



## **CADWorx Makes for Smooth Sailing at Petrofac LLC**

Process plant designers reduce headaches, increase productivity by switching to 3D piping software from COADE, Inc.



*Tyler, Texas* - "A little more than a year ago, our frustration level was high because we were trying to make our software do what we needed it to do," begins Lee Anne Berryman Whitton, CAD support manager at Petrofac LLC, an ISO 9001 certified designer of process plants located 100 miles east of Dallas. Petrofac serves the oil production, oil refining, natural gas, and petrochemical industries. "We were spending too much time working around software issues, and it was interfering with our ability to focus on design work. Then we learned about **CADWorx**, and the difference has been like night and day."

### **AutoCAD-friendly solution for plant design**

Petrofac discussed the situation with **ECAD**, its long time AutoCAD dealer, and was told about **CADWorx** ([www.coade.com](http://www.coade.com)), an add-on plant design solution to AutoCAD. "They've been our AutoCAD dealer for over a decade," explains Whitton, "and they were very enthusiastic about **CADWorx**. We discovered that **CADWorx** works within the AutoCAD environment that we already know, respects AutoCAD commands, and uses the AutoCAD User Coordinate System [UCS]. In fact, our designers were amazed at how AutoCAD friendly it was."

So what kind of a difference has it made over the past year? "**CADWorx/P&ID** has proved to be instrumental in generating project P&ID drawings in an environment where we are usually operating with a short schedule. Although the drawing package seems simple at first glance, we have been impressed with the depth and flexibility of the features including customizing symbols, data, and configuration files for our use. The bi-directional link from **CADWorx** to **CAESAR II** [[COADE's](#) pipe stress analysis program] gave us an advantage that we did not have with our original software solution. And the Automatic Isometric feature is much more accurate and dependable than any other software solution we have used in the past."

"The Automatic Isometric feature is especially important to Petrofac LLC because we fabricate our own pipe spools. The drawings must be dimensionally correct as well as have accurate material listings for our shop. This is a valuable document for us to pass on to the fabrication shop team they count on it to build the job."

### **Using full spread of COADE products**

Petrofac actually uses a full spread of [COADE](#) software including:

- **CADWorx/P&ID** and **CADWorx/PIPE** for piping design/drafting;
- **CADWorx/Loops** for control systems design;
- **CAESAR II** for pipe stress analysis;
- **PVElite** for design/analysis of tall towers and horizontal vessels; and
- **CODECALC** for design/analysis of pressure vessel components



The very first project where Petrofac used **CADWorx** was a sulfur recovery plant located in the western United States. "We were certainly a bit nervous, coming off such a bad software experience," admits Whitton. "Anytime you make a major change like that, you have some concerns. But we really had no issues at all with **CADWorx**. We just hit the ground running. We saw an immediate improvement in our productivity."

#### **CADWorx saves time**

Whitton reports that what Petrofac needed - and what it found in **CADWorx** - is rock solid software that simply gets the job done. "In our business," says Whitton, "we don't have time to work around software issues and problems that affect our workflow. With **CADWorx**, we have all of the tools that we need to be productive in this type of fast-paced environment. The software is very stable. You don't have to tiptoe around and coax it along to see results, as we have with other solutions we have used in the past."

#### **Simplicity by design**

"I don't think I can say this too many times," says Whitton: "**CADWorx** is absolutely simple to work with. Since much of my time is spent on configurations, I can say with confidence that the configuration options are very easy to set up and maintain. Our old plant design software was loaded with configuration options that seemed to be great for administering the software on the surface, but never actually worked the way that they should have. I spent much more time on custom configuration files and configuring things that should have been built into the software. Instead, they had to be coded into the program files. With **CADWorx**, that problem has virtually disappeared."

She continues, "I'll give you another example: with our previous software package, in order to change something as basic as a line number configuration, we had to go in and edit a [Microsoft] Visual Basic script. With **CADWorx**, making a change like that is a snap."

"You have to realize that a plant design is like a house plan in many ways. It has layers upon layers of detail. So it's important to be able to zero in and isolate a particular item - such as when you're trying to do a spool drawing or an isometric drawing of a single piping line. That's where **CADWorx** really pays some huge dividends."

#### **Well-designed software**

Whitton says that **CADWorx** is a well-designed piece of software, and she and the Petrofac design team have been able to readily understand the thinking and methodology behind it. "No piece of software is written specifically for your company. You become adept at figuring out how to use the software to your best advantage, and that has been easy to do with **CADWorx**. We have figured out how everything is configured, where everything is stored, what you can touch and

what you can't. It is just a much easier product to work with than we're used to using."

### **Sharing database information**

Petrofac is working towards building a plant model where interrelated systems are connected through a database - and **CADWorx** is helping them reach that goal.

"**CADWorx/P&ID** has made it very easy to provide database information for any design group's use," explains Whitton. "This was made evident when the Controls Systems department developed a database shell to link to the P&ID database. The dynamic flow of data from the P&ID project database directly into the control systems database has resulted in greater accuracy when counting the input/output [I/O] totals. We plan to use the project database in even more ways as we learn how to integrate our data with other groups that share common project information."



### **Technical support from actual piping designers**

Petrofac rarely has to call for technical support, but when it does, the company has been pleasantly surprised. "When I called [COADE](#) and discovered that I was actually talking to the programmers who wrote the software, I was quite literally in awe," admits Whitton. "I believe the gentleman I spoke with was a former piping designer himself before he became a software programmer, so he knew exactly what we were talking about. I can say that we usually get same-day resolution on most items. The support is also very flexible- I've used email, telephone, and even posted questions on the [COADE](#) website- all with good results. The technical support has been extraordinary."

### **Collaboration capabilities a plus**

"One of our major concerns was obtaining a software solution that would enable us to work cooperatively with Petrofac international offices," notes Whitton. "We needed a solution that was flexible enough to allow our U.S. office to continue to work and model in 3D as much as possible, and yet still allow our office in Sharjah, the United Arab Emirates, to use the same software for a 2D solution when necessary." Whitton continues, "That has also gone more smoothly than we expected. We work on projects during the day and FTP them to Sharjah at night. They do the exact same thing at the end of their workday. It works great."

### **Rates software a 9 out of 10**

How does Petrofac rate **CADWorx** on a scale from 1 to 10? "We're very pleased with the overall results that we've had with **CADWorx**," concludes Whitton. "I'm

not sure that anybody is absolutely perfect. I'll give them a 9. It's an extraordinarily dependable product that more people need to know about."

