

## ITER 국제기구 공모 직위 직무기술서 (제235차)

### ○ 3개 직위

| 구분 | 분야                    | 소속  | 직위                             | Job No. | 등급 |
|----|-----------------------|---|--------------------------------|---------|----|
| ①  | 플랜트<br>엔지니어링<br>(PED) | Cooling Systems Engineering Division<br>VVPSS Systems & Auxiliary Function<br>Section | Mechanical Engineer            | PED-225 | P3 |
| ②  |                       | Plant Engineering Department<br>Field Engineering Installation Division               | Structural In-Field Engineer   | PED-162 | P3 |
| ③  |                       | Plant Engineering Department<br>Field Engineering Installation Division               | Mechanical & Piping Supervisor | PED-165 | P3 |

# IO1956 Mechanical Engineer PED-225

## General information

|              |   |
|--------------|---|
| Job category | Standard  |
| Status       | Published   |
| Department   | PED / Plant Engineering Department                      |
| Division     | PED / Cooling Systems Engineering Division              |
| Section      | PED / CSED / VVPSS Systems & Auxiliary Function Section |

## Job description

|                                |  |
|--------------------------------|--|
| Main job                       | Engineering - Mechanics  |
| Title of the position          | Mechanical Engineer PED-225  |
| Job family                     | Engineer - 2   |
| Grade                          | P3   |
| Direct employment              | Not required   |
| Purpose                        | <p>To look after all Vacuum Vessel Pressure Suppression System (VVPSS) interfaces, to ensure functionality of all interfaces with other ITER components and building, including penetrations and supports.</p> <p>To develop the process design finalization, functional analysis, assuring proper propagation in PR &amp; SRD for the whole VVPS System in the configuration supported by then licensing design process.</p> <p>To finalize the VVPS system design assuring acceptable steam condensation efficiency at sub-atmospheric conditions, based on the results obtained during experimental complain with the system prototypes.</p> <p>To support properly the space management and Maintenance through remote handling equipment associated to the mechanical components of the VVPS System, including Hydrogen Mitigation System (HMS), testing and commissioning.</p> <p>To contribute to the procurement and the prefabrication-installation of the VVPSS system in the framework of the centralized piping procurement and participate to the preassembly and pretesting of the piping system.</p>  |
| Main duties / Responsibilities | <ul style="list-style-type: none"><li>-Completes the design of the VVPSS system and its components and interfaces with other ITER systems;</li><li>-Is responsible for follow-up of the fabrication, assembly and commissioning of the VVPSS;</li><li>-Reviews the manufacturing design, construction and assembly documentation of the VVPSS, including materials, factory manufacturing, vacuum leak testing and final integrated leak testing of the VVPSS.</li><li>-Provides support in the licensing activities for safety design and assessment of the safety related functions, including technical requirements such as codes and standards.</li><li>-Is responsible for the consistency of the VVPSS construction planning in relation to the ITER construction, commissioning and operation plan.</li><li>-Supports in space management and layout static and dynamic stress analysis and associated stress reports of the VVPSS vessels and piping systems and associated supports;</li><li>-Supports in space management and layout static and dynamic stress analysis for equipment supports and of centralized steel frames;</li><li>-Supports in space management and layout structural analysis of flexible joints as piping on line components, selection of the required stiffness for flexible joint and issue of procurement technical specification for flexible joints;</li><li>-Participates to the design and conformity assessment of the equipment in charge to different systems according to the French regulations (ESP/ESPN) and following required design codes and standards as per Licensing Design Basis;</li><li>-Contributes to the VVPSS vessels and piping systems design comprehensive of supports and steel frames, fabrication and modularization according to the prescriptions of the French Nuclear Regulator - Autorité de Sûreté Nucléaire (ASN) and also following the indications of the concerned Agreed Notified Body (ANB);</li><li>-Supports generation of all the required documentation in completing the stress report as</li></ul> |

|                           |   |
|---------------------------|---|
| Measures of effectiveness | <p>isometric drawings with supports location, supports detailed drawings, technical specifications for procurement dynamic shock absorbers, constant and variable springs, steel frames supports, gapped supports;</p> <ul style="list-style-type: none"> <li>-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;</li> <li>-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;</li> <li>-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</li> </ul>   |
|                           | <ul style="list-style-type: none"> <li>-Reports to the VVPS Systems &amp; Auxiliary Functions Section Leader;</li> <li>-Acts as an interface with other internal and external resources for the design of the piping systems and associated supports, flexible joints and steel frames;</li> <li>-In response to requests from the Director-General and/or Plant Engineering Department (PED) Head, or proactively, informs the DG/ PED Head of any important and urgent issues to be properly managed not to jeopardize the achievement of the Project's objectives.</li> <li>-Process and thermal hydraulic design &amp; Functional analysis finalization within the defined cost and schedule; Issue accurate and high quality technical procurement specifications;</li> <li>-Produce reports on time and with a high quality standard;</li> <li>-Support efficiently design and manufacturing activities;</li> <li>-Assure satisfaction of safety and functional requirements flow down.</li> </ul> <p>Project Construction Phase<br/>SAP Id: 50001172</p> |

