



Gasification Process Design Engineer

Plasco Energy Group Inc. is a private Canadian waste conversion and energy generation company.

We are looking for a **Gasification Expert** to join our conversion technology team. Reporting to VP Engineering, the ideal candidate has 10 or more years of experience and will be a subject matter expert and contribute to the advancement of Plasco's market-leading technology for plasma-assisted gasification of Municipal Solid Waste. He or she has a degree in engineering and possesses excellent problem solving and communication skills.

The Challenge

- Simulation, design, testing and optimization of gasification reactors.
- Simulation, design, testing and optimization of ash melting systems.
- Simulation, design, testing and optimization of bottom grate systems used to move feedstock through gasification reactors.
- Development of plasma torch systems and optimization of plasma catalysis and plasma melting systems.
- Data analysis and optimization of gasification and ash melting processes.
- Gasification system process modeling: Overall Mass-Heat Balance of MSW gasification system, simulation of core gasification process, simulation of heat recovery, gas-handling, gas clean-up, combustion, and power generation unit operations.
- Improve/develop tools for predicting plant performance based on varying feedstock and operating conditions.

Your Qualifications/Experience:

- 10+ years experience.
- Specialized knowledge of gasification processes.
- Experience with reactor design and simulation. Able to calculate the required size and dimensions of reactor vessels. Able to simulate and evaluate reactor performance by computational means (heat transfer & temperature distribution, mixing, flow patterns, hydraulics, chemical reaction, production rate, etc.).
- Experience with high temperature processes, metallurgy, refractory.
- Knowledge of chemical process simulation software. Specific experience with such as Aspentech HYSYS or ASPENPLUS preferred.
- Good technical writing skills (technical reports, test plans, etc.).

- Able to analyze problems, and identify required course of action.
- Capable of assuming responsibility for broad objectives. Able to independently make decisions and take action to ensure successful accomplishment of objectives.
- Fluent in written and spoken English.

Nice to have:

- Member of PEO or eligible to become member
- Knowledge of computer-aided engineering design software. Specific experience with ANSYS FLUENT Flow Modeling Software preferred.
- Experience with creation of specifications, requests for quotes and scopes of work for process equipment.
- Field work experience – able to participate in the start-up, testing, and commissioning of conversion systems. Practical experience with operation of process equipment and control systems. Good knowledge of instrumentation.
- Experience with process design calculations such as line sizing, equipment sizing, PFD and P&ID development.

Required Education:

Bachelors degree in Engineering, Masters or PhD. Preferable.

We thank all participants in advance and advise that only those candidates selected for an interview will be contacted.