

An Audit Report on

The Railroad Commission's Oil and Gas Migration Project

June 2005

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**State
Auditor's
Office**

**John Keel, CPA
State Auditor**

The Railroad Commission's Oil and Gas Migration Project

Overall Conclusion

The Railroad Commission (Commission) should improve the accuracy of its estimates of the cost of and time needed to complete its Oil and Gas Migration Project. Through this project, the Commission plans to convert its oil and gas legacy systems from an outdated and unsupported mainframe to a Web-based environment. Although the Commission is currently using many of the tools and techniques that can result in a successful project, it significantly underestimated the level of effort the project would require, the total costs, and the time needed to complete the project. In addition, there were cost estimation errors that, to a significant extent, resulted in the Commission's substantially underreporting actual project expenditures to date.

During the project, the Commission has revised and increased its estimates of the cost of and time required to complete the project, but its revised estimates are not reliable:

- The Commission increased the total cost estimate for the project from \$12.4 million to \$27.6 million (a 122.6 percent increase). However, the \$27.6 million cost estimate is inaccurate because the Commission based this amount on its anticipated legislative appropriations for the project for the next seven years rather than a realistic estimate of the project's expected costs.
- The Commission reported to the Legislature that actual project expenditures totaled \$9.9 million through March 2005. However, this amount is understated because the Commission omitted the costs associated with the salaries of additional staff members who are working on the project. The salary costs included in the reported amount are based on 8 full-time equivalent positions plus \$75,000 for an additional estimated 1.5 positions, but we found that as many as 27 additional staff members are working either full- or part-time on the project. (The Commission's lack of detailed records supporting the time charged

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History and Anticipated Benefits

In 2001, the Commission began the Oil and Gas Migration Project, which is intended to increase regulatory efficiency, productivity, and accountability through improved business processes and easier access to information.

The purpose of the project is to provide the citizens of Texas and the oil and gas industry with the ability to submit and access electronic information via the Internet in a more accurate and timely manner. The project re-engineers the Oil and Gas Division's internal business processes and converts the Commission's outdated computer mainframe technologies to a Web-based platform. The Commission's online oil and gas systems can be found at www.rrc.state.tx.us. (See Appendix 2 for additional details on the anticipated benefits of the project.)

Project Funding

The Oil and Gas Migration Project is partially funded by general revenue. Additional funding for the 2004-2005 biennium was contingent on the Commission's collection of fees to cover the cost of pipeline and rail safety programs. As of March 2005, the Commission reported that it had spent \$9.9 million on this project.



to the project prevented us from determining the total amount by which actual expenditures were understated.)

- The Commission extended the project's expected completion date from 2005 to 2012. However, the 2012 completion date is not accurate because the Commission based that date on an imprecise methodology that did not (1) segregate the conversion of these systems into individual segments that can be estimated and completed independently or (2) account for efficiencies gained through repetition of the conversion process.

Key Points

With the exception of its methodology for developing time and cost estimates, the Commission is currently using best practices for information technology project management to manage the Oil and Gas Migration Project in-house.

The Commission is using best practices to manage the project. For example, it has an effective process to manage changes to the project and to ensure user acceptance of deliverables. In addition, the Commission asserts that it has achieved the desired functionality from the two systems that were recently converted to a Web-based environment; however, we were unable to test the functionality of these systems because they were converted near the end of our audit. These systems enable online reporting and querying of oil and gas production and online processing of drilling permits. Whether the remaining systems will achieve the desired functionality when they are converted is not yet known. However, strengthening the project estimations could help the Commission better ensure that the conversion of the remaining systems can be delivered on a timely basis and within the project's budget.

The Commission is considering other options for the entire Oil and Gas Migration Project.

The Commission is now reviewing its plans for the entire Oil and Gas Migration Project, and it is considering options for replacing its outdated mainframe and modernizing its oil and gas systems without converting all of them to a Web-based environment.