**Applicant criteria**

|                                |  |
|--------------------------------|--|
| Level of study                 | Master or higher degree  |
| Diploma                        | Mechanical or Nuclear Engineering  |
| Level of experience            | At least 8 years   |
| Technical experience/knowledge | <ul style="list-style-type: none"> <li>-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;</li> <li>-Good knowledge of large vessel, piping system and support design;</li> <li>-Excellent knowledge of structural design codes AISC, Eurocode, ASME and RCCM.</li> </ul> |
| 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"> <li>-At least 8 years' experience in nuclear or mechanical engineering;</li> <li>-Good experience in the seismic design of piping systems /supports and steel structures for Nuclear Facilities;</li> </ul>   |
| General skills                 | <ul style="list-style-type: none"> <li>-Good Experience in selection of constant / variable springs and dynamic shock absorbers;</li> <li>-Good Experience in design and procurement of flexible joints;</li> <li>-Basic experience in the System Engineering of complex Nuclear projects;</li> <li>-Knowledge of the EU PED or French ESP/ESPN regulations and practical application will be considered advantageous.</li> </ul>                |
| Languages                      | English (Fluent)   |
| Specific skills                | <p>Ansys, CATIA, MS Office standard (Word, Excel, PowerPoint, Outlook)</p> <ul style="list-style-type: none"> <li>-Knowledge of structural analysis software is appreciated.</li> </ul>  |
| Others                         | <ul style="list-style-type: none"> <li>-Good knowledge of FEM analysis software (ANSYS) is appreciated.</li> <li>-Good knowledge of 2D-3D CAD software (AVEVA PDMS and Catia) is appreciated.</li> <li>-Excellent knowledge of MS Office standard (Word, Excel, PowerPoint, and Outlook) is required.</li> </ul>   |

# IO1957 Structural In-Field Engineer - PED-162

## General information

|              |   |
|--------------|---|
| Job category | Standard                                      |
| Status       | Published                                     |
| Department   | PED / Plant Engineering Department            |
| Division     | PED / Field Engineering Installation Division |

## Job description

|                                |  |
|--------------------------------|--|
| Main job                       | Engineering - Nuclear Power  |
| Title of the position          | Structural In-Field Engineer - PED-162   |
| Job family                     | Engineer - 2   |
| Grade                          | P3   |
| Direct employment              | Not required   |
| Purpose                        | <p>To perform structural analysis for structures, systems and components developing technical solution in support of construction activities under the mission of Plant Engineering Department (PED) / Field Engineering Installation Division (FEID)- Construction Teams for Plant Installation (CTPI);</p> <p>To assure resolution of in field design changes during construction phase according to Safety and Quality Assurance (QA) rules providing resolution of the technical issues to support the construction activities in compliance with the time schedule;</p> <p>To assure that the interfaces between piping systems and civil structures are correctly defined and implemented during and prior construction phase;</p> <p>To review and provide support for the issuance of the Engineer Work Packages.</p>  |
| Main duties / Responsibilities | <ul style="list-style-type: none"> <li>-Assures the resolution of in-field design changes (Non-Conformance Reports (NCR), Deviation Requests, etc..) generated during construction activities and promote their resolution in due time satisfying Safety and Quality Assurance rules as well as space management integration requirements through the Central Integration Office (CIO) supervision;</li> <li>-Undertakes on-site oversight activities to ensure that construction activities are carried out in accordance with approved designs and supervision plan;</li> <li>-Checks technically the analysis and associated calculation reports for structures and components subject to modification;</li> <li>-Produces assessment reports to support and justify the proposed field design changes, during and prior construction works;</li> <li>-Produces the so called red line drawings for the resolution of the in-field changes;</li> <li>-Supports fully the Team Leader in other tasks related to construction, participating in task forces or working groups;</li> <li>-Re-Assesses the capacity of the embedded plates, including post drilled plates, resulting from system final design or field design changes in collaboration with CIO and/or Building TROs.</li> <li>-Ensures full traceability of activities from design through to as-built records;</li> <li>-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;</li> <li>-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;</li> <li>-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</li> </ul> |
| Measures of effectiveness      | <ul style="list-style-type: none"> <li>-Under the supervision of the Group Leader, reports to the Field Engineering Installation Division Head;</li> <li>-Acts as an interface with all other Departments for what concerns the design modification of structures and components;</li> <li>-In response to requests from the Director-General and/ Head of Plant Engineering Department (PED), or proactively, informs the DG/ 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.</li> </ul> <p>-Performs the calculation reports of the structures and components in a timely manner;</p> <p>-Supports efficiently design and installation activities;</p>  |

