



CASE STUDY

ICPE improves project efficiency by leveraging Octave's design and analysis solutions



Key facts:

Company:
Intermountain
Consumer Professional
Engineers (ICPE)

Website:
www.icpeinc.com

Industry: Oil & Gas -
Onshore

Country: United States

Octave products used:
Forte 3DWorx (*CADWorx
Plant Professional*), Aspect
Pipe Stress (*CAESAR II*)

Based in Midvale, Utah, U.S., Intermountain Consumer Professional Engineers, Inc. (ICPE) provides mechanical, electrical, civil, and structural engineering and design services to a wide sector of industries. Founded in 1979, the firm's engineers and project managers focus on delivering results safely, on time and within budget.

Identifying goals

Tesoro Refining & Marketing Company LLC, a Tesoro Corporation subsidiary, and Savage Companies entered into a joint venture on a 360,000 barrel-per-day (bpd) crude-by-rail uploading and marine loading facility at the Port of Vancouver, Washington. The Tesoro-Savage joint venture will own the facility. Savage oversaw the design, construction and operation. The facility will provide crude oil to U.S. refineries to help offset declining production from Alaska and California and more expensive foreign imports. The project included modeling all tank storage areas, piping, train unloading and marine vessel loading facilities.

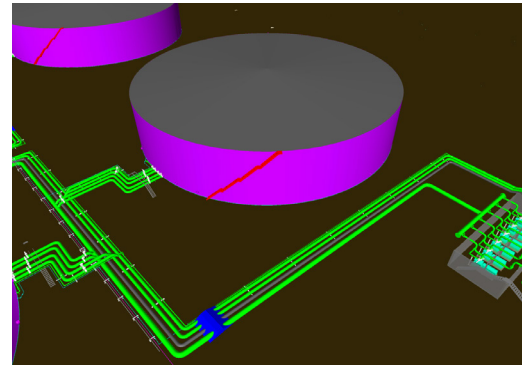
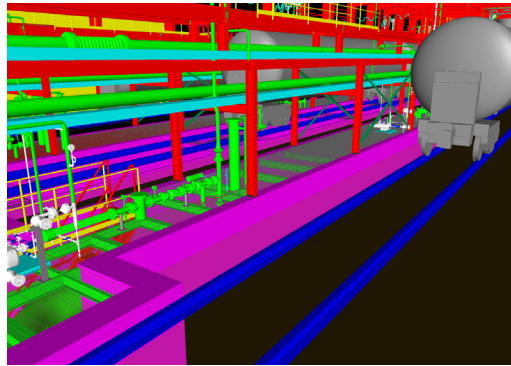
Overcoming challenges

With stringent environmental and energy regulations, the project faced a long approval process involving extensive reviews and revisions. These often increase costs and delay schedules, with the 3D model under review for a period of time. Once approved, the project needed to ramp-up quickly through the software and detail design groups. The software team had to update the 3D model metadata and create and transfer new pipe specifications.

ICPE also decided to evaluate BricsCAD as an alternative Forte 3DWorx foundation. The design team, new to the project, had to develop material take-offs for estimates and evaluate alternative site layouts to deliver material savings and balance costs with efficient operation. They used Forte 3DWorx Plant with Forte 3DWorx Specification Editor and I-Configure. Deliverables included the baseline materials list, plans, sections, isometric project configurations, and materials estimates.

Key benefits:

- Maintained baseline material list according to project's breakdown structure and segmented by area
- Updated plans and sections using Forte 3DWorx running on BricsCAD®
- Took advantage of isometrics project configuration using I-Configure and automatic attribute population
- Generated material estimates for alternative layouts according to client requests

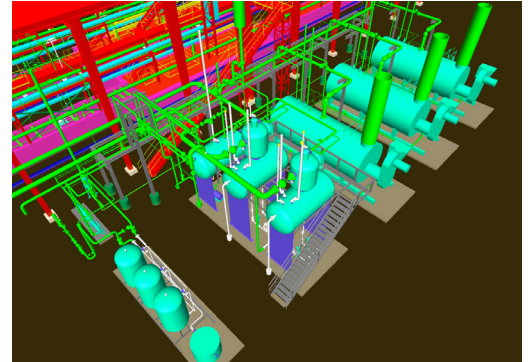


Realizing results

By using Forte 3DWorx, ICPE improved internal processes without increasing staffing.

"We determined that we could reduce costs by using Forte 3DWorx on the more affordable BricsCAD platform," explained Javier Barrios, senior designer and software engineer.

With Forte 3DWorx, the team eliminated incorrect and inconsistent data between pipe specifications and 3D models because they could push updates from the pipe catalogs to the model. They avoided manual corrections of the materials list and isometric drawings.



An internal estimate projected a savings of approximately \$6,500 per Forte 3DWorx user over five years. Overall, Forte 3DWorx helped them save an estimated 960 work-hours.

"Our designers could proceed with the model without waiting on specs, saving significant time."

Javier Barrios
Senior Designer and Software Engineer, ICPE

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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