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JOB DETAIL

Ref. IO2015 - 8/19/2018

TCWS Piping Engineer TCWS-036

Main job Mechanics

Department PED / Plant Engineering Department

Division PED / Tokamak Cooling Water System Division

Section PED / TCWS / Tokamak Cooling Water System Design Section

Job Family Engineer - 1

Application Deadline (MM/DD/YYYY) 09/30/2018

Grade P2

Direct employment Not required

Purpose To be responsible for the pre-fabrication and constructability studies of the Tokamak Cooling Water System (TCWS) and for issuing the engineering and construction work packages for the TCWS.
To support the Tokamak Cooling Water System Design Section as a manufacturer and operator of TCWS piping and components' design and fabrication in accordance with the French regulations (ESP/ESPN).

Background information:

The Tokamak Cooling Water System (TCWS) has several separate water cooled primary heat transfer systems designed to remove approximately 1,000 MW of heat from the Vacuum Vessel and the In-Vessel components. The other associated functions of the TCWS are the water volume and chemical control of the corrosion products as well as the draining and baking of the majority of clients. All these systems have to confine radioactive materials (e.g. Activated Corrosion Products) and therefore need to comply with the French regulation for the Nuclear Pressure Equipment (ESP/ESPN). These systems have nuclear-grade piping, which is a comparable size to a commercial fission reactor water system, and several pressure vessels (e.g. Pressurizers, Heat Exchangers, Electrical Heaters, etc.).

Main duties / Responsibilities Prepares the engineering and construction work packages for the TCWS construction;
Supports and liaises with the Holistic Integration Team (HIT) on all aspects related to TCWS;
Performs constructability and pre-fabrication studies of the TCWS as well as piping and supports stress analysis in Nuclear Classes according to ASME Rules;
Supports the construction department in the manufacturing of the TCWS (pre-fabrication, assembly, installation, testing) and duly interfaces with the Agreed Notified Body (ANB) for design and construction matters;
Supports the TCWS Design Section in the design, procurement, assembly and/or installation and operation as well as In-Service Inspection of the TCWS system in close collaboration with other ITER Organization (IO) Directorates and with the Safety, Quality & Security Department;
Contributes to the TCWS design and conformity assessment of the nuclear pressure equipment in accordance with the French regulations (ESP/ESPN) and following ASME design codes and standards;
Supports the licensing and safety requirements for the TCWS by managing and reviewing the safety analysis and the compliance with the RPrS (Rapport Preliminaire de Sûreté);
Prepares and maintains the required documentation for pre-fabrication, installation, testing, licensing, commissioning and operation;
May be required to work shifts during the ITER assembly and commissioning phase; and 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;
Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.

Measures of effectiveness Reports to the Tokamak Cooling Water System Design Section Leader;
In response to requests from the Director-General and/or

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Plant Engineering Department (PED) Head, or proactively, informs the DG/ PED 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.

Develops spooling and pre-fabrication documentation for the TCWS in a timely manner;
Issues engineering and construction work packages for the TCWS and interfaces with the ANB effectively;
Punctually develops stress reports for the TCWS;
Efficiently contributes to managing the design of the TCWS Nuclear Pressure Equipment in a timely manner and within the defined costs;
Supports IO in the role of Manufacturer and Operator for the design and fabrication of TCWS.

Project Construction Phase

Level of study	At least Master's Degree or equivalent
Diploma	Mechanical or Nuclear Engineering or equivalent
Level of experience	At least 5 years
Technical experience/knowledge	At least 5 years' experience in construction / maintenance projects; Good Project and Contract Management experience is required; Basic experience in the design of Nuclear Pressure Equipment for Nuclear projects according to the French regulations (ESP/ESPN) and ASME design codes and standards; Experience in preparing stress reports and constructability & pre-fabrication studies; Experience in coordinating and supervising technical activities with the French nuclear authority (or equivalent) is considered as an advantage; 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
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
General skills	Ability to facilitate dialogue and negotiate with a wide variety of contributors and stakeholders; Ability to listen and 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.
Others	Good Knowledge of 2D-3D CAD software is required; Good Knowledge of stress analysis software (e. g. ANSYS, Caesar II, etc.) is required.
Languages	English (Fluent)

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