THE EUROPEAN MARINE ENERGY CENTRE

JOB DESCRIPTION AND PERSON SPECIFICATION

HYDROGEN SYSTEMS ENGINEER

Reports to: Operations and Maintenance Manager

Purpose: The Hydrogen Systems Engineer is responsible for supporting the design, development, operation, and continual improvement of hydrogen production and fuelling infrastructure at both customer and company owned locations.

Responsibilities

1. Develop and maintain a detailed understanding of EMEC's plant and equipment, including process design documents such as PFDs, process calculations and P&IDs. Assist in the provision of maintenance schedules.

2. Act as a subject matter expert for hydrogen applications generation, compression, storage, and dispensing systems. Assist with the process design safety studies such as HAZID, HAZOP, LOPA and action response reports.

3. Take responsibility for the correct specification of process plant equipment and identify reliable suppliers. Generate process plant bill of materials including equipment, valve and instrument lists.

4. Perform design failure mode and effect analysis and specify critical balance of plant components for hydrogen generating, compressing, storing, and dispensing systems.

5. Provide guidance and technical expertise to projects on how overall system and individual equipment is meant to operate. Develop plant compliance documentation such as flammable gas safety reports, pressure safety cases, general and specific risk assessments and specialist compliance reports.

6. Develop company technical literature including writing operational and maintenance manuals, acceptance testing procedures and risk assessments, maintenance procedures and risk assessments and compile supplier information for technical files.

7. Act as responsible engineer and coordinate/collaborate with internal personnel for testing and deployments of new or modified technology; be proactive in alignment of efforts to achieve project deadlines.

8. Interface with suppliers as necessary to maintain an up to date knowledge of hydrogen equipment and suppliers to vet their offering, gain critical information for troubleshooting, or implement improvements to ensure EMEC can offer optimum hydrogen solutions.

9. Develop plant operation and control philosophies including health and safety, process descriptions, control logic, shutdown strategy, alarm lists and loop check sheets.

10. Review operational data and construction/assembly drawings to assist in complex troubleshooting efforts with operations personnel.

11. Assist the Hydrogen Manager and Commercial Team to prepare quotations, bids, and other associated documentation for clients and projects.

12. Attend meetings with clients as required to support commercial work.

13. Ensure that the EMEC Integrated Management System is adhered to and assist the Quality Manager and others with identifying and progressing improvement actions, supporting EMEC's accreditation by the UK Accreditation Service (UKAS) or other relevant body.

14. From time to time carry out other assignments which may differ from the above as instructed by line management.

Reports: There are no direct reports to this position.

Person Specification

Education:
Essential - Degree in chemical, process, industrial, or mechanical engineering

Desirable – Chartered Engineer

Skills & Knowledge:
Essential – excellent communication verbally and in writing; numerate; computer/software skills as applicable to the position including, but not limited to, Microsoft Word, PowerPoint, Excel, Outlook, Project, and Visio.

Desirable – gas processing and/or dispensing equipment / oil and gas.

Personal Attributes:

Essential - driven and self-motivated with excellent outputs; ability to role model high standards of professionalism with an uncompromising dedication to quality design, documentation and operational safety; analytical abilities with strong attention to detail; dynamic interpersonal skills and the ability to effectively communicate with diverse audiences.

Experience:

Essential - a minimum of five (5) years working experience in a process/chemical plant environment. Hydrogen and/or fuel cells / Cryogenic Industry / High Pressure Systems (250 Bar and up).

Desirable - experience in the ability to manage complex projects and multi-task effectively.

Special Conditions Associated with the Role

Ability to travel occasionally to deployment sites for infrastructure commissioning or troubleshooting, to meet with suppliers and verify equipment operation.