System Engineer	PSE-158	P3
④			Detritiation System I&C Engineer	PSE-142	P1
⑤		Electrical Engineering Division Electrical Power Distribution Section	Electrical Technician	PSE-093	G4

IO1427 Fuelling System Engineer PSE-141

General information

Job category	Standard
Status	Published
Department	DIP/Department for ITER Project
Division	PSE/Plant Engineering Division
Section	PSE/ FCED/ Fuelling & Wall Conditioning Section

Job description

Main job	Engineering - Mechanics
Title of the position	Fuelling System Engineer PSE-141
Job family	Engineer - 2
Grade	P3
Direct employment	Not required
Purpose	<p>To coordinate and integrate the activities for R&D, design, procurement, installation and commissioning of the ITER Disruption Mitigation System (DMS) and the Pellet Injection System (PIS) over their life cycle.</p> <p>To ensure proper design, manufacturing, testing, installation and commissioning activities of DMS and PIS through systems engineering processes.</p> <p>To manage the DMS and PIS integration issues specifically relating to the port plug integration for the DMS and the Quality Program for Protection Important Components (PIC) and safety functions.</p> <p>To manage functional and physical interfaces with other systems and develop DMS and PIS operation and maintenance plans.</p>
Main duties / Responsibilities	<p>Responsible for R&D, design and qualification of DMS and PIS;</p> <p>Responsible for establishing and maintaining requirements for DMS and PIS and for their interfaces;</p> <p>Responsible for development and updating of the design, and for Functional Analysis of the DMS and PIS;</p> <p>Responsible for preparing, maintaining and communicating design documents;</p> <p>Follows up design, manufacturing, testing, installation and commissioning activities of DMS and PIS, including those performed by the Domestic Agencies (DAs) and their contractors;</p> <p>Integrates the DMS in diagnostics port plugs and port interspaces, the PIS flight tubes in the VV and the PIS casks in port cells;</p> <p>Ensures the design, development and scheduling of DMS and PIS, including controlling functional and physical interfaces of DMS and PIS with other systems and components;</p> <p>Provides support in licensing activities and DMS and PIS hazard analysis;</p> <p>Follows and maintains the schedule for the DMS and PIS;</p> <p>Provides technical support within the FWC section to maintain and document the internal and external interfaces respectively for the DMS and PIS;</p> <p>Performs other duties in support of the project schedule as described in the Detailed Work Schedule or 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> <p>Reports to the Fuelling and Wall Conditioning Section Leader;</p> <p>Acts as an interface between other groups in the Fuel Cycle Engineering Division regarding drawings and CAD administration;</p> <p>Interfaces with other Departments/Directorates as required by the fuelling system design, in particular with the CAD & Design Coordination Division;</p> <p>In response to requests from the Director-General (DG) and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/Director of any important and urgent</p>

Measures of effectiveness	issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives.
	<p>Clarity and thoroughness of documents on R&D, design, fabrication, installation and commissioning of the DMS and PIS;</p> <p>Quality and timeliness of work products throughout the all phases of the DMS and PIS;</p> <p>Ability to find practical, cost-effective, manageable and efficient solutions to issues;</p> <p>Establishment of mechanisms for DMS and PIS integration and interfaces with other ITER systems;</p> <p>Quality of communication with personnel associated with interfacing systems and management;</p> <p>Ability to work effectively in teams and contribute to the overall success of the Fuel Cycle design/build project;</p> <p>Performing work safely and with regard for safety in designs;</p> <p>Maintaining effective communication with all interfacing system Responsible Officers of the IO and the DAs on tokamak fuelling, disruption mitigation and relating physics issues.</p> <p>Project Construction Phase ID SAP: 50000046</p>

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Mechanical, nuclear or process eng. or other
Level of experience	At least 8 years
Technical experience	At least 8 years' experience in managing the design, construction, installation, commissioning and operation of vacuum, cryogenic or gas handling systems; Appropriate experience in managing a project.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	Knowledge of hydrogen safety, nuclear licensing, cryogenic system, vacuum pumping system or plasma physics would be advantageous. MS Office Visio knowledge.
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	Familiarity to CAD tools would be an advantage.