The Department of Information Resources' (Department) involvement in the Oil and Gas Migration Project included reviewing the original project in the Commission's Biennial Operating Plan and monitoring the project in accordance with the Department's role on the State's Quality Assurance Team. According to the Department, its responsibility is to develop the guidelines and tools to assist agencies in their information technology planning and management.

The Commission's contract administration process substantially complies with state contracting guidelines, but the Commission should correct certain issues associated with its effort to outsource the Oil and Gas Migration Project.

The Commission initially hired a contractor in 2002 to perform business process re-engineering and project planning and later amended the contract to engage the contractor to begin converting the oil and gas systems. In 2004, the Commission terminated the contract and decided to conduct the project in-house because the contractor was unable to complete the project within the terms of the contract. The Commission paid the contractor \$2,054,066 for the business process re-engineering plan and associated deliverables and an additional \$594,805 for the completed portions of the first four modules of the project (the original value of those modules was \$1.3 million).

The Commission's overall contract administration process substantially complies with the Texas Building and Procurement Commission's contracting guidelines. However, the Commission should correct issues associated with its effort to outsource the Oil and Gas Migration Project (such as a lack of clarity in deliverable due dates) in any future attempts to contract for services.

Additional Information Technology Review

In addition to the audit work outlined in this report, we performed internal and external vulnerability scans at the Commission to review security over all of the Commission's information technology systems. The scan results showed some potentially significant issues that the Commission has agreed to address. The Commission was provided with a report that details the results of our scans.

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Detailed Results

Chapter 1

The Commission Should Improve the Manner in Which It Develops Cost and Time Estimates and Reports Actual Expenditures for the Oil and Gas Migration Project

The Railroad Commission (Commission) should improve the accuracy of its estimates of the cost of and time needed to complete its Oil and Gas Migration Project. Specifically:

- The Commission established a \$27.6 million cost estimate for the life of the Oil and Gas Migration Project. However, that estimate was based on its appropriations for the project for fiscal years 2004 and 2005 and anticipated appropriations for the next seven years, which is not a realistic way to measure expected project costs.
- The Commission's reported \$9.9 million in actual project expenditures as of March 2005 was understated because the Commission omitted from that amount the salaries associated with as many as 27 staff members who are working either full- or part-time on the project.
- The Commission extended the project's expected completion date from 2005 to 2012. However, the Commission based that date on an imprecise methodology that did not segregate the conversion of systems or account for efficiencies gained through repetition of the conversion process.

The Commission increased its estimates for the project's cost and completion date when it realized that it had significantly underestimated the level of effort and funding it would take to complete this project. As a result, the Commission is currently reconsidering how much of the original project scope to retain. If it converts only the online portions of the oil and gas systems to a Web-based environment, it will still need to consider replacing its outdated mainframe, which is no longer supported by the manufacturer. According to the Commission, the oil and gas systems represent approximately 54.4 percent of the systems residing on the Commission's mainframe and use 70 percent of the mainframe's space.

Because of the problems with the Commission's estimates for both the project costs and the time line, an estimate of the funding and time needed to complete the project cannot be made at this time. As of March 2005, the Commission reported that it had spent approximately \$9.9 million on the project (79.7 percent of the original project budget; 36 percent of the revised budget) and had completed 17.4 percent of the work. Table 1 summarizes the changes in the project's estimated cost, time line, staff, and scope.

Table 1

Summary of Changes in the Estimated Cost, Time Line, Staff, and Scope for the Railroad Commission's Oil and Gas Migration Project			
Category	Initial Estimate	Current Estimate	Percentage Increase/(Decrease) in Estimate
Project Cost	\$12.4 million ^a	\$27.6 million	122.6%
Project Completion Date	2005 (4 years after the request for offer was released in 2001)	2012 (11 years after the request for offer was released in 2001)	175.0%
Staff Required	9.5 full-time equivalent positions ^b	A total of 35 staff members are working either full-time or part-time on the project	We were unable to calculate a percentage because it is not clear how many FTEs the additional staff represent (because the time they work on the project varies).
Project Scope	All oil and gas systems converted from a mainframe environment to a Web-based environment	Only the online portions (53 percent) of the oil and gas systems converted from a mainframe environment to a Web-based environment; batch processing portions (47 percent) remain on mainframe	(47.0%)
<p>^a This estimate included \$9.0 million for the original project and \$3.4 million for the Electronic Compliance and Approval Process (ECAP) project. These two projects were merged because of their similar goals, and the ECAP project was completed at a cost of \$3.0 million.</p> <p>^b The 9.5 full-time equivalent positions (FTE) are figured based on the costs of 8 FTEs plus \$75,000 associated with an additional estimated 1.5 FTEs.</p>			

