

**2010 NASCIO RECOGNITION AWARDS NOMINATION**

*Title of Nomination*

Oil and Gas Permitting eForm

*Award Category*

Digital Government: Government to Business (G to B)

*State*

Colorado

## EXECUTIVE SUMMARY

Oil and gas regulatory form processing has historically been a paperbound, labor-intensive effort in the State of Colorado. By 2001-2002, operators were increasingly clamoring for electronic forms submittal and processing and improved timelines for regulatory decisions. With the record-high number of permits industry operators submitted in 2008 (8,400), the Colorado Oil and Gas Conservation Commission (COGCC) staff began demanding relief from paper-intensive processes as well.

A seminal event for this project was the passage of House Bill 07-1298 and 07-1341, which mandated new rules for oil and gas well siting and permitting to offer greater protections for Colorado's source waters. Although rulemaking work began immediately, COGCC realized that application development could not wait for the promulgation of those rules to meet the statutory deadline for their enforcement. COGCC began work to develop a Web-based application that would streamline the permitting processes for both operators and regulators in three separate agencies on a parallel track with the rulemaking activities. Without knowing the exact requirements of the new rules, COGCC began developing an application that would offer the following:

1. Relief from duplicative oil and gas permit filing by industry operators to multiple agencies through a single online submission over a secure socket layer (SSL).
2. Support to serve most types of regulatory data collection forms over the Web.
3. A rules engine that is configurable to adapt to changing rules.
4. A review forum and automated workflow processing system to share data and to accept recommended conditions of approval input from sister agencies.
5. The ability to track multiple regulatory clocks to ensure compliance with mandated permit review periods for permit applications and required supporting documents.
6. Online public comment of permit applications under review.

Thanks to a flexible design, an innovative approach to funding through partnership with the Ground Water Protection Council (GWPC), interagency coordination and cooperation, and agency outreach to train industry operators in its use, eForm was launched on April 1, 2009, and was embraced by all stakeholders. Six months later, COGCC was receiving 80 percent of new permit applications through eForm. eForm has reduced the time agency staff spend to review and process a permit application by three days.

COGCC shared its accumulated lessons learned and resulting code base with other agencies through the GWPC. Now, other GWPC member-states have begun to use eForm for their online oil and gas program data collection needs, including agencies in Nebraska, Alabama, Mississippi, Ohio, and Pennsylvania. This multiple-state rollout is made possible through the GWPC's code-sharing and training policies, features of its Risk Based Data Management System (RBDMS) e-Commerce Initiative, a program that has been ongoing since 1996 and is now serving 22 agencies nationwide through the GWPC's administration of Department of Energy (DOE) grant funding.

### C. DESCRIPTION OF THE BUSINESS PROBLEM AND SOLUTION

Oil and gas permit review in Colorado before April 2009 was a paper and time-intensive process. Since multiple agencies had jurisdictions over various aspects of oil and gas well siting and drilling procedures, industry operators were frequently faced with duplicative submittals, and agencies occasionally worked at cross purposes. An online, streamlined, and coordinated process for permit submittal with enforced regulatory review schedules was needed.

With the passage of House Bills 1298 and 1341 in 2007, three agencies - the Colorado Department of Natural Resources' COGCC and Division of Wildlife (DOW)] and the Colorado Department of Public Health and Environment (CDPHE) - were tasked with reviewing and processing information for Form 2A, Oil and Gas Location Assessment, which includes source water and other environmental impacts, that must be submitted with the permit applications as supporting documentation. The project team, led by COGCC, developed an application that allowed two-way data electronic exchange between the agencies and the operators. An internal user interface was developed to coordinate the technical review of the applications among the agencies. By allowing the operator to submit digital documents, an increase in productivity was achieved along with reducing the amount of paper stored.

COGCC began the application development on a parallel timeline with state rulemaking activities. When the new rules became effective in April 2009, the eForm Web application was ready to launch to enforce these rules. COGCC's eForm application is available at <https://cogcc.state.co.us/eform/>.

The application architecture consists of an integrated set of server tools that are based on a Silverlight Web client, a Windows Communication Foundation middle tier, and a SQL Server 2008 intermediary database in a DMZ that is replicated to the production database behind a firewall. With its decoupled rules engine, forms designer, and security components, the eForm application is a reusable tool that other state agency database administrators can use to manage data collection over the Web without outside help from consultants.