IO1429 Tritium Confinement System Engineer PSE-143

General information

Job category	Standard
Status	Published
Department	DIP/Department for ITER Project
Division	PSE/Fuel Cycle Engineering Division
Section	PSE/ FCED/ Tritium Plant Section

Job description

Main job	Engineering - Chemical engineering
Title of the position	Tritium Confinement System Engineer PSE-143
Job family	Engineer - 2
Grade	P3
Direct employment	Not required
Purpose	<p>To integrate elements of the tritium confinement and detritiation systems for the ITER Tokamak Complex and Hot Cell facilities over their life cycle.</p> <p>To ensure proper design, manufacturing, testing, installation and commissioning activities of confinement system components and systems through systems engineering processes.</p> <p>To manage interfaces so that the integrated network functions as an efficient and effective system.</p> <p>Background information:</p> <p>Tritium confinement and detritiation consists of an extensive network extending to each tritium operation. Tritium leaks from primary confinement (e.g. pipes and components) are handled by secondary systems including confinement barriers and detritiation systems. Elements of this network include the Second Barrier (for example glove boxes), and the Glove Box Detritiation System. These elements are distributed throughout multiple buildings among many and varied plant systems.</p>
Main duties / Responsibilities	<p>Responsible to progress the Second Barrier, Glove Box Detritiation System and related system designs, meeting safety requirements in a practical, optimized, cost-effective and timely manner;</p> <p>Responsible for communicating to all ITER systems requiring Second Barrier and Glove Box Detritiation System, the design standards and requirements of these elements;</p> <p>Responsible for establishing and maintaining requirements and interfaces between systems;</p> <p>Responsible for Functional Analysis of Second Barrier and Glove Box Detritiation System;</p> <p>Responsible for preparing, maintaining & communicating design documents;</p> <p>Follows up design, manufacturing, testing, installation & commissioning activities of confinement system components and systems, including those performed by the Domestic Agencies (DAs) & their contractors;</p> <p>Ensures the implementation of Quality Assurance procedures for design, manufacturing, testing & commissioning;</p> <p>Ensures Quality Control implementation during the whole process of the supply completion, from the design up to the commissioning moving through procurement & fabrication / assembly;</p> <p>Updates when required the confinement systems project schedule;</p> <p>Provides support for licensing activities & in Fuel Cycle hazard analysis;</p> <p>Performs other duties in support of the project schedule as described in the Detailed Work Schedule & 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 & perpetuation of the ITER Safety Program,</p>

Measures of effectiveness	values & ethics.
	<p>Reports to the Tritium Plant Section Leader;</p> <p>Manages Second Barrier & Glove Box Detritiation System interfaces together with responsible officers for interfacing systems & contributes to overall Fuel Cycle interface management;</p> <p>In response to requests from the Director-General (DG) and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/Director of any important & urgent issues that cannot be handled by the concerned line management & may jeopardize the achievement of the Project's objectives.</p> <p>Clarity and thoroughness of documents;</p> <p>Quality and timeliness of work products;</p> <p>Ability to find practical, cost-effective, manageable and efficient solutions to issues;</p> <p>Quality of communication with personnel associated with interfacing systems and management;</p> <p>Ability to work effectively in teams and contribute to the overall success of the Fuel Cycle design/build project;</p> <p>Performing work safely and with regard for safety in designs.</p>
	<p>Project Construction Phase</p> <p>ID SAP: 50001091</p>

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Nuclear or Chemical Eng. or other discipline
Level of experience	At least 8 years
Technical experience	<p>At least 8 years' experience relevant to engineering design, integration and commissioning of gas handling facilities;</p> <p>At least 5 years' experience in nuclear industry or relevant nuclear projects;</p> <p>Experience in large design/build projects through all phases, i.e. conceptual, preliminary and final design, followed by manufacturing, installation and commissioning;</p> <p>Experience in systems comprising high integrity pipes and components is required and experience with tritium handling equipment and practices is advantageous;</p> <p>Demonstrated ability to write clear, well-organized technical documents in English.</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	<p>Good understanding of gas processing technologies, vacuum technology, hazardous and radioactive material handling;</p> <p>Knowledge and practical experience in chemical engineering technologies.</p>
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<p>Basic project experience is advantageous, in particular in managing contract.</p> <p>MS Office professional (Visio)</p>