Source: Unaudited information provided by the Railroad Commission

Chapter 1-A

The Commission Should Improve the Accuracy of Its Cost Estimates for the Oil and Gas Migration Project

The Commission's current \$27.6 million cost estimate for completing the Oil and Gas Migration Project is not accurate. This estimate was based on the assumption that the project will take until 2012 to complete, and that estimate is not reliable (see Chapter 1-C for more details regarding problems associated with the time estimates). In addition, the methodology that the Commission used to develop two primary components of its cost estimate is not realistic:

- **Capital costs.** To estimate its capital costs for fiscal years 2006 and 2007, the Commission used the amount of appropriations it received for capital costs in fiscal years 2004 and 2005.
- **Salaries and personnel costs.** To estimate salaries and personnel costs for fiscal years 2006 and 2007, the Commission used the same amount it anticipated spending for salaries and other personnel costs in fiscal year 2005.

The Commission then summed its estimates for capital costs and for salaries and other personnel costs, calculated an average, and assumed it would spend

the average amount annually in fiscal years 2008 through 2012. There are several problems with this methodology:

- The estimate for salaries and other personnel costs is based on 8 full-time equivalent positions (FTE) included in a rider to the General Appropriations Act (77th Legislature) plus \$75,000 for an additional estimated 1.5 FTEs. However, as many as 27 additional people are actually working on the project on either a full- or a part-time basis. Because the hours that these 27 staff members work on the project varies, we were not able to determine how many FTEs they represent.
- An analysis of actual costs for the project to date was not considered in the projection of future costs.
- The Commission's assumptions did not include any expected increases in the cost of salaries, benefits, other operating costs, or capital costs.

It is also important to note that the further into the future a cost is projected, the more difficult it becomes to make an accurate projection because there are too many unknown variables. Because inflation, salary increases, and changes in technology could affect the future costs of this project, it might be beneficial to project costs and develop a budget by system, year, or biennium.

The Commission's revised cost estimate also changes the scope of the project from converting all of the oil and gas systems to a Web-based environment to converting only the online portions of the systems and leaving the batch processing portions on the mainframe. According to the Commission, the online portions represent approximately 53 percent of the oil and gas systems.

Recommendations

The Commission should:

- Prepare a detailed cost estimate for the Oil and Gas Migration Project that includes the costs of:
 - ♦ All internal staff who work on the project.
 - ♦ All external staff services, including consulting services.
 - ♦ Capital items.
 - ♦ Contingencies.
- Prepare a detailed budget for the Oil and Gas Migration Project that includes:
 - ♦ A plan that outlines how and when funds will be spent.

- ♦ Assumptions that were made in developing the budget.
- ♦ Historical knowledge of costs to date.
- Consider projecting costs and developing a budget by system, year, or biennium and take into account the work that it plans to complete each year (as outlined in its annual project development plan).

Management's Response

The Commission agrees with the recommendations.

However, as noted in the Key Points section of the audit document, the Commission is currently considering other options for the entire Oil and Gas Migration Project. Until decisions are made on whether all of the current Oil and Gas applications will be converted to a Web-based environment, it will not be possible to prepare detailed cost estimates or a detailed budget for the entire project. Assuming that a statewide direction on data center management is clearly defined in the near future, the Commission should be able to make the decision on the extent of migration of its Oil and Gas applications before submission of the next biennial Legislative Appropriation Request.

