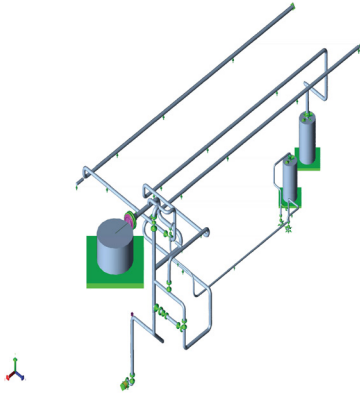


# CASE STUDY



# CADWorx & Analysis Solutions



“CAESAR II provides the output files in an easy to read and understand format so that even clients with non-engineering backgrounds can understand the end results.”

## PRODUCT INDEX

Intergraph CAESAR II®

Intergraph PV Elite®

## INDUSTRIES SERVED

- Construction
- Gas
- Petrochemical

## Ford, Bacon & Davis foster training and knowledge with CAESAR II and PV Elite

Headquartered in Baton Rouge, Louisiana, 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.

### Facing complex tasks with little experience

One of Kahuna's first projects was for Caiman Energy Inc. of Dallas, Texas. Caiman had chosen them for the design and engineering for a 200-MMcfd (million cubic feet per day) cryogenic gas plant project at Fort Beeler in West Virginia. Ultimately expanded to include three plants producing over 700-MMcfd of gas, the project entailed around \$5 million worth of complex piping ranging from 2" to 24" diameter. Kahuna was to produce a complete 3D model of the piping system; create isometric drawings, sections, and elevations for fabrication and facility construction; and produce complete project bills of material for purchasing.

### Conveying technical results

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

### Leveraging CAESAR II and PV Elite for easier analysis and better results

To address these issues, Ford, Bacon & Davis chose Intergraph CAESAR II and PV Elite as its tools for analyzing pipe and vessel stresses and producing stress isometrics and restraint summaries. CAESAR II's artificial intelligence gives entry-level and even more experienced engineers access to key knowledge while they gain experience. 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 CAESAR II, the stress engineering would take substantially longer and would be more difficult to present to our clients," explained Jared Altazan, Stress Analyst at Ford, Bacon & Davis.

### Delivering value for all project collaborators

CAESAR II's 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. "CAESAR II 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."

## Intergraph CAS

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