

Position: Manufacturing & Process Engineer - Chemical	Department: Manufacturing
Date: November 2013	FLSA Status: Salaried, Exempt

Purpose:

Develops, designs, and implements optimal, cost-effective manufacturing processes and methods in accordance with product specifications and quality standards. Recommends and implements improvements to production processes, methods, and controls. Coordinates manufacturing launches for new or revised products.

Essential Functions:

1. Perform research design and development of manufacturing processes including production flow, assembly methods and production equipment.
2. Prepare and maintain detailed layouts of equipment (schematics, SOP's etc.)
3. Support the conversion of small scale processes into commercially viable large scale operations. Manage cost and time constraints.
4. Coordinate the manufacturing launch of new/revised products including establishing goals, training team members and evaluating results.
5. Design, develop and test, and/or source and cost-justify various tools, machinery and equipment for recommended manufacturing methods.
6. Perform product/process analysis for cost reduction, quality improvement and improve efficiency.
7. Represent manufacturing on cross-functional teams.
8. Communicate with management, engineering and other team members regarding manufacturing capabilities, production schedules and other considerations to facilitate production processes.
9. Work with vendors to determine product specifications and arrange for purchase of machinery and equipment according to specifications and quality standards.
10. Oversee plant's risk management, health and safety, facility planning and environmental factors that affect manufacturing operations.
11. Representing the organization in a professional, cooperative and respectful manner.
12. Handling all other duties as assigned

Position Objectives:

1. Improve manufacturing efficiency, plant cleanliness and safety, and quality of products.
2. Develop equipment and processes required to achieve desired product characteristics with high quality at reliable and sustainable production rates.
3. Minimize capital costs and manufacturing costs.

Measured By:

1. Manufacturing and process improvements
2. Reduction of manufacturing costs.
3. Process efficiency.
4. Product quality.
5. Overall production output.
6. Safety and cleanliness of plant.

Minimum Education:

Bachelor's degree in Engineering

Minimum Experience:

Varies with level, experience in manufacturing and process engineering, or equivalent combination of education and experience. Previous experience in chemical, materials, or high volume manufacturing is preferred.

Abilities & Skills:

1. Ability to think ahead and plan over a 3-6 month time span and work independently.
2. Ability to organize and manage multiple priorities.
3. Technical skills in manufacturing processes and methods including flow, layout, assembly, and production equipment.
4. Excellent interpersonal skills, both written and verbally.
5. Ability to work in a team environment and to lead a team.
6. Ability to analyze and solve problems in a manufacturing environment.
7. Ability to proficiently use Computer Assisted Design (CAD), AutoCAD, as well as other word processing and database software systems.
8. Ability to work in a team environment.

Minimum Physical Expectations:

Frequent work on a computer.

Occasional travel via car, train and/or air.

Occasional pushing/pulling between 25 and 50 pounds.

Occasional lifting between 25 and 50 pounds.

50% of work hours standing or walking

Minimum Environmental Expectations:

Frequent exposure to loud noises that do require ear plugs

Seasonal exposure to weather conditions (extreme heat)

Frequent exposure to machinery

Frequent exposure to hazardous materials

LEVELS: (All skill level assignments and time in position requirements are at the sole discretion of XG Sciences, Inc. management.)

- a) Manufacturing & Process Engineer: Meets minimum requirements. Has the background and ability to perform the required skills. This position has no Supervisory Responsibilities.
- b) Manufacturing & Process Engineer, Sr.: Attainment of skills beyond minimum requirements. Able to work without supervision. Provides leadership as required. Typical of an individual with five or more years' experience in a similar position or comparable knowledge and experience. This position may have direct or indirect Supervisory Responsibilities.
- c) Manufacturing & Process Engineer, Master: Demonstrates a proficiency in the operations and understanding of the process and product beyond current operations. Has attained a level of expertise which is recognized by the Company and Industry as being a significant leader. This position may have direct or indirect Supervisory Responsibilities.