The Commission will, nevertheless perform the recommended detailed cost estimate and budget for those activities that are expected to be completed over the next biennium. The Project Manager, in conjunction with the Business Team and the Information Technology management, will identify the modules that can be expected to be completed within the next biennium. Once this is determined, the Commission will be able to build a plan for the sequence in which these modules will be migrated and estimate the effort required based on the historical knowledge of effort and costs to date. Detailed cost estimates can then be prepared and will include the costs of internal staff working on the project, external staff services, capital items, and other contingencies. This detailed cost and budget for FY 2006-07 activities will be completed before the beginning of the next biennium.

Chapter 1-B

The Commission Should Report All of Its Actual Expenditures for the Oil and Gas Migration Project

The Commission reported to the Legislature that it had spent \$9.9 million on the Oil and Gas Migration Project as of March 2005. However, this amount is not accurate because the Commission did not include the salaries of as many as 27 staff members who are working on the project.

We interviewed staff working on the project part-time in an attempt to determine how much the Commission's salary expenses were understated. For the month of November 2004, we estimate that salary costs were

understated by \$44,337. However, the Commission does not have a timekeeping system that enables it to maintain detailed records supporting the time charged to the project, and the level of staff effort varies depending on the status of the project at any given time. Therefore, we were unable to estimate the total amount by which actual expenditures were understated to date.

We tested \$929,623 in capital expenditures and \$532,777 in operating expenditures associated with the Oil and Gas Migration Project and did not find any significant errors. We verified that (1) the expenditures we tested were mathematically correct, (2) applicable mark-up rates were correct, (3) invoices were approved prior to payment and had required supporting documentation, and (4) the product or service was received. The expenditures we tested included expenditures for hardware, software, and payments to contracted staff. In addition, we tested the \$2.6 million in payments to the project's initial contractor and the \$829,154 in payments to contracted staff and did not find any unallowable expenditures. We were able to trace all reported expenditures to the State's Uniform Statewide Accounting System.

We were unable to determine whether there were other expenditures that should have been charged to the project but were not. This is because the costs of some technology purchases—for example, those of telecommunications systems or computer servers that are not exclusively used for oil and gas systems—could be spread out or shared among various systems.

In accordance with its records retention schedule, the Commission disposed of the documentation for project expenditures it had made prior to fiscal year 2002. These documents were eligible to be disposed of in September 2004, and the Commission disposed of them after that date but prior to the start of our audit in March 2005. As a result, the Commission no longer had documentation for (and we were unable to test) the following expenditures:

- Fourteen of 40 capital expenditures. These 14 expenditures totaled \$260,957 (21.9 percent of the \$1.2 million in capital expenditures to date).
- Forty-three of the 238 expenditures for operating costs. These 43 expenditures totaled \$245,048 (23.8 percent of the \$1 million in operating costs to date).

Recommendations

The Commission should:

- Develop a methodology to estimate the time that staff actually spend on the Oil and Gas Migration Project and include those salary costs within all reported costs associated with the project.
- Revise its records retention schedule to enable it to maintain support for expenditures on an ongoing project until the project is complete.

Management's Response

The Commission agrees with the recommendations.

The Project Manager has developed and already implemented a methodology for identifying staff time dedicated to the project. The identified staff time will be utilized to estimate the salary costs that should be included in the reported project costs.

Additionally, the Director of Administration will revise the records retention schedule to enable the Commission to maintain support for expenditures on a major information resources project until the project is complete. The Commission will revise the records retention schedule to extend the retention of expenditures for the Oil and Gas Migration project throughout the remainder of the project and to retain expenditure records for other major information resources projects throughout the life of the project. This retention schedule revision will be completed by December 31, 2005.

Chapter 1-C

The Commission Should Improve the Manner in Which It Estimates a Projected Completion Date for the Oil and Gas Migration Project

The Commission based its 2012 projected completion date for the Oil and Gas Migration Project on the time it took to convert one of the systems that was already partially converted: the Electronic Compliance and Approval Process (ECAP) system (the Commission's drilling permit system). To do that, the Commission first calculated the time it took to convert the number of lines of code in the ECAP system. It then calculated an estimate for the time it would take to convert the other oil and gas systems based on the number of lines of code in those systems. However, this methodology did not (1) segregate the conversion of the oil and gas systems into individual segments that can be estimated and completed independently or (2) account for efficiencies gained through repetition of the conversion process.

