

**Position Title: SENIOR POWER SYSTEMS ENGINEER**

**Report To: BRANCH MANAGER**

## **PRIMARY FUNCTION**

The Senior Power Systems Engineer is responsible for performing Power systems investigations, analysis, design, documentation, testing and commissioning for industrial, commercial and government clients, at the highest standard of professional expertise in that field.

## **CORPORATE RESPONSIBILITIES**

- Represent/Embrace the Company's Vision and Values.
- Understand and describe the full range of services offered by the Company.
- Assist in the positive promotion of the Company and its Values at all points of contact with Clients, Suppliers and the Community.
- Recognise the key Values of the Company and participate in building a positive team culture of high quality staff.
- Act professionally and in accordance with the Company's Policies and Procedures at all times.

**ACCOUNTABLE DUTIES** include the following. Other duties may be assigned.

### **General**

#### **(a) Technical / Project Management**

- Undertake project management, conceptual engineering, investigations, analysis, detailed design and documentation to achieve the objectives of quality, schedule and budgeted man-hours, whilst requiring minimal technical supervision.
- Undertake power system studies such as load flow studies, motor starting studies, fault analysis, harmonic analysis, protection coordination studies and transient analysis.
- Accept responsibility directly, or through delegation, for the accuracy and quality of Power Systems design and documentation undertaken directly and for that performed by assigned project engineering and drafting staff.
- Participate in the Power Systems Engineering peer group and encourage free exchange of ideas and feedback within the team.
- Monitor industry trends, new technology and client service requirements for the Power Systems Engineering business area and follow-up project prospects in conjunction with the Branch Manager and/or General Manager.

- Assist in the preparation of detailed proposals, fee estimates and quotations that fully meet client expectations, as well as minimise risk to the company. Accept responsibility for the scope, accuracy and winning of these proposals.
- Maintain and develop the company's client base by winning client's satisfaction and trust during the performance of assigned projects.
- Develop technical and communication skills while attending selected training courses and/or completing post-graduate studies.

## **Environmental, Health & Safety**

- Identification of Environmental, Health & Safety hazards when commencing any project tasks or activities.
- Actively participate in Environmental, Health & Safety (EH&S) systems as required and understand the concepts of Welcon's EH&S systems.
- Follow all Environmental, Health & Safety relevant procedures.

## **SKILLS REQUIREMENT**

### **Technical**

Individuals must be able to demonstrate proven hands-on experience in the following:

- Proven Project Management skills for utility and industrial HV projects
- High Voltage design capability in an Industrial and/or Power Utility environment.
- Excellent written communication skills, demonstrated by the preparation of well-structured technical reports and specifications.
- Oral communication skills, especially with clients and subordinate staff.
- Technical/practical skills in most of the following areas:
  - High voltage (up to 132kV) power reticulation
  - Modelling and Analysis of Power Systems - Fault studies, Load Flows, Motor Starting and Transient studies using analysis software
  - Protection Coordination – Overcurrent, Earth-Fault, Earth-Leakage and application of Directional Protection
  - Differential (transformer and/or cable) protection
  - Knowledge of sequence impedance networks/modelling from first principles
  - Low voltage and medium voltage motor control and protection
  - Design and specification of MCC's, Switchboards, VFD's, Soft Starters, Transformers and Motors
  - Detailed knowledge of relevant Australian Standards and Codes
- On-site testing, commissioning and protection device adjustment.
- Computer literate (eg. Spreadsheets, scheduling, word processing, e-mail).
- Estimating (capital costs and engineering man-hours).

## **Communication & Literacy**

Individuals must be able to demonstrate proven hands-on experience in the following:  
Ability to read technical documentation and client briefs and interpret implications and actions required for successful implementation.

- Ability to prepare, write and review well-structured technical reports, specifications, business correspondence, operating and maintenance manuals, as well as meeting minutes and general project documentation.
- Ability to effectively and proficiently respond to questions from groups of clients, managers, customers and internal staff.
- Ability to develop and write operational procedures and work instructions.
- Ability to read, analyse and interpret general business periodicals, professional journals, technical procedures, or governmental regulations.

## **Reasoning & Analytical**

- Solve practical problems and deal with a variety of concrete variables in situations where only limited standardisation exists.
- Break a complex task into its components and assign their relevant priorities.
- Interpret a variety of instructions furnished in written, oral, diagram, or schedule form, when dealing with client requests and non-engineering personnel.
- Utilise all available research methods and resources available for technical support.

## **EXPERIENCE**

A minimum of ten (10) years relevant Power Systems engineering experience, predominately in an industrial and consulting environment is expected.

## **QUALIFICATIONS & EDUCATION**

To perform this job successfully, the individual must be able to perform each essential duty satisfactorily.

This requires a Degree in Electrical Engineering from a recognised Australian institution. Formal studies in Post-Graduate courses or specialist technical fields will be favourably received.

## **CERTIFICATES, LICENSES, REGISTRATIONS**

The following are the minimum requirements:

- Standard Queensland Open-class Motor Vehicle License is an essential requirement for this position.
- Sufficient industry experience to be eligible for corporate membership of The Institution of Engineers, Australia, achieving CPEng status and NPER-3.
- Eligible to obtain registration as a Professional Engineer in Queensland (RPEQ).

## WORK ENVIRONMENT

- The position is based primarily in a professional office environment in Gladstone, Qld. However, the employee will be required to attend client sites in both commercial and industrial environments. This will include locations such as coalmines, smelters, chemical plants, power stations and refineries.
- The hazards in the work environment are usually moderate, although most industrial sites will require the use of Personal Protective Equipment, including respirators and mono-goggles. While performing the site duties of this job, the employee is occasionally exposed to risk of electrical shock.
- Medical examinations may be required to ascertain suitability to work on some sites. In particular, lung function tests may be required for some sites.
- Travel away from home for up to two weeks at a time will be expected.