The eForm dashboard provides navigation through the different form pages and allows users to edit and save forms at different stages of completion. Form status is viewable through a menu system, and status changes are tied to the time clock rules of the Notification and Workflow module. The dashboard is filterable and customizable by state and can track submittals by proposed location, document ID, well name, and other attributes. An agency interface controls workflows for step-wise review and approval with accountability reporting to the external Web interface.

The screenshot shows the Colorado ePermit web application. At the top, there is a search form with fields for Operator (0), Doc # (1759298), Start Date (6/30/2009), End Date (10/2/2009), and a Task dropdown. Below the search form is a table of tasks for document 1759298.

Doc ID	Form	Status	Opr Num	Company Name	Created Date	Status Date	Tasks	Attachments	Comment	View
1759298	02A	IN PROCESS	100185	ENCANA OIL & GAS (USA) INC	9/18/2009	9/27/2009	0	...	Comment	View

  

Task	Due Date	Assigned To	Reviewer	Status	Status Date
CDPHE		KUSTER, KENT		Pass	9/27/2009
Completeness		AHLSTRAND, DENNIS	COLER, LARRY	Pass	9/27/2009
DOW		GREENMAN, CELIA		Pass	9/27/2009
Final Approval	12/11/2009	NESLIN, DAVID		Active	9/27/2009
LGD	10/17/2009	BARKER, BRUCE T.		Active	9/27/2009
OGLA	12/11/2009	Halstead, Mary		Active	9/27/2009
Operator			JEVIN CROTEAU	Pass	9/27/2009
Permit	12/11/2009	FISCHER, ALEX		Active	9/27/2009
Public	10/17/2009	FINE, MARC		Active	9/27/2009
RCOA	12/11/2009	KERR, THOM		Active	9/27/2009

**EXHIBIT.**  
 COGCC's eForm centralizes the data multiple agencies need for permit review and approval including attachments, recommended conditions of approval, and other notifications.

### Barriers, Challenges, and Opportunities

Challenges to the project success included the immediate mandate to streamline permitting processes across multiple agencies to provide greater environmental protection. Without having the final rule requirements available literally until application go-live time, the competing needs for information technology development, rulemaking processes, agency business process coordination, and industry outreach resulted in a nearly crushing project execution timeline. A strapped state budget also left portions of the mandate difficult to fund. The manner in which COGCC worked through these difficulties resulted in a coordinated permit review process that crosses regulatory jurisdictions and a reusable code base that other agencies are now using nationwide.

### Providing Greater Environmental Protections through Improved Data Access:

In addition to the challenges of time and money, managing irreplaceable water resources demands easy access to multiple caches of stored data. This data access is needed for trend analyses and interpretation of the environmental effects of fossil fuel and mineral extraction operations on water quantity and quality. Even in agencies that manage large amounts of data through client-server database applications, the wide variability in the development tools used to create these systems and the differences in their form and function have created many technical obstacles to sharing data with sister agencies. Overcoming the barriers created by differing software programming and hardware choices has been difficult, with the result that large quantities of data have historically been accessible by relatively few people.

eForm is configured so that industry provides a single electronic submission of permit data. Then, COGCC, DOW, CDPHE, and various local government designees review the submitted permits and location documentation to coordinate recommended conditions of approval. This elimination of duplicative data entry and storage greatly improved the efficiency of the permitting process and the coordination and better use of

data among the agencies results in greater protection of Colorado's environmental resources.

**Innovative Project Funding:**

The commitment of DOE funding through the GWPC, a national association of state ground water and underground injection control agencies, was instrumental in allowing the project to be approved by the Governor's Office of Information of Technology. With this support, COGCC was able to accomplish better interagency communication at a lower overall cost. As of April 1, 2010, approximately \$140,000 of DOE funding has been committed to the project, offsetting the state's contribution of \$257,700.

**Technology Transfer Value:**

The technology transfer value of this project is great on two levels: (1) within the state of Colorado between the agencies and the regulated industry operator and (2) nationally through COGCC's partnership with the GWPC and its member-state oil and gas agencies.

