

Process Engineering

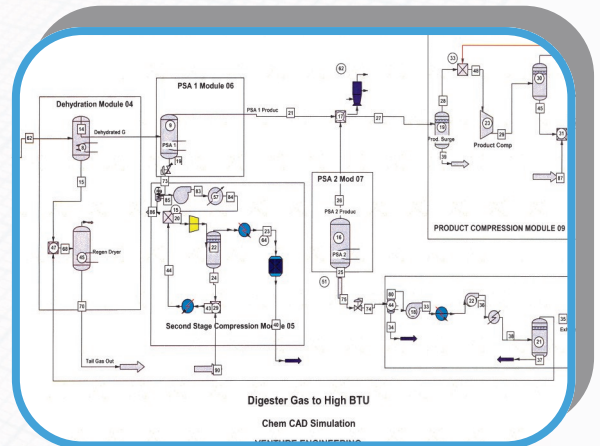
WITH A DIVERSE BACKGROUND ENCOMPASSING REFINING, PLANT ENGINEERING, ENVIRONMENTAL TECHNOLOGY, GREEN FUELS, MATERIAL HANDLING AND CHEMICALS, VENTURE'S STAFF OFFER WELL-ROUNDED CAPABILITIES. IN ADDITION TO THE CHEMICAL ENGINEERS IN THE PROCESS GROUP, OUR CHEMICAL ENGINEERS IN OTHER MANAGEMENT AND OWNERSHIP POSITIONS REFLECT VENTURE'S COMMITMENT TO LEADERSHIP IN THIS AREA.

Typical Focus

- △ Batch chemical processing
- △ Continuous chemical processing
- △ Material handling and packaging:
solids and liquids
- △ Conversions of composition, state or size
- △ Size and composition separation

HAZOP

HAZOP studies occur after the equipment list and the PIDs have been finalized. A HAZOP study is typically conducted in a series of meetings, with a multidisciplinary team. Venture participates in HAZOPs, process safety reviews, pre-startup safety reviews, and other functions.



Recent HAZOP projects by Venture include:

An 18 MGY biodiesel plant producing biodiesel from multiple feed stocks including soy oil and animal fat.

A 10,000 scfm landfill gas desulfurization plant.

A 1.5 MGD wastewater treatment plant for a steel mill that included physical, chemical and biological treatment processes.

Multiple landfill gas-to-energy plants.

Multi-effect evaporation and crystallization plant for Marcellus frac water treatment.

A 2.8 MM and 6.0 MM landfill gas to high BTU gas plant.

Services

- △ Project front ending
- △ Block flow diagrams
- △ Process flow diagrams
- △ Mass and energy balances
- △ Process & instrumentation diagrams
- △ Equipment lists
- △ Line lists (material compatibility)
- △ Equipment data sheets
- △ General arrangements
- △ Process descriptions
- △ Modeling (ChemCAD)
- △ Calculations
- △ HAZOPs
- △ Process equipment selection
- △ Vessel drawings
- △ Scope and estimating studies
- △ ROI analysis
- △ Feasibility studies
- △ Commissioning/start-up support
- △ Field services support

Tools

ChemCAD
 AutoCAD PID
 NAIMA 3E Plus
 HAZOP Manager

Equipment and Systems Specified

Mixers, dryers, reactors, adsorbers, reboilers, condensers, mills, centrifuges, calciners, pumps, kilns, slitters, distillation columns, filtration, flares-candle stick and enclosed, thermal oxidizers, packaging systems— palletizers, marking systems, form/fill/seal systems, wrappers, sealers, vapor deposition systems, scrubbers, core cutters and notcher, blowers, compressors, heat exchangers, clarifiers, settlers, chillers, conservation vents and reliefs, vacuum pumps

