



Process Engineering

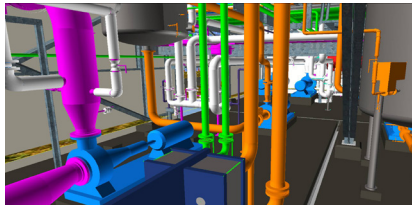
Our chemical-process engineers typically come to us with years of experience from the industries that we serve – chemical manufacturing and equipment environments that instill process and safety management into our planning and experience base. Our process engineers can assess a plant production opportunity or problem and develop the technical information around which our design engineers build a project scope, schedule, and cost estimate. We offer licensed Professional Engineers in Process/Chemical Engineering in various states.



We offer a wide array of services and resources:

ENVIRONMENTAL CONTROL PERMITTING

- Permitting (Calculations, Documentation, and Preparation of Regulatory Permits)
- Abatement Design
- Vapor Recovery Design



PROCESS DESIGN

- Lab/Pilot Plant Design
- New Process Design
- Complete New Site Development with Integration of Multiple Processes
- Conceptual Design, Cost and Feasibility Studies
- Debottlenecking Studies

PROCESS SPECIFICATIONS FOR

- Specialized Processing
 - Chemical
 - Fibers/Films
 - Power
 - Pharmaceutical
 - Tobacco
 - Ethanol
 - Biodiesel
 - Wood Pellets/Other Biomass
- Process Heating and Cooling
 - Heat Transfer Fluids
- Process Instrumentation

PROCESS SAFETY SERVICES

- Hazardous, Corrosive, and Explosive Processes
- OSHA 1910 Compliance Reviews
- Process Hazards Analysis (PHA/HAZOP) Facilitation, Participation and Execution
- Process Venting & Relief Design/Relief Valve Sizing

POST-CONSTRUCTION SERVICES

- Operating Manuals and Procedures
- Checkout
- Commissioning
- Validation

- Process Scale Up
- Mass/Material and Energy Balances
- PFD and P&ID Development
- Intelligent P&ID's (Bentley)
- Utility Studies
- Fluid Flow Analysis (Compressible and Incompressible)

- Reactors
- Scrubbers
- Oxidizers (Thermal and Catalytic)
- Condensers
- Distillation Columns
- Pumping
- Filtration
- Agitation / Mixing
- Conveying – Pneumatic and Mechanical
- Dust Collection
- Utilities (Cooling Water, Chilled Water, Steam, Compressed Air)