

# LEGISLATIVE AUDIT DIVISION

Tori Hunthausen, Legislative Auditor  
Monica Huyg, Legal Counsel



Deputy Legislative Auditors:  
Cindy Jorgenson  
Angie Grove

## MEMORANDUM

**TO:** Legislative Audit Committee Members  
**FROM:** Kent Rice, Information Systems Audit Manager  
**CC:** Joe Maurier, Director, Department of Fish, Wildlife & Parks  
Art Noonan, Deputy Director  
Barney Benkelman, Chief, Technology Services Division  
**DATE:** February 2011  
**RE:** Follow-up IS Audit (11SP-14): Automated Licensing System: Review of Select Processing Controls (09DP-09) Department of Fish, Wildlife & Parks

### Introduction

We presented our Information Systems audit on the Automated Licensing System: Review of Select Processing Controls to the Legislative Audit Committee in November 2009. The report contains four recommendations relating to:

- ▶ Identifying and flagging deceased licensees.
- ▶ Identifying and monitoring changes made to data.
- ▶ Strengthening change control.
- ▶ Developing and maintaining an up-to-date disaster recovery plan.

We requested and received information from Department of Fish, Wildlife & Parks personnel regarding progress toward implementation of the report recommendations. This memorandum summarizes their responses and our follow-up work.

### Background

The Automated Licensing System (ALS) facilitates Department of Fish, Wildlife and Parks (FWP) hunting, fishing, and recreational license issuance processes. ALS also aides FWP in conducting license drawings, supports administrative business functions related to licensing, and provides data which assists with the enforcement of hunting and fishing regulations.

Considering hunting and fishing are important cultural aspects of life in Montana and license fees are an important source of operational revenues for FWP, it is essential ALS accurately process license revenue information (fees) and maintain the integrity of licensee information.

### Follow-up Discussion

The following sections summarize the report recommendations, and the progress towards implementing the recommendations.

## **Processing Controls**

Information system processing controls ensure complete and accurate processing of data from input to output. During our review we identified five specific processing controls in ALS we had not previously audited or were of particular interest to the public. The audit determined those specific ALS processing controls function as management intends; however, the identification and flagging of deceased licensees within ALS could be strengthened.

### **Recommendation #1**

We recommend the Department of Fish, Wildlife and Parks:

- A. Develop a routine process to compare Automated Licensing System resident licensees against death records maintained by the Department of Public Health and Human Services, Office of Vital Statistics, and automatically flag licensees who match deceased records.
- B. Establish a control to check for duplicate records to help prevent the sale of licenses to individuals flagged as deceased in the Automated Licensing System.

#### **A. Implementation Status: Implemented**

In October 2009, FWP entered into an Information Sharing Agreement with the Department of Public Health and Human Services (DPHHS). FWP was initially provided with a file from the Office of Vital Statistics which listed all Montana residents who died from January 2002 through September 2009. Subsequent to the initial file, DPHHS has been forwarding a monthly update to FWP identifying all new resident deaths. FWP uses the file to match any resident licensees in ALS and flag the records as deceased.

#### **B. Implementation Status: Implemented**

In its response to the audit report, FWP indicated it already had processes in place to check for duplicate records. However, the message provided to license clerks for a deceased record was the same as one for no record found. FWP has since changed the message when a record is flagged as deceased. The error message now clearly indicates the licensee is deceased and a license should not be issued for the individual.

## **Change Control**

Information systems are generally a dynamic and fluidly changing environment. Data can be modified and programming code updated to reflect the changing needs of an organization or to remediate flaws. However, because there are risks associated with any programming or data changes, an organization should try to mitigate risks by controlling changes.

## **Data Changes**

The audit concluded FWP was not monitoring for changes made to data directly through the database tables. These “back end” changes are made when normal use of the application cannot accomplish the needed change.

### **Recommendation #2**

In order to ensure unauthorized or inappropriate back end data changes are not being made, we recommend the Department of Fish, Wildlife and Parks:

- A. Develop a report within the Automated Licensing System to isolate changes made by staff with back end data access.

- B. Routinely monitor report contents to determine if inappropriate or unauthorized back end data changes are being made.

**A. Implementation Status: Being Implemented**

At the conclusion of the audit, FWP staff met with Department of Administration (DOA) staff to identify the processes in place for isolating changes made by users directly in database tables. Working in conjunction with DOA, FWP developed a basic report and has been reviewing it weekly. However, the report contains an extensive amount of data and does not isolate specific actions taken by users. FWP continues to work on modifying the report to isolate these changes and anticipates having a more useful product by February or March 2011.

**B. Implementation Status: Being Implemented**

As mentioned above, FWP has been reviewing the report on a weekly basis. However, the report, in its current form, is not producing useful data and FWP continues to work on modifications.

**Programming Changes**

Changes made to the underlying code dictating the functionality of an information system are programming changes. Such changes are generally performed by programmers to enhance the system or fix programming errors. During the audit we determined FWP had ALS change control procedures in place. However, the procedures did not have to be followed to place new code into the production environment, thus reducing the effectiveness of the controls.

**Recommendation #3:**

We recommend the Department of Fish, Wildlife and Parks strengthen existing change controls by:

- A. Establishing formal, written policies requiring the use of existing change control procedures.
- B. Further limiting rights for migration.
- C. Requiring verification of approval and acceptance of programming changes prior to migration.
- D. Implementing Subversion code check.

**A. Implementation Status: Implemented**

FWP has developed an “overarching” change control policy. The policy requires staff to follow the agency’s IS Request Tracker Use and User Sign Off Policy, Source Code Management Policy, and Production Migration Checklist. These policies formalize the change control procedures in place at the time of our audit.

**B. Implementation Status: Implemented**

FWP reduced the list of individuals with rights for migration from five to four, which it indicates is the minimum number required. FWP informed the Department of Administration, State Information Technology Services Division (SITSD) of this change in November 2009. SITSD staff confirmed the list of four individuals with rights to request migration of changes to the ALS production environment.

**C. Implementation Status: Implemented**

FWP modified the application it uses to monitor change requests. The application now includes a user acceptance sign off which must be completed prior to any programming changes being migrated to production. FWP management states they perform periodic reviews of migration documentation to ensure this process is being followed.

#### **D. Implementation Status: Being Implemented**

Subversion code checking would allow FWP to monitor the programming code in the production environment to ensure no unauthorized changes have been made. FWP is currently in the process of developing Subversion for the ALS application. Completion is anticipated during calendar year 2011.

#### **System Availability**

Agencies are responsible for maintaining information systems availability in the event of a disaster or major outage. To mitigate the damage resulting from major and minor disruptions, agencies need to implement a disaster recovery plan. Specifically, the organization should develop policies, plans, and procedures to regain access to data, workspace, lines of communication, and critical business processes. During the audit we determined FWP did not maintain an up-to-date disaster recovery plan.

#### **Recommendation #4:**

We recommend the Department of Fish, Wildlife and Parks maintain an up-to-date disaster recovery plan for restoration of the Automated Licensing System in the event of a disruption.

#### **Implementation Status: Being Implemented**

FWP is currently in the process of drafting a current disaster recovery plan. While SITSD is responsible for restoring the hardware and software for ALS, FWP is responsible for ensuring the system works properly and the restored data is correct. FWP has completed an initial draft plan and anticipates continuing development throughout 2011 as time allows.

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