In addition, the Commission's projected completion date of 2012 was based on a revised estimate that included only the online portions of the systems

originally targeted for conversion. According to the Commission, the online portions of the oil and gas systems on the Commission's mainframe constitute 53 percent of these systems, and the remaining portions are batch processing programs.

Recommendations

The Commission should prepare a detailed project time estimate for the Oil and Gas Migration Project based on:

- A work breakdown structure or similar plan that provides a detailed understanding of the individual tasks required to complete each phase of the project.
- A time estimation technique such as the project evaluation and review technique or the critical path method, through which the Commission can estimate a more reliable project completion date.

Management's Response

The Commission agrees with the recommendation that its methods of estimating the time required for completion of projects needs improvement.

Now that the Commission has successfully implemented more modules and gained more experience in the effort required to successfully transition its applications, it will be in a better position to generate more realistic time schedules. However, as stated in the management response in Chapter 1-A, the Commission is currently re-evaluating the overall scope of the project and a "completion date" for the project cannot be determined until the scope is determined.

One of the most important inputs in determining the ultimate scope of the project is the time required to migrate/convert each module. The Commission has developed a project plan template that is being used to prepare the schedule as each module is identified. This template has been used for the modules that were deployed in 2005 and has proven to be successful in providing the necessary checkpoints within the deployment effort, therefore providing a reliable project completion date.

This template will be used by the Project Manager to define the work, and establish a critical path for the modules to be completed in the FY 2006-07 biennium, and will also be used at a higher level to help with the decision on the future direction of the project.

The Commission Should Strengthen Certain Aspects of Its Contracts

The Commission's contract administration process substantially complies with the Texas Building and Procurement Commission's guidelines, but the Commission should correct certain issues associated with its effort to outsource the Oil and Gas Migration Project. Although the Commission is currently conducting the project in-house, it still has contracts for project staff such as developers and programmers. In addition to the initial contract for the Oil and Gas Migration Project and its amendments, we reviewed the Commission's two largest current contracts and found no significant problems.

The Commission initially hired a contractor in 2002 to perform business process re-engineering. It subsequently amended the contract in order for the contractor to complete the first four modules of the Oil and Gas Migration Project. However, when it became apparent that the contractor would be unable to complete its work within the terms of the contract, the Commission decided to terminate the contract. A second amendment in 2004 resulted in the termination of the contract and the contractor's completion of substantial parts of the first four modules. The Commission paid the contractor \$2,054,066 for the initial business process re-engineering and project planning and an additional \$594,805 for the work it performed on the first four modules (the original value of those modules was \$1.3 million). The Commission has indicated that it feels it paid a fair price for the work it received, but it received that work later than it had planned.

The Commission then decided to conduct the Oil and Gas Migration Project in-house and is following best practices for information technology project management to plan and manage the project. The Commission contracts for some staff, primarily developers and programmers. The Commission negotiated the release of the subcontract staff from their non-competition agreement with the original contractor so that the Commission would not lose the institutional knowledge those staff had developed. The Commission reports that the two systems converted so far are functional. However, we were unable to test the functionality of these systems because they were converted near the end of our audit.

Although the contract and amendments to outsource the Oil and Gas Migration Project complied with the Texas Building and Procurement Commission's *State of Texas Contract Management Guide*, the Commission should correct issues associated with its effort to outsource the Oil and Gas Migration Project in any future attempts to contract for services:

- The initial contract (for business process re-engineering) did not contain clear due dates for deliverables, which made it difficult to hold the contractor accountable for the prompt completion of work. Although the

original contract specified that the contractor would prepare a deliverable that consisted of a project plan and estimated dates for completion, there was no clear due date for this deliverable.