IO1430 Tritium Plant System Engineer PSE-158

General information

Job category	Standard
Status	Published
Department	DIP/Department for ITER Project
Division	PSE/Fuel Cycle Engineering Division
Section	PSE/ FCED/ Tritium Plant Section

Job description

Main job	Engineering - Chemical engineering
Title of the position	Tritium Plant System Engineer PSE-158
Job family	Engineer - 2
Grade	P3
Direct employment	Not required
Purpose	<p>To advance systems designs to completion, and to follow-up fabrication and installation.</p> <p>To manage Tritium Plant loop functions and requirements, and interfaces within the loop and to external systems using a disciplined (systems engineering) approach.</p> <p>To integrate elements of the Tritium Plant loops through value engineering and trade off studies; identifying & managing risks and supporting decision making processes over their life cycle.</p> <p>Background information:</p> <p>The ITER Tritium Plant processing loop consists of different processing systems to store and to supply gases for machine operation, to purify hydrogen isotopes and to remove tritium from tritiated species, and to separate hydrogen isotopologues. The systems operate in an exceedingly integrated fashion and are highly interdependent.</p>
Main duties / Responsibilities	<p>Responsible for Functional Analysis and optimization of Tritium Plant loop requirements and design solutions considering safety, risks, costs, and other constraints;</p> <p>Responsible for compiling and maintaining design basis documentation and supporting documents using formal review procedures for the Tritium Plant loop;</p> <p>Manages Tritium Plant loop functional and physical interfaces insuring systems consistency and that the design results in harmonized, practical operation;</p> <p>Develops operational strategies and design configurations over the HH/He, DD and DT phases of ITER, including operations and maintenance plans for the Tritium Plant loop;</p> <p>Develops and establishes installation, testing, and commissioning plans considering the ITER Research Plan;</p> <p>Provides support for safety basis development and documentation;</p> <p>Contributes to Fuel Cycle modelling;</p> <p>Works effectively with system responsible officers and other team members;</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> <p>Reports to the Tritium Plant Section Leader;</p> <p>Interfaces through the Fuel Cycle Engineering Division Head with other Fuel Cycle groups;</p> <p>In response to requests from the Director-General (DG) and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/Director 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>Clarity and thoroughness of documents;</p> <p>Quality and timeliness of work products;</p>

Measures of effectiveness	<p>Ability to find practical, cost-effective, manageable and efficient solutions to issues; Quality of communication with personnel associated with interfacing systems and management; Ability to work effectively in teams and contribute to the overall success of the Fuel Cycle design/build project; Performing work safely and with regard for safety in designs.</p> <p>Project Construction Phase ID SAP: 50000272</p>
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Applicant criteria

Level of study	Master or equivalent degree
Diploma	Nuclear, Chemical Engineering or other relevant
Level of experience	At least 8 years
Technical experience	<p>At least 8 years' experience in system engineering, integration, commissioning and operation of gas handling facilities; At least 5 years' proven success in complicated chemical processing system design and fabrication; Experience in systems comprising high integrity networks and components; Experience in gas handling, vacuum and pumping technologies; Experience in hydrogen and tritium processing systems and with nuclear facilities is desirable.</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	<p>Very good understanding of gas processing technologies, vacuum technology, hazardous and radioactive material handling; Systems engineering training is desirable; Basic Project Management experience is required.</p>
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<p>Proven ability to write effective technical documents in English; Desirable knowledge on software for project management, CAD, document control and chemical process modeling.</p>

IO1428 Detritiation System I&C Engineer PSE-142

General information

Job category	Standard
Status	Published
Department	DIP/Department for ITER Project
Division	PSE/Fuel Cycle Engineering Division
Section	PSE/ FCED/ Tritium Plant Section

