

CH2M HILL (formerly VECO) case study

Project Management Highlights

- 10 percent productivity gains in scheduling and reporting
- Web-based, standardized processes enable collaboration across multiple offices
- Consistency of information through centralized database
- Accurate estimates input directly into the schedule reducing duplication of effort
- Archiving ability provides better forecasting and risk management

CH2M HILL Corporation Turns to Primavera® and WinEst to Maximize Global Reach with Consistent Tools and Processes

CH2M HILL Corporation

As a rapidly growing engineering, procurement and construction (EPC) company, CH2M HILL Corporation, (formerly VECO Corporation) has completed projects totaling more than \$25 billion worldwide. Headquartered in Anchorage, Alaska, the multinational corporation focuses upon energy and process industries from its offices across the U.S.A., Canada, Russia, and most recently, Abu Dhabi (United Arab Emirates).

Projects performed by CH2M HILL over the years have taken the organization to some of the most challenging locations on the planet. Employees have worked in temperatures well below freezing in the Antarctic, Greenland and Siberia through CH2M HILL Polar and over 120 degrees centigrade in the Middle East through the MENA division. In 1989, CH2M HILL was the prime contractor for the multi-billion dollar Exxon-Valdez oil spill clean-up in the Prince William Sound and presently maintains a wide range of engineering, construction, procurement, operations and maintenance contracts for major and independent oil companies on Alaska's North Slope. Even under the harshest of conditions, the company maintains the highest standards for safety, currently achieving over 23 million labor hours without a lost time accident. To effectively manage these colossal and complex projects across hundreds of miles of wilderness, it's absolutely essential that CH2M HILL has clear communication and standardized work processes among its many offices.

The Challenge — Creating a Unified Company

CH2M HILL was formed as a small construction company in 1968 to support offshore oil and gas production in Alaska. Since that time, the owners have acquired a number of small companies, all of which worked as independent offices under CH2M HILL's umbrella. As the size of the corporation – and the size of its projects – continued to grow, so did the need for a more homogenous approach to project management. Each office was using its own combination of spreadsheets and home-grown applications, requiring project data to be compiled before it could be sent to the client, thus opening the door for potential project delays and errors.

As the company undertook larger, more global projects, it required the coordinated and collaborative efforts of its multiple offices. It was important for CH2M HILL to gain greater visibility into projects and costs as well as better insight into each project within its portfolio. The company also wanted to improve the accuracy and efficiency of its reporting.

In addition to looking for consistency among its offices, CH2M HILL faced the challenge of managing global teams, each with different cultures. The organization needed a better way to maximize its resources; at any given time it had to know which personnel were available so that it could assign the most qualified people to a particular project or task.

The lack of consistent information across the company also increased the burden of reporting for the Sarbanes-Oxley Act and other government regulations. The process of collecting the necessary data from each site and manager was comprehensive and time consuming.

The message was clear: CH2M HILL would standardize its tools, processes and data across the company.

With the executive support of its president, CH2M HILL's mission was to determine how to transform the company into a streamlined enterprise thus, launching a formal project controls initiative. The charter required implementation of the same work processes and procedures across all of its offices, and then finding the right solutions to execute. The strategic goal was to integrate CH2M HILL's estimating, scheduling and cost controls, as well as enable the company to track earned value management for its EPC projects.

The Solution – Primavera P5 and WinEstimator

CH2M HILL's first step was to align the company with standard project management terminology. It developed its own project management manual based upon the practices and principles within the Project Management Institute's *"Project Management Body of Knowledge."*

Once the corporate standards were established, it was time to select the right tools. Part of CH2M HILL's project controls initiative was a review of the applications already in use. One of those was Primavera. The company had been successfully using Primavera P3 as its baseline scheduling software for many years, and decided to: 1) upgrade to Primavera version 5.0 (P5), a suite of enterprise solutions that manage scheduling, documentation control and contract management; and 2) make Primavera the backbone of its new project controls program.

The web-enabled dashboard of P5 allows all levels of management to monitor project progress, anywhere, anytime. “Before Primavera, it took so long for hard copy reports to reach our project managers out in the field, that they lost the opportunity to be responsive to critical issues,” says Fumio Otsu, CH2M HILL project controls manager. “When you’re working in Alaska, Russia and the Middle East, there are people working every hour of the day and they need to constantly communicate cost and schedule information – we’re able to do that now.”

Another key application within CH2M HILL’s toolkit was WinEstimator, an estimating software. Given that WinEst could interface with the Primavera solution, CH2M HILL chose it as the estimating tool for the new initiative.

The bridge between Primavera and WinEst allowed the critical integration between estimating and scheduling for EPC projects. It also provided an archive of data from previous projects that reflected actual events as well as the knowledge of specialists across the organization – information that would become a guide for forecasting future projects while minimizing risk.

“We knew that having the right estimating tool would provide consistency and allow us to increase accuracy as our projects progressed,” explained Otsu. “WinEst allows us to create an entire cycle where we can do the estimates, do the work, then input the actual data back into the estimating database to use for future jobs. This gives us a very accurate picture of project costs throughout the life-cycle to be used again.”

And the integration is proving to be a huge time saver. WinEst allows CH2M HILL to estimate engineering and procurement activities and then send all the pertinent data -- resources, a set of activities and expenses – to P5 where it creates a resource-loaded schedule. Gone are the days when the detailed information entered into the estimate had to be re-entered into the schedule. Today, project managers are able to focus more on executing projects, instead of paperwork.

The Primavera/WinEst solution also met CH2M HILL’s requirement for standardization. “WinEst helps the estimating department standardize output reports and create cost estimates in a consistent format across different offices and projects,” says Erik Miles of the WinEst development team. “WinEst automatically reflects different measurements and dollar amounts for projects that are being executed in different countries,” added Miles.

And the centralized project information provided by P5 provides simultaneous access by multiple users to all relevant information, from management key performance indicators (KPIs) to detailed work assignments for individual team members. The idiosyncrasies of patched-together legacy systems have been replaced by the unified format of Windows™, supported by both WinEst and Primavera for consistency and ease-of-use.

The Benefits – Consistency, Collaboration, Confidence

CH2M HILL's decision to standardize on Primavera and WinEst changed the way that project controls are managed across the corporation. Offices that were once independent, each with its own set of procedures, now operate as one. A centralized database now provides consistent data, allowing multiple estimators from multiple offices to work collaboratively in real-time mode. As a result, the company has seen a 10 percent increase in productivity in both scheduling and reporting activities. Archived information now allows for data mining and replication of best practices, an effective tool for the improved planning and executing of new projects.

Today, CH2M HILL is a healthy, growing forward thinking company with consistent processes in place, and new level of confidence in the accuracy of its data. The result has been a more focused and effective workforce. Standardized reports are expediting the company's compliance with the Sarbanes-Oxley Act and other government-directed regulations. Estimates, schedules and cost controls are now synchronized for earned value management. And CH2M HILL, as well as its customers, can be confident that projects will be completed safely, on time and on budget.