

TRIAD ENGINEERING (www.triadenghou.com) - SERVICES

Projects

Hydrocarbon liquids pump stations (electric and turbine driven)
Underground storage (salt dome) leaching facilities
Hydrocarbon liquid metering stations
Pipeline system design (including launchers and receivers)
Underground gas storage injection/withdraw compressor stations
Natural gas dehydration facilities
Hydrocarbon liquids dehydration facilities
Product Loading/Unloading Stations (truck, rail, ship and etc.)
Hydrocarbon (NGL) fractionators
Cryogenic, Merox and CSP Units
Plant upgrades / debottlenecking
Feasibility studies and reports
Capital Cost Estimates

Work Scope Limitations

\$15-\$20mm TIC Projects
No geographical limitation

Project Management

Project execution and administration
Scope development

Project Controls

Total installed cost estimating using Aspen Icarus (IPM)
Cost control, budgeting and forecasting
Schedule planning, control and forecasting
Project performance and progress reporting
Database controlled documentation (drawings, design information and etc.) flow to/from Client

Procurement

Develop material requisitions and Purchase Orders on Client or Triad paper
Database requisitions and purchaser order tracking system
Database expediting tracking system

Process Engineering and Design

Conceptual studies and designs
Optimization and feasibility studies
Utility and energy studies
Process design/simulations using Aspen Hysys
Process Flow Diagrams and P&ID's
Mass and energy balances
PSV sizing calculations
Line sizing and piping network analysis
Equipment sizing, selection and specifications
Process troubleshooting/problem solving

Structural Engineering and Design

Pipe racks, loading/unloading platforms, service platforms, elevated equipment support structures, piping supports, etc.
Use of RISA 3D and other computer software for structural steel design and analysis

Civil Engineering and Design

Specification of soil investigation requirements
Use of Dimensional Solutions Foundation 3D, Shaft 3D, Mat 3D for foundation design
Site preparation design and foundation design

Architectural Services

Office buildings, warehouses, control buildings, compressor buildings and etc.

Environmental Engineering and Design

Containment system evaluations and/or designs for hazardous and non-hazardous materials

Mechanical Engineering and Design

Equipment specs, selection and procurement support
Equipment Inquiry / PO packages development
Equipment commercial and technical bid evaluations with recommendations
Rotating equipment evaluation and selection
Pressure vessel design using Codeware COMPRESS software
Vessel and tank design (with outline drawings)
Heat exchanger evaluation and selection
Fired heater evaluation and selection

Piping Engineering and Design

Pipe Stress Analysis using Caesar II
Specifications for piping, painting, insulation and heat tracing
Equipment arrangement and plot plan studies.
Piping Designs using AutoCAD with FlecCad and/or CadWorx third party software in 2D or 3D format
P&ID walk-downs
Conversion of paper drawings (P&ID's, electrical, instrumentation and etc.) to CAD (electronic) drawings

Electrical Engineering and Design

Electrical system studies, including relay coordination short circuit, voltage drop and motor starting
Specification development for Powerhouses and MCC switchgear buildings, transformers, VFD drives and etc.
Equipment Inquiry / PO packages development
Equipment commercial and technical bid evaluations with recommendations
Electrical design:
One-line diagrams
Cable and cable schedules, conduit routing and installation details
Interconnection / marshalling rack wiring diagrams
Motor wiring schematics
Lightning system design and protection systems
Grounding systems
Electric heat tracing systems
High voltage (substation) systems design

Instrument Engineering and Design

Process control system design
Instrument sizing, specification, selection and procurement support
Instrument design: location plans, installation details, junction box drawings, control cabinet drawings, wiring schematics, loop drawings, control/rack room design and layout, material lists and etc.
Troubleshooting/problem solving

Controls Systems

Control systems selection and specification
PLC systems upgrades to current technology
PLC programming (Allen Bradley, Modicon, GE and etc.)

Field Services

Construction Management
Consulting (mechanical, electrical, instrumentation, control systems, civil/structural and etc.)
Startup assistance
As Built Drawings

Commissioning and Operations

Write procedures and provide assistance for:
Pre-commissioning and Commissioning
Initial startup, operating, and maintenance
Operating and maintenance manual preparation
Inspection and Testing
Functional Testing