

POWER ELECTRONICS & CONTROL SYSTEM ENGINEER

As a Power Electronics & Control System Engineer at QED Naval Ltd, you will play a crucial role in the design, development, and optimization of power electronic and control systems. You will need to be able to develop control logic to implement into the PLCs of our tidal turbines and generator and grid side drive units. You will also have to manage the implementation of QED's Subhub Platform Management System (SPMS) which takes all 3 data streams from the platform, turbine, and environment. You will work collaboratively with cross-functional teams to ensure the reliability, efficiency, and performance of our power systems.

RESPONSIBILITIES:

1. Power Electronics Design:

- Lead the design and development of power electronic converters, inverters, and rectifiers.
- Conduct detailed analysis and simulations to optimize power electronic systems for efficiency and reliability.

2. Control System Development:

- Design and implement control algorithms for power electronic systems, ensuring stability and performance.
- Develop embedded control systems for real-time monitoring and response.

3. Integration of Renewable Energy Systems:

- Integrate power electronic systems with renewable energy sources, such as solar and wind, to optimize energy conversion and storage.
- Collaborate with renewable energy engineers to enhance system efficiency.

4. Prototyping and Testing:

- Coordinate the prototyping and testing of power electronic and control systems.
- Analyse test results to validate design specifications and implement improvements.

5. System Optimization:

- Continuously optimize power electronic and control system designs for improved performance, cost-effectiveness, and reliability.
- Implement design changes based on feedback from testing and field performance.

6. Collaboration:

- Work closely with electrical engineers, firmware developers, and project managers to ensure seamless integration of power systems into larger projects.
- Collaborate with cross-functional teams to meet project goals and timelines.

7. Documentation:

- Prepare comprehensive engineering documentation, including schematics, control system algorithms, and technical reports.
- Ensure that all design and testing activities adhere to industry standards and regulations.

8. Quality Assurance:

- Implement quality control measures to ensure the reliability and safety of power electronic and control systems.
- Collaborate with quality assurance teams to address any issues identified during testing.

QUALIFICATIONS:

- Bachelor's or Master's degree in Engineering, Power Electronics, or a related field.
- Proven experience in power electronics design and control system development.
- Proficiency in simulation tools, such as MATLAB/Simulink.
- Strong analytical and problem-solving skills.
- Excellent communication and teamwork skills.
- Knowledge of industry standards and regulations.