- The contract specified that the Commission would pay the contractor an hourly rate up to a maximum amount. However, the Commission did not evaluate the actual hours spent by the contractor and, instead, paid the maximum price per deliverable.
- The purpose of \$232,000 in management fees that the Commission paid under the first contract amendment was unclear. Although the contract described these fees as payment for “architecture/infrastructure services,” Commission management described these fees as payment for “overhead.” The Commission was unable to provide evidence showing the actual reason for the payment of those fees.

Recommendations

The Commission should:

- Clearly define the due dates for deliverables in all of its contracts.
- Ensure that contract payments are based on the methodology specified in the contract.
- Adequately document any changes made to contract payment methods.
- Clearly define in its contracts the services it will receive in exchange for any payment.

Management’s Response

The Commission agrees with the recommendations and believes these elements were included in the contracts to outsource the Oil and Gas Migration project.

As noted in the audit, the contracts currently in place for the Oil and Gas Migration Project developers and programmers reflect the recommendations outlined by the Auditor.

Should the Commission decide to again engage an overall contract service for the Oil and Gas Migration Project, the Deputy Executive Director will make sure each of the recommendations outlined by the Auditor are further defined for clarification in the contract.

Appendices

Appendix 1

Objective, Scope, and Methodology

Objective

Our objective was to determine whether controls for the Railroad Commission's (Commission) Oil and Gas Migration Project are adequate to ensure that the project will be delivered on schedule, on budget, and with the desired level of user functionality upon implementation. This included determining whether:

- Delivery of the agreed-upon functionality is supported by procurement documentation.
- Project management has adequate and complete project planning documents, an adequate plan to address potential risks, and an adequate process to manage changes to the project.
- The administration of contracted services ensures appropriate use of state funds.
- The actual costs incurred and projected cost estimates are adequately supported.

Scope

Our scope covered the Oil and Gas Migration Project from September 2001 through May 2005. In addition, we reviewed the Commission's contract administration processes for this same period.

Statute requires the State Auditor's Office to participate on the Quality Assurance Team (QAT), which approves and monitors major information resource projects. Our involvement in the QAT could potentially affect our independence in the reporting of results related to our audit of the Oil and Gas Migration Project. However, we proceeded with this audit due to the risk associated with this project. We conducted this audit in accordance with generally accepted government auditing standards with the exception of this potential effect on our independence. Our involvement in the QAT did not affect our audit conclusions.

Methodology

Our methodology included conducting interviews with Commission staff; reviewing procurement documents, project planning documents, and project management documents; attending project meetings; testing professional fees

and capital and operating expenditures for the Oil and Gas Migration Project; and conducting internal and external vulnerability scans.

Information collected and reviewed included the following:

- Project Development Plans for Phases I, II, and III of the Oil and Gas Migration Project
- Draft Project Development Plan – Version 2.0
- Project team status reports, minutes, and handouts
- Oil and Gas Migration Business Case
- Oil and Gas Migration Strategic Vision
- Requests for Offer (RFO), RFO Guidelines, and RFO scoring documents
- Contracts and contract amendments
- E-mail and other correspondence related to the original contract to outsource the Oil and Gas Migration Project
- Quality Assurance Team reports
- The Commission’s legislative appropriations requests, performance measures, General Appropriations Act sections, and annual financial reports for fiscal years 2002 through 2004
- Commission’s *Agency Strategic Plan for Fiscal Years 2005–2009*
- System design documents, user requirements, data conversion plans, and test plans and results
- Change control processes and forms
- Training documentation
- Electronic Compliance and Approval Process (ECAP) Post Implementation Evaluation Review

Procedures and tests conducted included the following:

- Compared reported project expenditures to Uniform Statewide Accounting System data
- Evaluated contracts associated with the Oil and Gas Migration Project against the Texas Building and Procurement Commission’s *State of Texas Contract Management Guide*

- Evaluated and confirmed the Commission staff's responses to an internal control questionnaire concerning best practices in information technology project management

Criteria used included the following:

