

CLIENT: Confidential

LOCATION: Durham, North Carolina



SCOPE OF WORK: Preliminary Design

YEAR: 2007

PROJECT TYPE: Biomass Gasification Unit

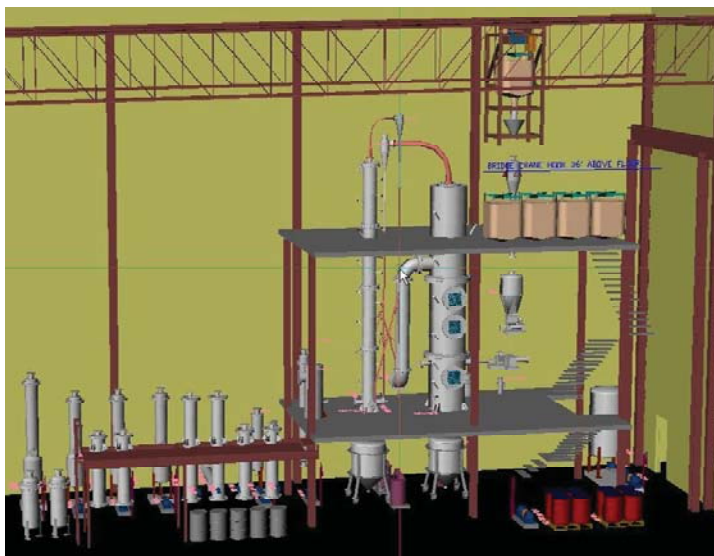
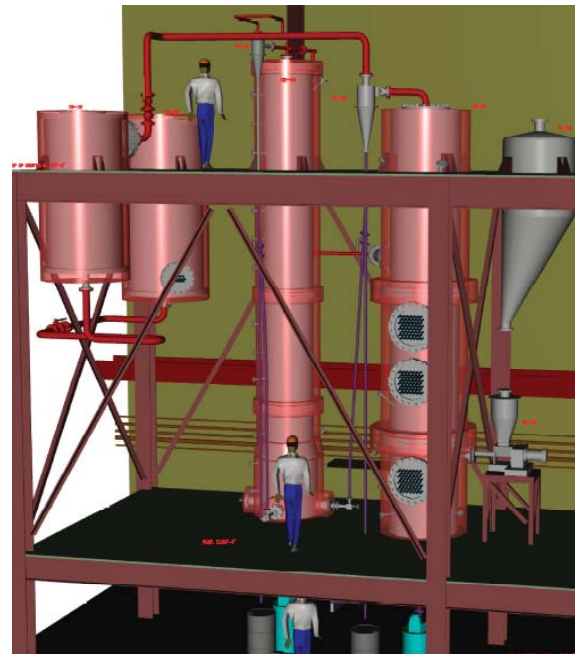
CONTACT: Available upon request

PILOT BIOFUELS PROCESS DEVELOPMENT SYSTEM

A client required a pilot scale facility to demonstrate commercial viability and material balance performance for a novel biomass gasification technology. **IDEA** Engineering provided a preliminary and detailed design services utilizing 3-D modeling techniques. Additional cost estimating, project scheduling and value engineering services were provided.

This pilot plant system includes:

- A dry solids feed sub-system complete with superheated steam and hot gas fluidization media
- Fluid bed gasifier, cyclonic separators, solids recirculation, catalytic bed desulfurizers and tar-hydrocarbon crackers.
- High temperature multi-stage scrubber and environmental systems.
- Process equipment and piping system required special high temperature stainless steels, and refractory lined carbon steel reactor vessels.



IDEA Engineering designed the system to fit into an existing building and a self-supporting framework structure is planned to for the reactor systems, cyclone separators, heat exchangers, interconnecting piping, operator access ways and the associated control panels. The project required a fast-track approach with close coordination between the engineering, fabrication and construction.

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