Job description

Main job	Engineering - Control system
Title of the position	Detritiation System I&C Engineer PSE-142
Job family	Engineer - EC
Grade	P1
Direct employment	Not required
Purpose	<p>To provide engineering support in the field of Tritium Plant processing systems and confinement systems Instrumentation and Control (I&C), design and procurement, fabrication and on-site installation, commissioning and testing.</p> <p>To perform I&C work associated with atmosphere Detritiation Systems and Water Detritiation Systems packages.</p> <p>To support the classification of I&C important for safety, and development of control loops consistent with the given class.</p>
Main duties / Responsibilities	<p>Defines I&C of atmosphere Detritiation System and Water Detritiation System; Reviews I&C design of other Tritium Plant systems; Supports preparation of Pipe & Instrumentation Diagrams (P&IDs) for implementation of specific I&C functions; Participates in plant systems Functional Analysis, using methodologies such as FMEA and RAMI; Follows up the preparation of CAD drawings and diagrams by ITER Organization, Domestic Agencies (DAs) or suppliers for the I&C design such as control loop diagrams, control logic diagrams, and 3D layout models for the components and systems under her/his scope of work; Prepares documents on process control software definition for atmosphere Detritiation System and Water Detritiation System in accordance with their safety class; Supports Air Detritiation Centralized Procurement;</p> <p>Specifies interfaces with the ITER Central Control system and building nuclear Heating Ventilation Air Conditioning (HVAC) as part of the confinement systems; Follows up design, manufacturing, testing, installation and commissioning activities of I&C; Ensures the implementation of Quality Assurance procedures for design, manufacturing, testing and commissioning; Ensures Quality Control implementation during the whole process of the supply completion, from the design up to the commissioning moving through procurement and fabrication / assembly; Updates when required the Project Schedule associated with the fabrication, installation, testing and commissioning related to I&C and electrical engineering; Performs other duties in support of the project schedule as described in the Detailed Work Schedule or Strategic Management Plan; Performs other duties linked to the above purpose upon management request, as necessary;</p>

Measures of effectiveness	<p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p> <p>Reports to the Tritium Plant Section Leader; Acts as an interface between all technical divisions, DAs and suppliers to support integration of atmosphere Detritiation Systems and other Tritium Plant systems I&C; In response to requests from the Director-General (DG) and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/Director 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>Clarity and thoroughness of documents on design, fabrication, installation and commissioning of I&C for atmosphere Detritiation Systems and Water Detritiation System; Quality and timeliness of work products; Ability to find practical, cost-effective, manageable and efficient solutions to issues; Ability to communicate and to work effectively in teams and to contribute to the overall success of the Fuel Cycle design/build project; Performing work safely and with regard for safety in designs; Coordinating and directing efforts of the ITER Organization and the Domestic Agencies in respect to design, manufacturing, installation and commissioning of the atmosphere Detritiation System and Water Detritiation System.</p>
	Project Construction Phase

Applicant criteria

Level of study	Master or equivalent degree
Diploma	Engineering (Instr.&Control/Chemical process, etc)
Level of experience	At least 2 years
Technical experience	<p>At least 2 years of experience in chemical industry, preferably with experience in multidisciplinary systems or first experience in nuclear industry, comparable with those mentioned above in the main key duties & responsibilities;</p> <p>Basic experience in large science or industrial facilities - preferably in an international environment - would 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
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	<p>Good knowledge required of applicable industrial Codes and Standards.</p> <p>Good knowledge of I&C diagrams (PFDs, P&ID, loop diagrams) standards;</p> <p>Experience in PLC programming (Preferably Siemens S7) would be considered as an advantage.</p>

IO1431 Electrical Technician PSE-093

General information

Job category	Standard
Status	Published
Department	DIP/Directorate for Plant System Engineering
Division	PSE / Electrical Engineering Division
Section	PSE/ EED/ Electrical Power Distribution Section