- The Texas Building and Procurement Commission's *State of Texas Contract Management Guide* (Version 1.1)
- The Information System Audit and Control Association's *Project Management Skill and Knowledge Requirements in an Information Technology Environment* (2002)
- The Information System Audit and Control Association's *COBIT: Governance, Control, and Audit for Information and Related Technology* (July 2000, 3rd Edition)
- The Project Management Institute's *A Guide to the Project Management Body of Knowledge* (2000)

Other Information

We conducted fieldwork from March 2005 through May 2005. The following members of the State Auditor's staff performed this audit:

- Sandra Donoho, MPA, CISA, CIA, CFE (Project Manager)
- Ileana Barboza, MBA (Assistant Project Manager)
- Mason A. Alves
- Laura Elizabeth Mansfield, MPA, CPA, CIA
- Sherry Sewell, CGAP
- Dennis Ray Bushnell, CPA (Quality Control Reviewer)
- Nicole Guerrero, MBA (Audit Manager)
- Verma Elliott, MBA (Audit Manager)

Anticipated Benefits of the Oil and Gas Migration Project

Excerpts from the Railroad Commission's *Agency Strategic Plan for the Fiscal Years 2005-2009*

The following verbatim excerpts from the Railroad Commission's (Commission) *Agency Strategic Plan for the Fiscal Years 2005-2009* describe the anticipated benefits of the Oil and Gas Migration Project. The State Auditor's Office did not verify the accuracy of the assertions in the Commission's strategic plan.

Verbatim Excerpts:

The Oil and Gas Migration (OGM) Project was initially conceived out of a necessity to upgrade older hardware, operating systems, and applications. The need to transfer the basic functionality of the applications to a new platform required a review of the current applications and processes and a re-engineering effort. As part of the migration effort, new functionality that will add business value is being developed that will make information easier to collect, maintain and disseminate. Other benefits of the project are computer systems and applications that are more efficient and effective. Enhancing the business processes and use of the information will increase the efficiency and productivity of all stakeholders. Automation of manual processes will allow resources to be re-deployed to increase the number of periodic inspections of the over 355,000 wells, associated tank battery facilities, numerous plants, commercial disposal facilities, and flowlines. The OGM project is a comprehensive approach to the migration of applications and databases from the mainframe to the open systems environment. It leverages the existing technology investments and puts in place a system architecture that can maintain data integrity and security while at the same time providing flexible and collaborative tools for data entry and maintenance. Additional objectives of the OGM project are to:

- enable more thorough and efficient processing of permits and increase the number of permits processed per employee;
- identify potential risks to the environment, human health, and safety by providing the ability to analyze data and trends. As a result of more efficient processing, staff resources can be directed toward more analysis and review of historical spill data, the identification of trends, and the examination of causes, resulting in the Commission being better prepared to proactively educate the industry on how to avoid or minimize risks;
- expand the Commission's Geographic Information System (GIS) to provide support for risk analysis activities;

- increase the Commission's ability to share data and respond to requests for information from other governmental agencies, the legislature, and the public;
- allow for more thorough and effective field inspections by reducing the amount of manual research and providing more comprehensive information;
- automate the prioritization of inspector schedule and work assignments to more effectively use limited resources and concentrate on high-risk areas;
- leverage existing open system technologies, while positioning the Commission to take advantage of future technologies, including wireless web access to regulatory databases;
- maintain a comprehensive compliance history on operators to more effectively monitor adherence to rules and regulations;
- provide industry with oil and gas information that can be used to enhance their exploration and production activities and stimulate economic activity of the state;
- enable the Commission to more promptly and efficiently implement legislative rules and changes;
- reduce expenses associated with the costs of maintaining a dual production environment;
- benefit other industry filers and applicants and simplify the large volume filings through the Electronic Compliance and Approval Process (ECAP), and
- enable Commission staff to quickly respond to requests for oil and gas information without the need for programming.

