



The Challenge

When you're responsible for maintaining more than 14,000 kilometers of pipeline, collaboration across the extended enterprise isn't just important—it's imperative. Enbridge recognized that the way to enable effective collaboration among its geographically distributed network of employees and contractors was to provide shared access to business-critical information and automated best practice change processes. Enbridge chose Empresa's eChange Solutions to facilitate their collaboration needs.

Enabling Effective Collaboration of "The Tower" & Field

According to Tamara Caldwell, Engineering Systems Assistant of Enbridge Pipelines, "Enbridge is both a pipeline and an engineering company." To build and maintain its facilities and equipment, the company employs hundreds of people who work on more than 100,000 scanned images, drawings, specifications and CAD files. This business-critical information must be maintained for 50 years or the lifetime of the pipeline.

Enbridge Pipelines is comprised of a corporate group housed in the "Tower", field operations personnel who work along the pipeline and consultants who are located primarily in North America. Providing managed access to vital information for this extended "product team" was a daunting task.

"We had no electronic real time system to manage our pipeline and facilities information," said Tamara Caldwell. "Copies of a file existed over many disk arrays. We had to determine what to store, maintain and keep—to have accurate information." Without a main organization, it was difficult to locate files, and added days to projects.

"The Engineering department is in the Tower," said Caldwell. "Major activity—new projects, large-scale maintenance, etc.—is initiated and distributed there. If the pipeline maintenance crew or remote employees decide to do a maintenance job on their own, the information may never get back to the Tower."

Security was also a challenge. According to Caldwell, "Users could always find ways to get around procedures." With crucial and proprietary information on the line, unauthorized access and the ability to make unapproved changes became major corporate liabilities.

The Goal: Flat Files to e-Business

Enbridge has a longstanding tradition of finding innovative ways to solve problems. Caldwell says, "Given our business model, we knew the Internet was the way to go. The problem was that the only people who had access to our electronic files were the drawing control and distribution group, CAD operators and myself. No one else saw them. We sent out paper updates that were filed in binders. Filing became a cumbersome task and the updates were often shoved in a box in a corner. We needed an Internet-based change management solution that would help us to work cohesively and quickly."

eChange: The Solution of Choice

The eChange Solution is the fourth generation of document management within the Enbridge Engineering Department. Empresa eChange Solutions was selected for collaborative design change management. The main requirement for Enbridge was the ability to share information worldwide with engineers, consultants and contractors. In addition, they needed to reduce the cycle time for consultants to view, modify and return files to Enbridge. The solution also had to improve accuracy, increase security and offer ease-of-use. eChange Solutions successfully fulfilled all of their requirements and expectations.

A Collaborative Environment with eChange

According to Caldwell, "The communication that eChange Solutions provides is amazing." For Enbridge's extended product team, the eChange system delivers secure anywhere-access to business-critical information, automated best practice change processes, seamless integration with CAD and desktop applications and effective collaboration across technical, geographic and organizational barriers.

ABOUT ENBRIDGE, INC.

Enbridge, Inc. is a global leader in energy transportation and distribution in North America. As a transporter of energy, Enbridge operates, in Canada and the U.S., the world's longest crude oil and liquids pipeline system. The Company employs approximately 4,000 people, in Canada, the U.S. and South America. Enbridge's common shares trade on The Toronto Stock Exchange in Canada and on The New York Stock Exchange in the U.S. under the symbol ENB. More information about Enbridge is available at <http://www.enbridge.com/>.

eChange Solutions organizes information the way the team needs it, allowing for quick searches and easy Web access. Everyone from Tower employees to contractors working in remote parts of the pipeline can use the Internet to locate and access the data they need. Users are able to quickly identify where files are used in order to assess the impact of a change. Security and accuracy are no longer a problem due to eChange Solutions' strict file management capabilities. All change requests go through automated change processes to receive the proper approval and communication prior to implementation. In addition, eChange Solutions reduces the cycle time for changes by automatically routing change information and providing instant snapshots of process status.

Enbridge also takes advantage of utilities-specific functionality, including the ability to access specific information using a graphical map interface and sophisticated file numbering system. Caldwell says, "Our map search function allows authorized users to click on a point on a map or enter a kilometer or milepost value and access the information related to that location. It's very intuitive and saves us a lot of time."

Realizing Benefits of eChange

Enbridge benefited greatly from eChange Solutions. Prior to implementing their design change management solution, Enbridge had large-scale construction projects with teams who lacked a quick and easy way to access and manage vital information. This caused time delays, created inefficiencies and required manual, error-prone processes. With eChange Solutions, Enbridge drives change across its 14,000 kilometers of pipeline faster—reducing costs and improving performance.

The system's easy search and retrieval functionality helps employees to use the Web to identify and access only the files they need. Before eChange, the Engineering Department might receive a request for 1,000 drawings to be checked out to a consultant who did not know exactly which files were needed. If only 700 were applicable, Enbridge would have to cancel the 300 that weren't needed—a long, time-consuming process.

Caldwell also notes, "In the past, changes made in the field took three to six months to be updated in the system. With eChange Solutions, updates are immediate, reducing the risk of remote team members working on outdated and inaccurate information. What previously took two months now takes two hours with eChange Solutions."

eChange has received rave reviews for its ease-of-use and providing immediate productivity. Caldwell recalls, "I personally went from site to site to instruct the 90 individuals along the pipeline on using eChange Solutions. "In one instance, I trained someone in the morning and during the break in the afternoon session, he let me know that he was already running on the product. This is the standard for new users--people are excited about the system."

Looking Ahead—Long-term Value from eChange

Currently over 300 members of Enbridge's extended product team use eChange Solutions, and the number is expected to grow. Caldwell says, "Other departments who needed access from Canada and the U.S. have jumped on board. Anyone who has authorization and the need to access our pipeline and facilities information wants to use eChange."

Enbridge is in the process of implementing other ways to enhance pipeline collaboration so users can send information to the central office in real time to ensure eChange provides the latest and most accurate information. Since many of the company's larger locations hire their own contract people and engineering consultants, they can access the system and work on data, following an electronically managed process and the company's standards. "Caldwell sums it up best, "By deploying eChange Solutions, we've made everyone's job a little easier."



Enbridge Exchanges on eChange

"The communication that Enbridge eChange Solutions provide is amazing."

"I knew the way we do business, our international operations, the number of consulting firms that work with us, the needs we have for access by hundreds of people, that the Internet was the perfect solution for us."

"Anybody who has any need whatsoever to access our pipeline and facilities information wants to use eChange Solutions."

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