

**AP/AL:** Appropriation **Project Type:** Information Systems  
**Category:** Development  
**Location:** Statewide **Contact:** Rich McMahon  
**House District:** Statewide (HD 1-40) **Contact Phone:** (907)269-8836  
**Estimated Project Dates:** 07/01/2001 - 06/30/2003

**Brief Summary and Statement of Need:**

DNR's information systems are a strategic state asset that is used by resource managers and resource developers to create economic opportunities for Alaska and it's citizens. Land records must be accessible, relevant, and dependable. Business processing must be competent and efficient. High quality public land record systems promote the resource development and improvement activities. The present system hampers these goals.

<b>Funding:</b>	<b>FY2002</b>	<b>FY2003</b>	<b>FY2004</b>	<b>FY2005</b>	<b>FY2006</b>	<b>FY2007</b>	<b>Total</b>
Gen Fund	\$495,000	\$390,000					\$885,000
<b>Total:</b>	<b>\$495,000</b>	<b>\$390,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$885,000</b>

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input checked="" type="checkbox"/> Phased Project	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Additional Information / Prior Funding History:**

This is a new project request.

**Project Description/Justification:**

This project addresses two fundamental problems faced by DNR's existing Land Use Data Base System: 1) the public cannot conduct business with DNR in a manner that meets their needs, and 2) DNR staff are strapped in their ability to serve the public because their tools are so old they no longer do the job. This project will correct the structural problems with the mainframe component by updating transaction processing software; and it will link the mainframe component to information sources that are presently isolated. It will raise the productivity of DNR staff to accomplish higher per unit volumes of work by simplifying the manner in which information is entered, managed, and retrieved.

**Detailed Project Justification:**

The movement to e-government is about changing the way people and businesses interact with government. DNR is the state's largest real estate "business" and "Landlord" as it has over 28,000 active customers. DNR customers are as varied as Alaska's population base. This category includes industries, such as oil and gas and large mines, as well as the individual customer requiring assistance for access to the state's natural resources. Typical users include miners and the mining industry; land and legal consultants; right-of-agents, and citizens looking for land to purchase, permit, or lease.

Common problems faced by our customers, and common problems faced by staff working to deliver public services can be summarized as:

*The Present System Creates Barriers for Customers and for Staff*

The system no longer meets the business needs of the department and the public. In many cases, needed information is not stored; in other cases, too much information is captured. Customers cannot readily access information on state land and resources, and staff do not have the screens and options needed to effectively update and query the database. Manually intensive processes, routine steps that take a high amount of staff time, poor reporting capability, and poor linkage to related info-systems are all barriers addressed by the project.

*Weak Ties to the Internet – Customers Lack Home or Business Access*

Customers need access to the information found in the Land Administration System via the Internet. Customers tell us they need access when offices are closed – nights and weekends. Dial-up capability is limited to a select few who are trained well enough to use the system, and those who are not blocked by security firewalls. Customers must now come to DNR offices and wait for help to get this information out of the computer. Some information is now available on-line.

*The System is Getting Increasingly Expensive to Operate*

Maintenance costs are rising every year. The main portion of the Land Administration System was written in CICS COBOL. System maintenance with this third generation programming language is four times more expensive to update than using more current software languages. Because of the time required to maintain CICS COBOL, progress in making changes to the software to introduce new system features is slow.

Staff turnover has increased the need to provide systems training. Further, the complexity of the system requires several months or longer for new employees to become sufficiently familiar with the Land Administration System; to comfortably use its features and understand its workings; and several years of use to capably use all of the features. This is expensive to the department because it adds overhead to work being done by new employees.

*Much of the Present System Operates in a User Hostile Environment – The Public Cannot Understand How to Use It*

Arcane codes, blinking cursors that require unknown input, a virtual lack of self help facilities, difficult input screens, and difficult menu navigation makes this system unfriendly to our customers. Users must know data codes, and follow a strict format of input controls. Error messages are often unintelligible.

User screens need to be redesigned to provide an intuitive look and feel. Each screen needs to provide instructions describing how to use the software. Data fields requiring specific values must be able to prompt the users with expected data values.

The existing system is ill equipped for the demands that have been placed on it, including the dissemination of information to a broad range of users.

