

## Engineering Team Creates Millions of Dollars in Annual Savings at Energy Infrastructure Company

One of the largest energy infrastructure companies in North America transports a significant share of the gas and oil that moves across Canada, Mexico, and the United States.

Operating Procedures are the bedrock on which this Company has built its foundations. The goal of the Pipeline Integrity team is to meet the highest standards of compliance and procedures while satisfying the needs of internal customers. Among many other things, this team is responsible for accommodating all of the people and organizations who need to cross the Company's pipelines.

One Group within the Company acts as the point of contact for permission requests to cross pipelines. The Group sends thousands of pipe-crossing requests to the Pipeline Integrity team each year. They triage each application to evaluate the need and urgency, prioritizing time-critical calculations.

The team had previously relied on a home-made solution to calculate wheel and track loads for pipe crossings. Now they use Pipeline Toolbox (PLTB) by Technical Toolboxes to produce rapid, cost-effective analyses that reduce risk.

### The Challenge

The Company depends on the Pipeline Integrity team to analyze individual crossing requests. Before they chose PLTB, the team had been using a software solution developed by Company engineers using the Spangler Method.

Each engineer can perform approximately 600 calculations a year. Time pressure is a significant factor as

internal customers need fast responses and answers they can trust. When a party requests to cross a Company pipeline, the answer is seldom a simple yes or no. Instead, it could be yes with a list of restrictions or conditions.

**“The biggest pain was the long time required to respond to our internal customer. With PLTB you can change one variables and hit the calculate button.”**

A major pain point was the amount of time the home-grown solution took to compute wheel-load/track-load calculations. Although the solution was nominally effective in deploying the equations, it was cumbersome to use and not user-friendly.

Additionally, calculation rates slowed dramatically anytime the parameters changed. If the engineers wanted to run two analyses, they had to complete each one separately, entering the data twice.

## The Pipeline Toolbox Solution

The Company chose PLTB from Technical Toolboxes several years ago and has never looked back. PLTB gave the Company immediate and dramatic efficiency improvements and cost reductions.

### Real ROI

Now, each calculation takes much less time, and the Company has redeployed six engineers to other roles, with a savings of \$200,000 per year per engineer. That equates to a real savings of \$1.2 million per year. Additional millions in savings come from extending the lives of equipment and other improvements.

Further, The Pipeline Integrity engineer inputs data into PLTB once. After that, it is available for every subsequent analysis, which saves time. All they have to do is adjust the variables they want to investigate and hit the “Calculate” button.

**“In the past we had, six or seven guys that knew how to use the our homegrown method, now using PLTB, I can do it myself, freeing up dedicated staff time to do other stuff.”**

### Less Training

PLTB also requires less training, and the ease with which staff becomes proficient with the solution is another advantage. New team members learn by performing real-world calculations under the watchful eye of an experienced engineer. The reduced time and cost of training has the added benefit of making

the pipeline integrity team more resilient in a rapidly changing engineering environment.

### Quick Turnaround

One of the most appealing advantages of PLTB for their engineers is the fast turnaround time for calculations. Sometimes incoming calculation requests give them as little as twenty minutes. PLTB provides a quick turnaround while freeing engineers to focus on other high-value tasks.

### Affordability

Before committing to PLTB exclusively, they decided it was affordable enough to purchase it as part of the evaluation. The price was extremely low in comparison to the cost of the six additional engineers required to do the work with the previous solution. During the trial, they compared it to four other solutions. PLTB consistently gave conservative results quickly with high confidence and low risk.

### Sustainability

The Pipeline Integrity team realized significant productivity gains by trading the old, home-made solution for PLTB. They receive consistent support and functionality/technology upgrades from Technical Toolboxes relieving their internal team with the added task of maintaining a software solution.

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