

# HARPER INTERNATIONAL

## POSITION DESCRIPTION

The Position Description is the tool used by Harper International to communicate and clarify the essential job functions, establish the basis for performance expectations, and identify training needs for each position. Completing the details of the Position Description is a joint effort between the employee and the supervisor.

### Part I - Reporting Structure

**Date or most recent revision:** Dec 2016

**Job Title:** Lead Electrical Engineer

**Reports to (Position):** Electrical Engineering Supervisor

**Completed By:** HR

**Department:** Engineering

**Supervises:** NA

**Status:** Exempt

### Part II – Position Objective

Provide electrical engineering & design support with an emphasis on power (equipment/machine) in an OEM environment. Provide training and development support to less experienced engineers. In conjunction with Electrical Engineering Manager, take responsibility and accountability for the project management of electrical tasks.

### Part III – Job Responsibilities

#### Typical Duties

1. Design and implement three phase power control circuits at line voltages up to 600 VAC with connected loads as high as 3 MVA.
2. Design SCR power control circuits for electrical heating systems.
3. Design and implement electrical controls and instrumentation for Harper's products and systems used in industrial applications.
4. Work with modular power control centers, industrial circuit breakers, and transformers.
5. Utilize Solidworks Electrical or AutoCAD Electrical to generate electrical schematics, panel layouts and single line drawings for construction and installation of Harper equipment.
6. Analyze system component requirements and prepare specs for purchase of suitable material and equipment.
7. Ensure electrical designs meet requirements for UL508A, NFPA 79 and NEC or CE standards as required.
8. Perform various detailed calculations to properly size and select components such as wire, fusing, transformers, power controllers, circuit breakers including thermal power dissipation for enclosure selection.
9. Work with Piping & Instrument Diagrams to develop I/O list, BOM, and schematics used to build thermal processing equipment controls.
10. Work closely with manufacturing and operations staffs to insure documentation and testing activities are performed in compliance with specs, codes, and customer requirements.
11. Layout proper control and power cubicle configurations.
12. Manage your assigned projects to ensure they are completed according to customer specifications, within budget, and on-time.

13. Must be able to travel for system start-up and troubleshooting, both domestic and abroad.

#### **IV – Knowledge, Skills, Education**

1. Bachelor's Degree in Electrical Engineering
2. 5-10 years' experience minimum, higher experience preferred
3. Supervisory experience or experience training less experienced engineers
4. Must possess knowledge of electrical engineering design fundamentals, along with experience in electrical design. (Experience with Solidworks Electrical or AutoCAD Electrical preferred.)
5. Must possess working knowledge of automation controls including practical understanding of mechanical systems, motion, gas handling, gas flow, pressure, stress, temperature, combustion control systems and various analyzing instrumentation.
6. Must possess the ability to read electrical schematics and P & ID's.
7. Must be familiar with NEC & ISA standards and symbology, with knowledge of IEEE & CE standards a plus.
8. Field Service or start-up experience is a plus.
9. Up to 15% travel required-both domestic & international

#### **VI - 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 stand, walk, hear and talk. The employee is frequently required to sit and use hands. The employee is occasionally required to reach with hands or arms, climb or balance, stoop, kneel, crouch or crawl.