- Provide in timely manner the resolution of the NCR and in-field changes;
- Contributes to cost saving and improvement of work efficiency;
- Support Engineering Department to issue the Engineering Work Packages;
- Manages effectively the interfaces associated with his/her scope of activities.

Project Construction Phase

## Applicant criteria

|                                |  |
|--------------------------------|--|
| Level of study                 | Master or equivalent degree  |
| Diploma                        | Nuclear / Mechanical or Civil Engineering  |
| Level of experience            | At least 8 years   |
| Technical experience/knowledge | <ul style="list-style-type: none"> <li>-Good knowledge in designing structures, systems and components (including embedded plates);</li> <li>-Excellent knowledge of structural design codes such AISC, Eurocode, ASCE, mechanical design codes such as ASME III related chapters and/or RCC and other international Codes &amp; Standard for piping systems.</li> </ul>   |
|                                | <ul style="list-style-type: none"> <li>-At least 8 years of experience in the field of Nuclear / Mechanical/Civil Engineering with a strong level of competence in both design and construction oversight within a nuclear environment;</li> <li>-Experience in management of in-field design changes generated during installation activities and field installation supervision for plan systems;</li> <li>-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.</li> </ul> |
| 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"> <li>-Good knowledge of Quality Assurance/Quality Control procedures for the installation, of safety / safety related mechanical components and piping systems;</li> <li>-Experience of Design within the framework of the specific French Nuclear Safety regulations;</li> <li>-Good Project Management experience is preferred.</li> </ul>   |
| General skills                 | <ul style="list-style-type: none"> <li>-Standard Knowledge of GT Strudl, Staad Pro, ANSYS, SAP 2000 or similar software;</li> <li>-Good knowledge of Finite Element Method analysis and theory;</li> <li>-Good knowledge of 2D-3D CAD software (AVEVA PDMS and Catia) or similar software;</li> <li>-Experience working with Microsoft Office suite of programs.</li> </ul>  |
| Languages                      | English (Fluent)   |
| Specific skills                | <p>Ansys, CATIA, MS Office standard (Word, Excel, PowerPoint, Outlook), SAP</p> <ul style="list-style-type: none"> <li>-Highly proactive and autonomous personality;</li> <li>-Ability to work effectively in a multi-cultural environment;</li> <li>-Ability to make decisions under stressful circumstances;</li> </ul>  |
| Others                         | <ul style="list-style-type: none"> <li>-Ability to facilitate dialogue with a wide variety of contributors and stakeholders;</li> <li>-Ability to adjust communication content and style to deliver messages;</li> <li>-Ability to persist in the face of challenges to meet deadlines with high standards;</li> <li>-Ability to model high standards of team mindset, trust, excellence, loyalty and integrity.</li> </ul>  |

# IO1958 Mechanical & Piping Supervisor - PED-165

## General information

|              |   |
|--------------|---|
| Job category | Standard                                      |
| Status       | Published                                     |
| Department   | PED / Plant Engineering Department            |
| Division     | PED / Field Engineering Installation Division |

