

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: July, 2016

Job Title: Project Engineer/Senior Project Engineer

Reports To: PE Supervisor/Director of Engineering

Department: Engineering

Status: Exempt

Completed By: HR

Part II – Position Objective

Provide broad-based equipment design expertise and leadership for projects. The scope of the responsibility encompasses all aspects of engineering from mechanical to electrical and instrumentation. Responsible for the technical integrity of product, from design concept to final acceptance. Provide the leadership for running the engineering aspects of the project on time and within budget.

Part III – Job Responsibilities

Essential Duties

1. Provide broad-based design expertise in terms of functionality, cost, and manufacturability of projects.
2. Organize & conceptualize assemblies and sub-assemblies so that portions of the job can be effectively and appropriately delegated amongst the project team.
3. Verify that designs meet technical specifications and applicable codes
4. Engage with technology and sales groups during the proposal and inquiry phase on key opportunities to review design and budget
5. Ensure technical specification updates are communicated with Applications Engineering.
6. Utilize design software to:
 - Provide design concept & specifications for other members of design staff
 - Perform engineering calculations and analysis to optimize design (as applicable)
7. Select and specify materials and interact with purchasing to modify materials or components when necessary.
8. Oversee design staff to include delegation of tasks, approving rework, and checking drawings and BOM's for accuracy.
9. Communicate with other members of the project team and other departments to ensure projects are completed within time/budget constraints.
10. Provide necessary guidance, mentoring, and training on Harper-specific technology and best practices to transfer knowledge and increase efficiencies.
11. Collaborate with the Technology Group on projects that require in-depth technical analyses.
12. Interface and provide assistance to subcontractors and customers.
13. Review and certify final release of drawings.

14. Support manufacturing with design/fabrication/assembly improvements and ensure project is completed within time/budget constraints.
15. Provide support during the installation and start-up phase of projects (as necessary)
16. Provide technical expertise and support during customer interactions.
17. For the Engineering aspects of each project, actively manage & drive overall project cost, schedule, and quality performance relative to internal metrics & contractual requirements.
18. Assist Applications department with engineering studies as needed.

IV – Knowledge, Skills, Education

Knowledge, Skills, Education

1. BSME required
2. Must be fully proficient with 2D & 3D design tools, such as Autocad and Inventor.
3. In depth knowledge of classical mechanical engineering design skills
4. In-depth knowledge & experience designing industrial equipment to include:
 - Wide range of weldments and appurtenances.
 - Strength of materials.
 - Heat resistant materials.
 - Mechanical power transmission.
 - Mechanical stress and flow analysis
 - Thermal stress analysis and applications awareness.
5. Familiarity with material handling of amorphous bulk materials including metered feeds, conveying, storing, measuring, etc.
6. General familiarity with industrial equipment.
7. Preferred to possess knowledge of thermal processing systems preferably for high temperature (typically 250-3000 C) applications.
8. Understanding of standard industrial gases and off gas handling systems such as scrubbers, TOX, etc.
9. Must demonstrate good judgment, ability to make decisions and delegate tasks effectively.
10. Must be able to travel (both domestic & international)- 15% - 20%
11. Exposure to and familiarity with:
 - System P&IDs
 - Electric resistance heating
 - Combustion systems
 - Inorganic chemistry
 - Gas-solid reactions
 - Refractory materials
 - Rotary material handling systems
12. Must possess ability to communicate effectively with customer

V – Physical Requirements

The job requires the following less than 1/3 of the time:

1. Standing
2. Walking
3. Reaching with arms/hands
4. Climbing or balancing
5. Stooping, kneeling, crouching or crawling

6. Talking or smelling
7. Lifting or moving up to thirty pounds

The job requires the following $1/3 - 2/3$ of the time:

1. Sitting

The job requires the following more than $2/3$ of the time:

8. Using hands
9. Talking
10. Hearing