

FUNCTIONAL JOB DESCRIPTION

**JOB TITLE:**  Electrical Designer

**DEPARTMENT:** Engineering

**REPORTS TO:**  Vice President of Engineering

**FLSA STATUS:**  Non-Exempt

**PREPARD BY:**  Human Resources

**PREPARED DATE:** November 2013

**SUMMARY:** Applies electrical related knowledge to test, modify, develop machinery and machine controls circuitry by performing the following duties.

**ESSENTIAL DUTIES AND RESPONSIBILITIES** include the following. Other duties may be assigned.

* Assembles and tests experimental motor control devices, electrical control panels, transformers, solenoids, and other electrical equipment and components per industry electrical standards.
* Modifies electrical prototypes to correct functional deviations under direction of Controls Engineer.
* Diagnoses cause of electrical or mechanical malfunction or failure of operational equipment and performs preventative and corrective maintenance.
* Develops electrical and hydraulic schematics, layout drawings, and engineering specifications for system or equipment modifications or expansion, and directs personnel performing routine installation and maintenance duties.
* Plans, directs, and records periodic electrical testing, and recommends or initiates modification or replacement of equipment which fails to meet acceptable operating standards.
* Sets up test equipment and conducts tests on performance and reliability of mechanical, structural, or electro-mechanical equipment.
* Develops and writes equipment specifications, performance requirements, cost analysis, and proposal for integrating machinery and equipment into manufacturing process.
* Prepares detailed quotations for engineering requirements to be used in developing a formal quote for customer.
* Coordinates all aspects of a job including controls programming, machine delivery, prove-out, and runoff of a customer's part.
* Provides detailed documentation of a job including drawings, definition of setup, and operational procedures.
* Oversees installation to ensure machines and equipment are installed and functioning according to specifications.
* Tests ability of machines to perform designated tasks.
* Confers with establishment personnel to implement operating procedures and resolve system malfunctions.
* Determines parts supply, maintenance tasks, safety procedures, and service schedule required to maintain machines and equipment in prescribed condition.
* Develops models of alternate processing methods to test feasibility of new applications of system components, and recommends implementation of improved procedures.
* Participates in meetings, seminars, and training sessions to stay apprised of new developments in field.
* Confers with workers in other departments, such as marketing and engineering to provide technical information.
* Develops and conducts training programs on the safe operations of the equipment, and demonstrates skills to trainees, including both team members and customers.
* Coordinates presale demonstrations and trade show exhibitions including procurement of equipment, set up, demonstration, and discussion with potential customers.

**SUPERVISORY RESPONSIBILITIES:** This job has no supervisory responsibilities.

**QUALIFICATIONS:** To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

**EDUCATION AND/OR EXPERIENCE:** Four year college or university program certificate; or two to four years related experience and/or training; or equivalent combination of education and experience.

**LANGUAGE SKILLS:** Ability to read, analyze and interpret general business periodicals, professional journals, technical procedures, or governmental regulations. Ability to write routine reports and correspondence. Ability to write reports, business correspondence, and procedure manuals. Ability to effectively present information and respond to questions from groups of managers, clients, customers, and the general public.

**MATHEMATICAL SKILLS:** Ability to work with mathematical concepts such as electrical, hydraulic and mechanical sizing calculations. Ability to apply concepts such as fractions, tolerances, percentages, ratios, and proportions to practical situations. Ability to analyze designs for safety factors, design strength, and impact resistance.

**REASONING ABILITY:** Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Ability to interpret a variety of instructions furnished in written, oral, diagram, or schematic form.

**COMPUTER SKILLS:** To perform this job successfully, an individual should have knowledge of AutoCAD design software. SolidWorks knowledge is helpful.

**PHYSICAL DEMANDS:** The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit and use hands to finger, handle, or feel. The employee is frequently required to talk or hear. The employee is occasionally required to stand; walk; reach with hands and arms; climb or balance and stoop, kneel, crouch, or crawl. The employee must occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and peripheral vision.

**WORK ENVIRONMENT:** The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is occasionally exposed to moving mechanical parts and risk of electrical shock. The noise level in the work environment is usually moderate.

\*Each employee should be aware that changes in this job description could occur at any time. Also this job description is not to be considered or construed to be a contract of employment.

**APPROVAL DATE**

Employee Signature Date

VP of Engineering Date