Job description

Main job	Engineering - Electricity
Title of the position	Electrical Technician PSE-093
Job family	Technician - 3
Grade	G4
Direct employment	Required
Purpose	<p>To support the engineering activities for design, procurement & installation of electrical power distribution and Instrumentation & Control (I&C) cabling (gauges and electrical & pneumatic actuator signals) of the ITER plant systems, including follow up of the modifications that will occur at various stages of the ITER project.</p> <p>To produce and regularly update the interface & control documents (ICD), the interface sheets (IS) between the ITER plant systems, the Steady State Electrical Network (SSEN), the Pulsed Power Electrical Network (PPEN) system & the cable engineering activities.</p> <p>To support the final design, installation & commissioning of I&C electrical systems based on IEC61850 communication standard.</p> <p>Background information:</p> <p>The SSEN distributes electrical power to all ITER plans systems. The key facts and figures of SSEN system are:</p> <ul style="list-style-type: none">. Main power distribution network at 22 kV;. Electrical consumers fed at 6.6 kV and 400 V;. More than 100 MVA total installed power;. Several hundreds of connection points. <p>The PPEN distributes electrical power to magnet converters & Heating systems. The key facts and figures of PPEN system are:</p> <ul style="list-style-type: none">. Main power distribution network at 66kV & 22 kV;. More than 900 MVA total installed power;. Several tens of connection points in High & medium voltage. <p>Provides electrical & cable engineering support, in accordance with ITER priorities & business needs, for low & medium voltage components of the ITER plants systems;</p> <p>Follows up the CAD activities for the production of 2 D drawings & diagrams, and 3D layout models for the components & systems under her/his scope of work;</p> <p>Proposes & implements actions required to resolve design integration issues;</p> <p>Follows up design, manufacturing, testing, installation & commissioning activities for components & systems under her/his responsibility & those performed by the Domestic Agencies (DAs) and their contractors;</p> <p>Ensures the implementation of Quality Assurance procedures for design , manufacturing, testing & commissioning;</p> <p>Ensures Quality Control implementation during the whole process of the supply completion , from the design up to the commissioning moving through procurement & fabrication / assembly;</p> <p>Updates when required the Project Schedule associated with the fabrication, installation, testing & commissioning related to I&C and electrical engineering;</p>
Main duties / Responsibilities	<p>Performs other duties in support of the project schedule as described in the Detailed Work Schedule or 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 & perpetuation of the ITER Safety Program, values & ethics.</p>

Measures of effectiveness	<p>Reports to the Electrical Power Distribution (EPD) Section Leader;</p> <p>Acts as an interface between all technical divisions, to support excellent integration of the plant system electrical installation, the DAs and contractors;</p> <p>In response to requests from the Director-General and/or Director of Plant System Engineering (PSE) Directorate, or proactively, informs the DG/ Director of PSE Directorate of any important & urgent issues that cannot be handled by the concerned line management & may jeopardize the achievement of the Project's objectives.</p>
	<p>Completes requested design, follow-up procurement and installation activities of plant systems and interfaces in accordance with the defined schedule and cost;</p> <p>Communicates efficiently with other sections and Directorates of the ITER Organization on plant systems electrical power distribution and I&C and EPD related issues;</p> <p>Coordinates and directs efforts of the ITER Organization and the Domestic Agencies in respect to design, manufacturing, installation and commissioning of the ITER plant systems electrical power distribution and I&C and EPD.</p>
	<p>Project Construction Phase</p> <p>ID SAP: 50000240</p>

Applicant criteria

Level of study	Bachelor or higher degree
Diploma	Electrical or Instrumentation Engineering or other
Level of experience	At least 5 years
Technical experience	<p>At least 5 years' experience in design, testing, installation and commissioning of low and medium voltage distribution, components and systems, comparable with those of at least one of the major ITER plants systems (see above the main key facts and figures);</p> <p>Experience in large science or industrial facility is required;</p> <p>Appropriate experience of commissioning activities using IEC 61850 compliant communication standard will be considered as an advantage;</p> <p>Preferably experience in multidisciplinary systems with appropriate knowledge of electrical standards for low voltage distribution.</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 (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Others	Good knowledge of CAD tools for production of 2D diagrams (electrical, and/or P&ID).