**A Summary of the DNR Customer-Centric Workload**

*Impact on Adjudicators*

DNR staff use LAS to track applications requesting a service from DNR and to manage state land. Today, records and transactions can take hours to properly load. Many cases are not in the system because staff lacks the time to conduct updates. Staff fall further behind in the processing of applications; managing land sales; and issuing permits, material sales, tideland leases, oil and gas leases, shore fishery leases, water rights, etc. Each delay affects a customer. Customers rely on government approvals before they may legally begin commercial operations – DNR delays mean start up-delays and potential for lost opportunities. All of these activities require interaction with the department’s information management systems.

Table 1 demonstrates growing demands on DNR staff and information systems. In a 13-month period, the total number of active cases rose by 6.7% and the number of customers is now in excess of 28,000.

TABLE 1

DNR Case Count Summary October 1999	DNR Case Count Summary November 2000
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Activity Type	Active Cases	Active Cases	Active Customers	Total Cases
Land Title	8,649	8,567	585	12,898
Classifications	3,234	3,264	33	3,297
Surveys	1,092	1,097	370	10,001
Land & Ag Sales	5,121	4,993	2,318	21,511
Leases	2,611	2,601	2,299	8,732
Home Sites	1,049	1,026	2,048	2,272
Easements, Right-of-Ways	2,906	2,934	705	4,202
Municipal Entitlements	369	360	34	1,051
Mining & Coal	51,822	61,566	2,335	164,050
Oil and Gas	1,236	1,536	98	8,062
Water	16,856	17,007	13,727	24,837
All Other Cases	12,912	10,106	4,037	20,318
<b>TOTALS</b>	<b>107,857</b>	<b>115,057</b>	<b>28,589</b>	<b>281,231</b>

**Failures in Management Reporting**

DNR databases fail to provide managers and the public with essential information because staff are unable to load the necessary information in a timely manner. Interagency responses to land management actions will continue at their often cumbersome pace because of the labor-intensive methods used to capture, transfer, and act upon information. DNR operational costs become more than necessary to accomplish basic tasks.

**What Does this Project Purchase?**

DNR managers have emphasized a vision to provide citizens, legislators, businesses, and employees access to the information and functionality they need. Funding will be divided between internal staff and contractors:

**Specific Spending Detail:**

<b>Project Team</b>	<b>FY02</b>	<b>FY03</b>
📁 (100) 1 team leader	\$ 40.0	\$ 40.0
📁 (100) 2 programmers	\$150.0	\$150.0
📁 (100) 1 user-NRM I	\$ 70.0	\$ 70.0
📁 (300) Contractors	<u>\$130.0</u>	<u>\$130.0</u>
	\$390.0	\$390.0
<b>📁 (400) Support-Supplies</b>		
📁 Server Upgrade	\$ 10.0	
📁 Disk Storage	\$ 20.0	
📁 Software and licensing	\$ 60.0	
📁 PCs for team	\$ 15.0	
	<u>\$105.0</u>	
<b>Total</b>	<b>\$495.0</b>	<b>\$390.0</b>

The contracting resources would be directed to acquire skills with mainframe systems database and Internet connectivity. A contractor with technical solutions for delivering linkage to ADABAS environments is required. Line item costs are directed at products needed to support linking mainframe and local DNR systems in a web environment.

**Project Benefits:**

Moving into the twenty-first century, DNR must take advantage of the benefits of e-government. Improving customer service is at the top of the agenda for public sector leaders and the technology is available to help us do it successfully. The extent to which agencies can realize the benefits e-government promises lies in their commitment to a customer-centric approach.

Redirecting and rebuilding the central DNR information system will yield the following benefits:

**Benefits to External Customers:**

- ✍ Dramatically Improved Customer Service
- ✍ Faster response times for customers and staff
- ✍ Real-time complaint and project tracking
- ✍ Proactive communication with customers
- ✍ Improved agency accountability to the public via management reporting
- ✍ Efficient Operations – increases staff productivity and output
- ✍ Reduces cost of doing business on per unit basis
- ✍ Customers are Online versus waiting in line – access 7 days a week, 24 hours per day
- ✍ Land and facilities maintenance, management, and assessment are automated and integrated – connects isolated systems
- ✍ More Open Decision Making
- ✍ Accurate land management database
- ✍ One-touch access to data, maps, and systems across the enterprise