During the first phase of the OGM project, two modules were initiated: 1) the Production Query System (PDQ) and 2) the Web Foundation Module (Security). The PDQ System replaces the current ACTI Production System and provides expanded inquiry capability. The Web Foundation module created the security infrastructure required for internal and external use of the Commission's automated systems. The PDQ system offers enhanced functionality including the ability to:

- query production data in multiple year date ranges from 1993 through current;
- view production disposition codes and volumes;

- start at a wide scope of information and “drill down” to production detail for lease, operator, field, district or county with simple clicks of a button;
- view operator and field name changes over the selected date range;
- view common reservoir production data by selecting fields that contain the reservoir name;
- do a specific lease inquiry without going through the general menu, and
- easily extract data for analysis.

Expanded inquiry capabilities through PDQ have provided instant access to data that previously had to be researched and manually compiled. It has reduced the amount of time staff previously had to spend in researching records and compiling data in response to requests. Additionally, the added functionality of date range inquiry and data export to a spreadsheet has vastly improved the ability to analyze the information.

On-line permitting of drilling permits was implemented through the Electronic Compliance and Approval Process (ECAP). The ECAP process is far more efficient than the paper process for both industry and the Commission. Business rules, on-line edits, and a workflow component are built into the on-line application process, thus reducing errors in filings and expediting the review and approval process. Electronically filed drilling permits are generally processed in half the time it takes for paper-filed permits. Approved permits are available for viewing and printing on-line in a fraction of the time it takes to generate, mail, and receive a paper permit. Additionally, electronically filed permits are available for inquiry over the Internet.

Payment of fees required for the Drilling Permit Application is automated and supported by Texas On-Line. Electronic processing of payments simplifies accounting mechanisms and reduces staff time associated with payment processing. As future applications requiring fees are automated through OGM, the use of Texas On-Line will be expanded. The Commission plans to adapt the proven concepts for on-line permitting to other Oil and Gas applications through the OGM project in the future.

Excerpts from a June 2005 Commission Memo

The following verbatim excerpts were taken from a June 2005 memo that the Commission sent to oil and gas producers. The excerpts describe the anticipated benefits from one of the first systems converted to a Web-based environment: the drilling permits system. The State Auditor’s Office did not verify the accuracy of the assertions in this memo.

Verbatim Excerpts:

Effective May 2, 2005, the RRC Online System was upgraded to include the filing of Drilling Permit Applications (Form W-1). Previously, Drilling Permit Applications were electronically filed through the Electronic Compliance and Approval Process or ECAP. The ECAP System has now been replaced with the RRC Online System and is no longer available. The new electronic Drilling Permit Application available through the RRC Online System provides improved functionality including the ability to expedite online applications, enhanced data entry options, and expanded query capability.

Benefits of filing W-1 Drilling Permit Applications online include quicker electronic notifications of approval by e-mail, the ability to expedite on-line applications, access to RRC Geographic Information System (GIS) data, access to all pending and approved drilling permits, and the ability to view and print W-1 drilling permit data submitted after 1977 and attachments.

Access to drilling permit data is dramatically improved due to the electronic nature of the W-1 database. Information now available at the Interactive Data link on the RRC homepage at <http://www.rrc.state.tx.us> includes:

- Old mainframe drilling permit data from 1977 forward,
- Data and images such as W-1's, plats, P-12's, and drilling permits for old ECAP permits and all permits filed after May 2, 2005, and
- Field rule information such as spacing, density, and optional acreage availability.

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Legislative Audit Committee

The Honorable David Dewhurst, Lieutenant Governor, Joint Chair
The Honorable Tom Craddick, Speaker of the House, Joint Chair
The Honorable Steve Ogden, Senate Finance Committee
The Honorable Thomas “Tommy” Williams, Member, Texas Senate
The Honorable Jim Pitts, House Appropriations Committee
The Honorable Jim Keffer, House Ways and Means Committee

Office of the Governor

The Honorable Rick Perry, Governor

Railroad Commission

Mr. Victor G. Carrillo, Chairman
Ms. Elizabeth A. Jones, Commissioner
Mr. Michael L. Williams, Commissioner
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