



# Richard Design Services, United States

## Key Facts

**Company:** Richard Design Services

**Website:** [www.richardig.com](http://www.richardig.com)

**Industry:** Power

**Country:** United States

## Products Used:

- CAESAR II®
- CADWorx® Plant Professional
- Intergraph Smart® Instrumentation

## Richard Design Services Saves 100,000 Engineering Hours with Hexagon Solutions

Headquartered in Beaumont, Texas, USA, Richard Design Services is a full-service engineering company providing front-end development of detail design for both large and small projects. The firm's 550 employees provide expertise for clients across the region.

Richard Design Services provided engineering for a renewable diesel facility in Norco, Louisiana, capable of producing more than 10,000 barrels per day (BPD) of diesel from inedible oils and other waste feedstock. A joint venture of Darling International and Diamond Alternative Energy, a Valero subsidiary, the project included the hydrotreating facility, pre-treating facility, storage tanks, rail offloading facilities and offsite installations.

The assignment covered front-end development, detail design and design management. The project included 200,000 linear feet of pipe, 450 pieces of equipment and pipe ranging from 1.5 inches to 24 inches in diameter. The US\$360 million project is the largest renewable diesel facility in the United States.

## Meeting Challenges of Fast-track Schedule

The Norco project required fast-track engineering while still developing the final design, with a 12-month engineering schedule and 22-month overall schedule that would require many work hours by Richard Design Services engineers and technicians. To address these challenges, the company chose CADWorx Plant Professional, CAESAR II and Intergraph Smart Instrumentation for an integrated approach.

“A project of this size using other programs would have taken an estimated 300,000 work hours,” explained Michael Tran, design coordinator at Richards Design Services. “With CADWorx for design, we were able to complete it in 200,000 hours, cutting the time by one third.” Using the interfacing capabilities in CADWorx and CAESAR II, the piping isometric drawings were fabricated before engineering was completed.

“The clients were very satisfied with the end product,” Tran said. Without these tools, the schedule would have slipped and incurred an estimated 100,000 or more additional project hours. Using CADWorx and CAESAR II, they produced pipe isometrics, stress analysis reports, structural design drawings, piping plans and other deliverables.

### **Benefiting from CADWorx and CAESAR II Efficiencies**

The isometrics were given to pipe fabricators for spooling and the stress analysis technicians were able to use the output from CADWorx Plant Professional for stress analysis. This saved the firm many project hours when compared to what would be possible with other design programs.

Richard Design Services produced over 6,500 isometric drawings automatically and provided accurate quantities for pipe and structural by using CADWorx to produce automatic bills of material, all while avoiding schedule slips. This was the largest renewable diesel facility in the United States, requiring over 65 specifications and thousands of isometric drawings. From start of engineering to completion took just 23 months and the project’s 10,000 BPD design is currently operating at over 11,000 BPD.



**With CADWorx for design, we were able to complete it in 200,000 man-hours, cutting the time by one third.”**

– Michael Tran, Design Coordinator, Richards Design Services

## **About Hexagon**

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Hexagon’s PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build, and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 21,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](http://hexagon.com) and follow us @HexagonAB.