



## CASE STUDY

# Ford, Bacon & Davis foster training and knowledge with Octave Aspect Pipe Stress and Aspect Pressure Vessel

### Key facts:

**Company:** Ford, Bacon & Davis, LLC

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

**Industry:** Construction, Gas, Petrochemical

**Country:** United States

**Octave products used:** Aspect Pipe Stress (CAESAR II), Aspect Pressure Vessel (PV Elite)

Headquartered in Baton Rouge, La., Ford, Bacon & Davis LLC provides full-service engineering, procurement, project management and construction management to leading names in energy and manufacturing. Since its beginnings in 1973, the company has grown to 700 employees with five offices across the Gulf South region of the United States.

Engineering analysis can involve newly designed systems with rotating equipment, piping and vessels. Projects with 2- to 12-inch diameter pipes at medium to high temperatures are common. Some may require only 15 or fewer calculations for 100 feet of pipe while others involved complex calculations for thousands of feet of piping.

### Identifying goals

Recent engineering graduates with book knowledge often lack on-the-job practical experience. Thrown into the workforce, they often look to their more experienced peers to learn best practices for stress analysis. Learning complicated, less than user-friendly analysis software can make the challenge even harder. This hampers productivity and can produce subpar outcomes and inferior installations. Failing to calculate and apply the correct standards on a project can put worker safety at risk during the construction phase and reduce operating performance and length of service of the piping systems.



### Overcoming challenges

It can be challenging for engineers to communicate technical calculations to clients that come from non-technical backgrounds because complex stress analysis calculations can be difficult to understand in their typical output. Also, numbers and formulae alone on paper may not convey the importance of accurate stress analysis.

### Realizing results

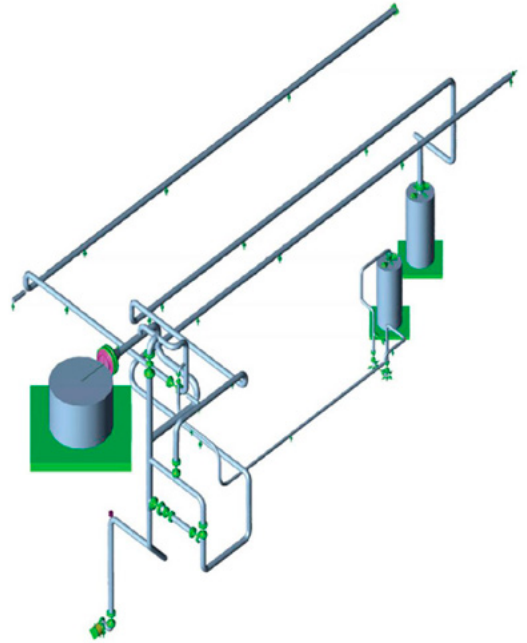
To address these issues, Ford, Bacon & Davis chose Aspect Pipe Stress and Aspect Pressure Vessel as its tools for analyzing pipe and vessel stresses and producing stress isometrics and restraint summaries. Aspect Pipe Stress' artificial intelligence gives entry-level and even more experienced engineers access to key knowledge while they gain experience.

## Key benefits:

- Utilized Aspect Pipe Stress' visual pipe stress representations to simplify communication with non-technical clientele
- Employed Aspect Pipe Stress' AI capabilities to provide essential knowledge to novice engineers during training
- Boosted efficiency in stress engineering and report creation, resulting in valuable time-savings

The software walks them through each step of the process to ensure accurate calculations and designs to standard. "Without a program as easy to use and understand as Aspect Pipe Stress, the stress engineering would take substantially longer and would be more difficult to present to our clients," said Jared Altazan, Stress Analyst at Ford, Bacon & Davis.

Aspect Pipe Stress' color-coded stress visual and animated displacement model make it easy to show the contrast between a well-designed and poorly designed piping system. The output format is easy for a client to understand because it shows how various influences affect the piping and provides a visual representation of all of the stresses. "Aspect Pipe Stress brings an important visual aspect to stress analysis because it transforms a complex engineering science with numerous numbers, formulae and calculations into an easily understood visual representation," Altazan said. "Approvals are fast, and the client is pleased with results."



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**Jared Altazan**  
Stress Analyst at Ford, Bacon & Davis

## 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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