## Job description

|                                |   |
|--------------------------------|---|
| Main job                       | Engineering - Mechanics   |
| Title of the position          | Mechanical & Piping Supervisor - PED-165  |
| Job family                     | Engineer - 2  |
| Grade                          | P3  |
| Direct employment              | Not required  |
| Purpose                        | <ul style="list-style-type: none"><li>-To assure the Operator Surveillance Role during Mechanical and Piping installation in defined Worksites as required by ITER project during installation activities;</li><li>-To assure integration in the activities between IO Contractors and DA's contractors;</li><li>-To act as Technical Responsible Officer to assure the surveillance of the DAs Mechanical Contractors working in the same areas;</li><li>-To develop the right strategy to optimize the installation sequence, taking into account the in-kind contributions availabilities and the buildings availabilities;</li><li>-To perform on-site activities in full integration with Construction Management Agent (CMA) according to installation sequence requirements.</li></ul>   |
| Main duties / Responsibilities | <p>For the defined scope of responsibilities:</p> <ul style="list-style-type: none"><li>-Is the technical interface between the Construction Management Agent (CMA) and the IO Engineering departments;</li><li>-Leads the review process of any Installation Procedures, Inspection &amp; Test Plans and the installation testing issued by the Contractor;</li><li>-Issues inspection and observation reports when and where required;</li><li>-Assures consistency among the mechanical and piping systems in installation phase and the engineering work packages issued by other ITER Engineering Departments;</li><li>-Follows the resolution of the field engineering changes and installation non-conformance;</li></ul> <p>-Assists during testing and commissioning of components that are installed and alerts line management when necessary;</p> <ul style="list-style-type: none"><li>-Is responsible of the installation sequence and schedules related to the installation of all ITER mechanical &amp; piping system;</li><li>-May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;</li><li>-May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;</li><li>-Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</li></ul> <p>-Under the supervision of the Mechanical and Piping Installation Surveillance Group Leader, reports to the Field Engineering Installation Division Head;</p> <ul style="list-style-type: none"><li>-In response to requests from the Director-General and/or Director of Plant Engineering Department (PED) or proactively, informs the DG/Director of PED Department 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.</li></ul> |
| Measures of effectiveness      | <ul style="list-style-type: none"><li>-Timely and accurate reporting on the status of the fabrication and installation;</li><li>-Assure the completion of the installation of mechanical components, ensuring a proper implementation of safety requirements and QA/QC requirement;</li><li>-Manage efficiently the handover of Engineering Work Packages (EWP) to CMA;</li><li>-Ensure the efficient execution of actions related to construction for his/her scope of activities, within the defined cost, scope and schedule;</li><li>-Manage effectively the interfaces associated with his/her scope of activities.</li></ul>  |

## Applicant criteria

|                                |  |
|--------------------------------|--|
| Level of study                 | Master or equivalent degree  |
| Diploma                        | Nuclear / Mechanical Engineering degree  |
| Level of experience            | At least 8 years<br><ul style="list-style-type: none"> <li>-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.</li> </ul>   |
| Technical experience/knowledge | <ul style="list-style-type: none"> <li>-At least 8 years of experience in construction, in reporting and in the fabrication and installation supervision of large and complex piping systems nuclear plants;</li> <li>-Good experience in piping fabrication and installation procedures as well as welding techniques, testing and NDT techniques according to International Rules (ASME III / ANSI B31.3, RCC);</li> <li>-Good experience in piping supporting systems technologies, steel structures construction as well as special dynamic supports systems ( dynamic shock absorbers) for nuclear power plants;</li> <li>-Good experience in field installation supervision of plant static equipment, like pressure vessels and heat exchangers and rotating components, like pumps and compressors;</li> <li>-Basic knowledge of large capacity Cooling Towers and open cooling circuits;</li> <li>-Experience in supervision of large HVAC industrial systems;</li> <li>-Knowledge of fusion related technologies and systems will be considered advantageous;</li> <li>-Knowledge of Pressure Equipment Directive for piping systems and other pressure equipment applicable during installation and testing;</li> </ul> |
| General skills                 | <ul style="list-style-type: none"> <li>-Knowledge of international Mechanical components and piping systems standards;</li> <li>-Experience in applying Quality Assurance as well as Quality Control procedures for the installation of mechanical components and piping systems;</li> <li>-Experience in surveillance roles for nuclear power plants installation;</li> <li>-Experience in reporting progress status.</li> </ul>  |
| Languages                      | English (Fluent)   |
| Specific skills                | CATIA, MS Office standard (Word, Excel, PowerPoint, Outlook)   |
| Others                         | <ul style="list-style-type: none"> <li>Highly proactive and autonomous personality;</li> <li>Ability to work effectively in a multi-cultural environment;</li> <li>Ability to make decisions under stressful circumstances;</li> <li>Ability to facilitate dialogue with a wide variety of contributors and stakeholders;</li> <li>Ability to adjust communication content and style to deliver messages;</li> <li>Ability to persist in the face of challenges to meet deadlines with high standards;</li> <li>Ability to model high standards of team mindset, trust, excellence, loyalty and integrity.</li> </ul>  |