**Primarily Internal Benefits:**

- ✍ Reduces DNR data handling and data input costs
- ✍ Moves DNR to sustainable technology
- ✍ More intuitive system lowers the cost of formal training, promotes use
- ✍ Improved HELP functions will improve data quality and empower users to help themselves
- ✍ Server based data can be easily downloaded for PC access
- ✍ Eliminate redundant processing across common system functions
- ✍ Ability to query state land plats in context of DNR ownership and resource disposition
- ✍ Seamless database updates occur behind automated work processes
- ✍ Static CICS mainframe screens replaced with user-friendly web-based screens

*Most of the above benefits can be summarized into improving customer services, speeding adjudication; and reducing operating costs.*

The State currently faces many challenges in today's new economy. Citizens have become less tolerant of slow government business proceeding in light of new technology and the streamlined responsiveness of many eBusiness companies. Government in general has been criticized for years for being overly bureaucratic, difficult to deal with, and slow. With advances in technology and the widespread acceptance of the Internet, DNR managers and staff can no longer stand idly aside as public pressure mounts to fix these problems. Progressive government must adopt a mentality of change and commit to a strategic plan to streamline processes, integrate disparate systems, and most importantly, create a citizen-friendly government.

***Projected Revenue to the State:***

State revenues are based on resource management practices and resource extractions. An improved climate for businesses and non-governmental units to work with the state's largest land manager can lead to new economic developments. There is no direct method to quantify the benefits of reliable record systems in the course of an overall policy for resource development and 'doing it right'. A large part of 'doing it right' is to provide open access to information sources and offer efficient business processes to our customers.

***Project Support:***

- ✍ Alaska Mining Industry, a vocal supporter of DNR automation goals
- ✍ Land Title and Realty Consultants who research land records for clients investing in Alaska Clients such as mining operators, small business, legal consultants, and Native Corporations
- ✍ Construction and Right-of-Way staff who depend on material sales, rights of way, and permits
- ✍ Developers who need leases, water rights, and permits to conduct their businesses
- ✍ Tourism companies who need permits for their commercial operations
- ✍ Other state and municipal agencies, such as DOTPF and Community and Economic Development, and rural communities that rely upon DNR land records for Right-of-Way work, locating potential municipal entitlement lands, and conducting borough boundary analysis

- ✍ Oil companies who rely upon DNR to provide an accurate and timely public record of their rights and responsibilities related to oil and gas resource development
- ✍ The Mental Health Trust Authority and the University Land Management Unit depend upon DNR record systems as the primary land management agency and adjoining property owner
- ✍ All DNR Staff and their managers who work with the public on any of the thousands of business cases described in Table 1.
- ✍ Private residents who apply for DNR land sales, leases, and permits

***Project Opposition:***

There is no known opposition to this project.

***Does this project leverage other funding for the state?***

DNR is using some federal funds to further the goals of public access and streamlined services. That project is focused on joint federal-state efforts to modernize mining records and the processing and public access to those records. Successful completion of key system components from that project has proven the merits of the strategy proposed in this capital project.

For example, the Alaska Minerals Information at Risk (BLM-DNR) mining project covered much of the expense of redesigning the flow of information from the recorder's office, through DNR mining staff, through revenue and billing, and finally through the plat update process. Before this project was delivered, DNR would often require over 12 months or more to get record systems in agreement. Now, the cycle time has been cut to a matter of days between the Recorder's Office and our Land Administration System. The time to update automated plats will be cut to a similar time frame when that component of the system is completed. Customer and staff are highly satisfied with the results delivered to date.

A second area we will gain valuable experience from the federally funded project will be in the area of bridging our legacy mainframe applications to other key DNR databases. For example, one component of the BLM-DNR project is to provide mining documents via the Internet. This will be done through the State Recorder's Office where mining records are first entered to the public domain. Mainframe indexing records will be accessed with Oracle based document images, and the combined results delivered to customers via a World Wide Web interface. This knowledge will provide valuable experience for the LAS capital project as we seek to integrate mapping and image databases not stored on the state mainframe.

***Project History:***

This is a new capital project.

There has been no capital investment in the Land Administration System (LAS) project since FY1987. During the last ten years, the department has made only minor progress by improving small portions of the LAS to make it easier to use and of more benefit to the public. These ventures have had limited impact because of the complexities of the system and the limitation of approach.

***Annual Operating and Maintenance Costs:***

There are no expected increases to annual operating and maintenance costs.

The DNR mainframe systems currently cost the department about \$170.0 per year in chargeback costs. These costs are not expected to change. Three programmers and one Natural Resource Manager are assigned to maintain the Land Administration System. The labor cost of about \$340.0 per year is not expected to change.