

Produce More Oil & Gas Via E-Business Data-Sharing

DE-FC26-03NT15428

Program

This project was selected in response to DOE's Broad-Based Round 2 solicitation, DE-PS26-03NT41613.

Project Goal

In this project, California's oil and gas Risk-Based Data Management System (RBDMS) database will be updated to take advantage of .net software technology, and an XML schema will be developed to share data among industry, state agencies, and the Bureau of Land Management (BLM).

Performer

*Ground Water Protection Council (GWPC)
Oklahoma City, OK*

Project Results

Under this project, an XML data transfer schema was developed and tested against the RBDMS database. California will test this schema for the bulk transfer of permit applications with industry in late 2006. This schema is being reviewed for Nationwide applicability by state oil and gas agencies, BLM, American Petroleum Institute, and the Petroleum Open Software Corporation.

The California RBDMS system is using .net technology to process permit applications. This technology represents a significant advance over the old Access system developed in the early 1990's.

One California operator estimated that an automated permitting system for new drills and reworks could increase production from one of its larger oil and gas fields by 500,000 barrels per year.

Benefits

GWPC, the California Department of Oil, Gas, and Geothermal Resources (DOGGR), and other state agencies propose to build electronic commerce applications based on an Internet front-end user interface for DOE's Energy 100 Award-winning RBDMS data source and XML web services.

“BPXA supports the Risk-Based Data Management System and E-Commerce Initiative. This system will streamline our reporting and data submittal process. This paperless initiative will reduce our processing time by a minimum of 10%. Additional savings will be created as we move toward a paperless environment with electronic well files and reducing onsite and offsite storage costs. As the system matures, other cost-saving opportunities will develop.”

*Harold Engel, Staff Engineer
BPXA*

This project will slash the costs of regulatory compliance by automating routine regulatory reporting and permit-notice review by making it easier to exchange data with the oil and gas industry—especially small, independent operators. Such operators, which seldom have sophisticated in-house databases, will be able to use a subset of the same RBDMS tools available to the agencies on their desktops to file permit notices and production reports online. Once the data passes automated quality control checks, the application will upload the data into the agency's RBDMS data source. The operators will have access to state agency data sets to focus exploration efforts and to perform production forecasting, economic evaluations, and risk assessments. With the ability to identify economically feasible oil and gas prospects, including unconventional plays, over the Internet, operators will minimize travel and other costs. Because GWPC will coordinate these data-sharing efforts with BLM, this project will improve access to public lands and make strides toward reducing the duplicative reporting which industry is now subject for leases that cross jurisdictions. The resulting regulatory streamlining and improved access to agency data will make more domestic oil and gas available to the American public while continuing to safeguard environmental assets.

Background

RBDMS was developed in the early 1990s to manage state oil and gas agency data. The original system was not designed for e-commerce applications or to allow an Internet user interface. With the growth of technology, industry has requested that RBDMS add the following e-commerce features: data mining, reporting, and per-

mitting. This project has laid the groundwork for these initiatives by taking advantage of .net technology and the development of bulk data-transfer schemas using XML technology.

Project Summary

This project began the process of providing the ability to submit permit applications via the Internet, thereby allowing operators to better manage their wells and eliminate the need to duplicate their proposals to hard-copy.

This project, hosted by DOGGR, will reduce the costs of regulatory compliance by automating routine regulatory reporting and permit notice review and by making it easier to exchange data with the oil and gas industry—especially small, independent operators. For such operators, the costs to develop additional oil plays are disproportionate to those incurred by larger companies with readily accessible data resources. Operators are better able to manage their wells when a permit application can be submitted electronically. For example, if an operator's high-rate well goes down, and a permit is required to put it back in operation, the operator can expedite the permitting process by submitting an “e-permit” application from the field and receive an immediate response from DOGGR that allows the company to rework the well the same day it went out of commission. Thus the operator can quickly move a rig from a low-rate well to the higher-rate well, thereby putting more oil in the tank. The e-permit application also will reduce the permit “recycle” time, or the time it takes to submit a permit application and receive a permit. This normally takes 5-7 days via U.S. mail.

The project milestones include:

- A business case and data-use cases were developed to streamline data management. In some cases, this resulted in streamlining state regulations. Other states have followed the California approach and have modified their regulations and policies to streamline permitting and reporting.
- The XML schema for the bulk transfer of permit data has been built, reviewed, and tested.
- An online front-end for the data system was developed and is being further tested by California DOGGR staff.
- BLM has been participating in the project management team. This technology will be used to integrate statistics and BLM's electronic permitting systems.

Current Status (August 2005)

This project is in the final stages of completion. California was to begin testing the bulk transfer of data with industry in the fall of 2005.

“The Western States Petroleum Association (expresses) its continued support of DOGGR’s efforts in completing the electronic permitting project.... WSPA members also continue to support the need for the DOGGR electronic permitting system to be linked in the future to the Federal Bureau of Land Management system in order to streamline permitting of both the State and Federal agencies, which will provide even further increased efficiencies for the oil and gas industry.”

*Suzanne Noble
Coordinator, San Joaquin Valley
Western States Petroleum Association*

Publications

The Effects of the RBDMS/e-Commerce Initiative on Domestic Oil and Gas Production and Water Resource Protection, 2005, www.gwpc.org.

Technical Achievements of Five DOE Grant Initiatives, 2005, www.gwpc.org.

Project Start: September 30, 2003

Project End: September 29, 2005

Anticipated DOE Contribution: \$475,000

Performer Contribution: \$750,000 (61% of total)

Other Government Organizations Involved

State oil and gas commissions, BLM, and Minerals Management Service

Contact Information

NETL – Rhonda Jacobs (rhonda.jacobs@netl.doe.gov or 918-699-2037)

GWPC – Mike Paque (mike@gwpc.org or 405-516-4972)