

ANTOINE TECHNICAL CONSULTING LLC

www.antoinetech.com | 832-356-3903

Core Competencies

Antoine Technical Consulting provides technical services for chemical processes in:

- Troubleshooting
- Start-up
- Scale-up
- Chemical process simulation (CHEMCAD)
- Equipment selection and sizing
- Basis of design
- Appropriations requests

Past Performance

- **Design of flammable storage & conveyance space for Corning Pharmaceutical Glass.** Managed team to develop engineering requirements, design and equipment procurement for a \$1.5MM space for the storage and conveyance of flammable liquids per NFPA 30 and in compliance with current Good Manufacturing Practices (cGMPs)
- **Technology transfer of ion exchange process for Antimicrobial Corning Gorilla Glass.** Led development work of technology to enable homogenization of salt bath melts for ion exchange of glass. Supported onsite deployment of this technology at a contract manufacturer in China. Work led to one patent application.
- **Mass balance study to guide technology selection for ion exchange process for Antimicrobial Corning Gorilla Glass.** Utilizing mass balance principles, it was possible to show the economic advantage in choosing one in-house technology over the other (~20% cost difference). This resulted in precious metal usage savings and reduced concentrations in process streams. This information was used as a basis to determine cost-effective waste treatment methodologies.
- **Development of technical design package for installation of ion exchange plant in Hungary.** Led international and cross-functional team to develop basis of design for ion exchange manufacturing plant. Developed cost estimates and drafted appropriation requests totaling ~ \$1.5MM for equipment for a capital expansion project. Involved in procurement and vendor selection.

Capability Statement



Keisha Antoine, PhD, PE
Principal
Phone: 832-356-3903
Email: keisha@antoinetech.com
Skype: Keisha_antoine

- Front-end engineering design (FEED)
- Energy assessments of your processes
- Environmental permitting

Past Performance cont'd

- **Carbon footprint analysis of the LCD melting process.** Worked with other subject-matter experts to show how the carbon footprint was affected by the technologies used to melt and form glass and the manufacturing efficiencies.
- **Developed methodology to translate LFL readings to VOC concentrations in kilns.** With a thorough knowledge of engineering principles and applying NFPA 86 for furnaces and kilns, we were able to show the engineering staff how to make better use of their data to calculate VOC concentrations and their dependence on kiln loading.

Differentiators

- **Unique qualifications.** A qualified professional engineer with extensive experience in scale-up and technology transfer at international contract manufacturer facilities. Dr. Antoine has provided services to the glass industry, particularly in glass melting, specialty glass functionalization, and energy analysis. With combined expertise in chemical process simulation (CHEMCAD), chemical engineering fundamentals and materials science & engineering, we provide services to the chemical process industries in concept design that would meet NFPA specifications.
- **Innovation.** Dr. Antoine holds one patent and has one patent pending, a testament to how Antoine Technical Consulting can generate IP to address your specific project challenges.
- **Flexibility.** We can come to you! Our Houston-based company serves customers across the United States and internationally.