*With Industry:* Outreach to industry operators was a critical component of the project, both to educate operators about the requirements of the new rules and to train representatives in the use of the eForm application. Many of the operators at first feared that the increased filing requirements would be prohibitively onerous. However, COGCC was able to assuage many of these concerns by demonstrating the benefits of the Web application. The features the operators found most desirable included the convenient online create, edit, save, and document upload functions and the ability to monitor the information flow through multiple agency reviews from the main navigation page.

*With Sister Agencies Nationwide:* The GWPC has already put a multiple state training program into effect to teach oil and gas agency database administrators how to use and to manage eForm. Training events were held as early as October 2008 when the project was still in active development. Other training events occurred in May 2009, October 2009, and April 2010 at meetings of the GWPC's national membership. eForm training documentation is available online at <http://www.rbdmsonline.org/downloads/Training/eFormGenericAdminHelp.pdf>

The GWPC is scheduled to roll out eForm in 2010 in Nebraska, Alabama, Mississippi, and Ohio, and, in 2011, in Pennsylvania to help manage permit applications, completion reports, and sundry notices for the oil and gas programs. Other state agencies such as the Colorado OAC and the Montana Department of Environmental Quality for their Coal program also have expressed interest in eForm installations to manage their data collection and workflow processes.

#### D. SIGNIFICANCE OF THE PROJECT

##### **Permitting Processes Are Now Streamlined:**

COGCC developed eForm so that COGCC, DOW, CDPHE, and relevant local government designees can review the permits and location documentation submitted by industry operators submit for new oil and gas well permit applications and then recommend conditions of approval. This elimination of duplicative data entry and storage greatly improved the efficiency of the permitting process.

eForm provides a single, central Web site for oil and gas industry operators to file a superset of information required by three state agencies for permit applications as a one-time submittal. The information is shared with the three agencies and directly relevant local government designees for review and the preparation of recommended conditions of approval. In addition, the status of the permit application and remaining time for each review step are tracked publicly on the main navigation page of the Web site. Automated e-mail notifications from eForm alert assigned parties as to impending deadlines on specific permit applications.

##### **Greater Transparency in the Regulatory Processes Has Been Achieved through an Online Workflow Processing System and Public Comment Forum:**

The eForm workflow processing system tracks mandated time limits for specific agency review tasks. The status of each review task is reported online on the application dashboard so that industry and the public can track the status of each permit application throughout the review processes.

eForm also demonstrates how public comment is becoming an important component of regulatory dialogue. Members of the public can now directly query the agency's Web database to view and to comment on permit applications that are under active review. After passing through moderation, the comments are displayed on the Web site with the permit in a manner similar to blog entry discussions. Oil and gas operators as well as the public can track the status of permit applications and discussion through the public pages of eForm.

#### E. BENEFITS OF THE PROJECT

##### **Agency Operating Expenses Have Been Reduced through Improved Data Quality:**

Industry operators have been quick to embrace online permitting, which has spurred continued efficiencies. The eForm Web was brought online in Colorado in April 2009. Six months later, industry operators were using eForm to submit Applications for Permission to Drill (APD) and oil and gas location assessment forms at a rate that accounted for 75 percent of such forms received by the agency. One year later, that rate is 80 percent.

Incomplete or incorrect applications are rejected in the Web application instantaneously as a result of automated client-side and server-side validation checks. Therefore, the staff spends much less time reviewing incomplete or erroneous submissions.

Eliminating this source of poor data in the process alone has lessened the time required for permit review. Every eForm submitted saves COGCC an average of 20 minutes of preparation, data entry, and scanning time. COGCC also estimates that Web-based submittal of permit applications has reduced review and processing time for APDs by three days. The agency is now using eForm to accept oil and gas permit applications, well completion reports, and is developing sundry notices for release this summer.

**Other Agencies Are Now Benefiting from the eForm Technology:**

Agencies in Alabama and Mississippi have installed eForm applications with the intent to collect and process APDs, while the Nebraska agency intends to use its eForm installation to collect monthly oil and gas production and disposition reports from industry. The code base for eForm also is being installed in Ohio to collect source water quality and quantity data from field inspectors and watershed volunteers as a part of its acid mine drainage and mine lands restoration oversight programs. Other agencies are contemplating its use to serve legal forms for data collection and processing over the Web.