

# 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.

### **Part I - Reporting Structure**

**Date of last revision:** June 2014

**Department:** Applications Engineering

**Job Title:** Applications Engineer

**Reports To:** Director of Technology

**Completed By:** Applications Mgr/HR Manager **Status:** Exempt

### **Part II – Position Objective**

Provide innovative process and technological solutions to support the sale, design and manufacturability of custom capital high temperature processing equipment, the associated peripherals and systems.

- ⇒ Translate customer requests into practical, cost effective solutions.
- ⇒ Work with internal engineering resources to develop technical solutions.
- ⇒ Develop technical solutions using Harper's pilot facility as a development platform.
- ⇒ Partner with customers to: 1) enhance existing processes and 2) develop new applications that require high temperature processing.

### **Part III – Job Responsibilities**

#### Primary Duties

1. Interact with Sales to understand & evaluate client specifications/requirements.
2. Coordinate with sales to prepare proposals inclusive of all necessary specifications / information.
3. Conceptualize designs and develop innovative solutions to enhance existing in-house technology.
4. Provide the coordination between Sales, Applications, and Engineering to accommodate customer specifications and provide technical solutions.
5. Use in-house design programs to define the mass throughput, thermal requirements, and overall equipment dimensions.
6. Perform heat and material balance calculations.
7. Create and adjust drawings as needed to ensure conformity with intended scopes of supply.
8. Support PFD and P&ID requirements for systems based projects.
9. Work with outside vendors to establish ancillary equipment requirements for systems based projects.
10. Understand client control requirements, and be capable of defining the PLC/DCS platform requirements to fully integrate a furnace based system.
11. Utilize ERP system and work with estimator to provide accurate budgetary estimates.

#### Collateral Duties

1. Provide sales with the necessary support to secure contracts
2. Interact with clients on a professional level to ensure customer specifications are met.
3. Prepare the technical portion of sales contracts (SORM Preparation); this is required to ensure a smooth transition of project responsibilities between sales and engineering.
4. Collaborate with Harper technology center to expand upon existing capabilities in order to meet emerging market demands.
5. Interface with sales, engineering, and manufacturing to ensure that design concepts and sales contracts coincide with organizational capabilities.
6. When necessary, travel both domestically & internationally to understand customer requirements and constraints prior to equipment design and for installation, commissioning and troubleshooting after the equipment is delivered.

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

1. Bachelor's Degree in Chemical or Mechanical engineering required
2. 3-5 years of experience
3. Excellent understanding of mass & heat balance, heat transfer, high temperature materials, and equipment sizing principles.
4. Knowledge of PFD and P&ID principles.
5. High degree of technical depth and creativity
6. Good written and verbal presentation skills.
7. Ability to work well under time constraints in order to meet deadlines and client expectations.
8. Ability to work with clients from all over the world

#### **V - 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 walk. The employee is frequently required to sit, use hands, reach with hands and arms, talk and hear. The employee is occasionally required to stand, stoop, kneel, crouch or crawl. Up to 25% travel is common in this position.