A Report
to the
Montana
Legislature

Information Systems Audit

Offender Management Information System

Department of Corrections

August 2014

Legislative Audit
Division

13DP-04

Legislative Audit Committee

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August 2014

The Legislative Audit Committee
of the Montana State Legislature:

This is our information systems audit of the Offender Management Information System (OMIS) managed by the Department of Corrections (department). OMIS is a tool used by the department to collect and monitor information on all adult male and female offenders.

This report provides information and audit findings regarding the integrity of the data within OMIS. The report includes recommendations for enhancing program and system controls related to using OMIS as the primary record, correlating data creation and entry, and using OMIS to calculate all offender sentence terms. The report also includes recommendations related to access, training and guidance, and backup and recovery.

We wish to express our appreciation to personnel from the department, the Board of Pardons & Parole, and department contractors involved with the audit for their cooperation and assistance.

Respectfully submitted,

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Pete Lawrenson	Missoula	1/1/2017
Coleen Magera	Plains	1/1/2017
Mary Kay Puckett	Helena	1/1/2017
Darryl Dupuis	Polson	1/1/2018
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MONTANA LEGISLATIVE AUDIT DIVISION

INFORMATION SYSTEMS AUDIT
Offender Management Information System
Department of Corrections

AUGUST 2014 13DP-04 REPORT SUMMARY

The Department of Corrections provides administration, programs, and services for about 13,000 adult male and female offenders in various facilities, programs, and community settings. The Department of Corrections could improve supervision and management of adult offenders by strengthening its recordkeeping methods and the controls surrounding its Offender Management Information System.

Context

The Department of Corrections (department) is responsible for supervision and management of about 13,000 adult offenders. The department maintains two types of offender records, including hardcopy documentation and an electronic information system. This audit reviewed data integrity within the department's electronic information system called the Offender Management Information System (OMIS).

A magnitude of information and data is compiled over the course of an offender's supervision. Offender data is created and maintained by numerous individuals responsible for various aspects of supervision and management. This data is used by a number of entities to make decisions regarding the type, location, and length of an offender's incarceration and/or supervision. As a result, it is important for the data to be accurate, complete, and timely, as well as being secured.

Results

Our audit noted that, while the department has established controls within OMIS, strengthening those controls could help enhance data integrity. The department's use of two methods of recordkeeping impacts data integrity, so the audit recommends establishing OMIS as the official record and minimizing the use of hardcopy documentation. In conjunction, the audit recommends the department establish policy to have the creator of documentation enter the data into OMIS, as well as using OMIS to calculate the sentence terms for offenders. A system can be more effective in controlling access to and increasing consistency of offender data.

In addition, the department should provide users with training and reference manuals to assist with OMIS operations. The department has established a process for assigning users access to OMIS, but this process could be improved by further defining and limiting access rights, and creating a new process for reassignment of access. Finally, the department needs to formalize its backup and recovery procedures to ensure offender data is available to users.

Recommendation Concurrence	
Concur	6
Partially Concur	0
Do Not Concur	0

Source: Agency audit response included in final report.

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Chapter I – Introduction and Background

Introduction

The Department of Corrections (department) uses a records management system to collect data on adult offenders. The electronic system is called the Offender Management Information System (OMIS). The department and other entities involved with supervision of offenders use information within OMIS to assist in making decisions. In order to make the most informed decisions, it is important to maintain data integrity. Data integrity refers to the overall completeness, accuracy, and consistency of data, as well as security of information. We reviewed data integrity of OMIS. This report provides information on the findings from our review of controls within the system.

Background

There have been several offender information systems implemented over the years starting with the Offender Based State Criminal Information System operated on the state mainframe and developed by Department of Administration staff in the late 1970s. The Adult Correctional Information System (ACIS) was developed by Department of Institutions' staff (now Department of Corrections) on an IBM system in 1986. ACIS was updated with additional modules in 1991 and moved to an IBM AS/400 system. A 1997 legislative audit (97DP-07) revealed data accuracy issues attributed to ACIS design and lack of data input controls to mitigate data entry errors. Subsequent to the audit, the department began an initiative to improve data quality, which included development of a replacement system, Programmed Reporting of Offender Files (ProFiles). ProFiles implementation was never completed and in 2002 the department decided to seek an alternative solution. Another legislative audit (04DP-07) reviewed the department's process for developing a replacement system, as well as its approach to ensuring data quality. The conclusion of that audit was the department had not effectively implemented a solution to the existing data accuracy problems.

For its current offender information system, the department decided to implement offender management software called O-Track, which was initially developed by the Utah Department of Corrections. Utah licensed O-Track for use by other states which led to forming a consortium called the National Consortium for Offender Management System (consortium). The consortium is a joint board coalition organized for the purpose of developing, maintaining, and enhancing a comprehensive electronic offender database system for managing all aspects of offender incarceration, supervision, and rehabilitation among the participating members. The consortium is responsible for maintaining a standardized core module of the offender system for

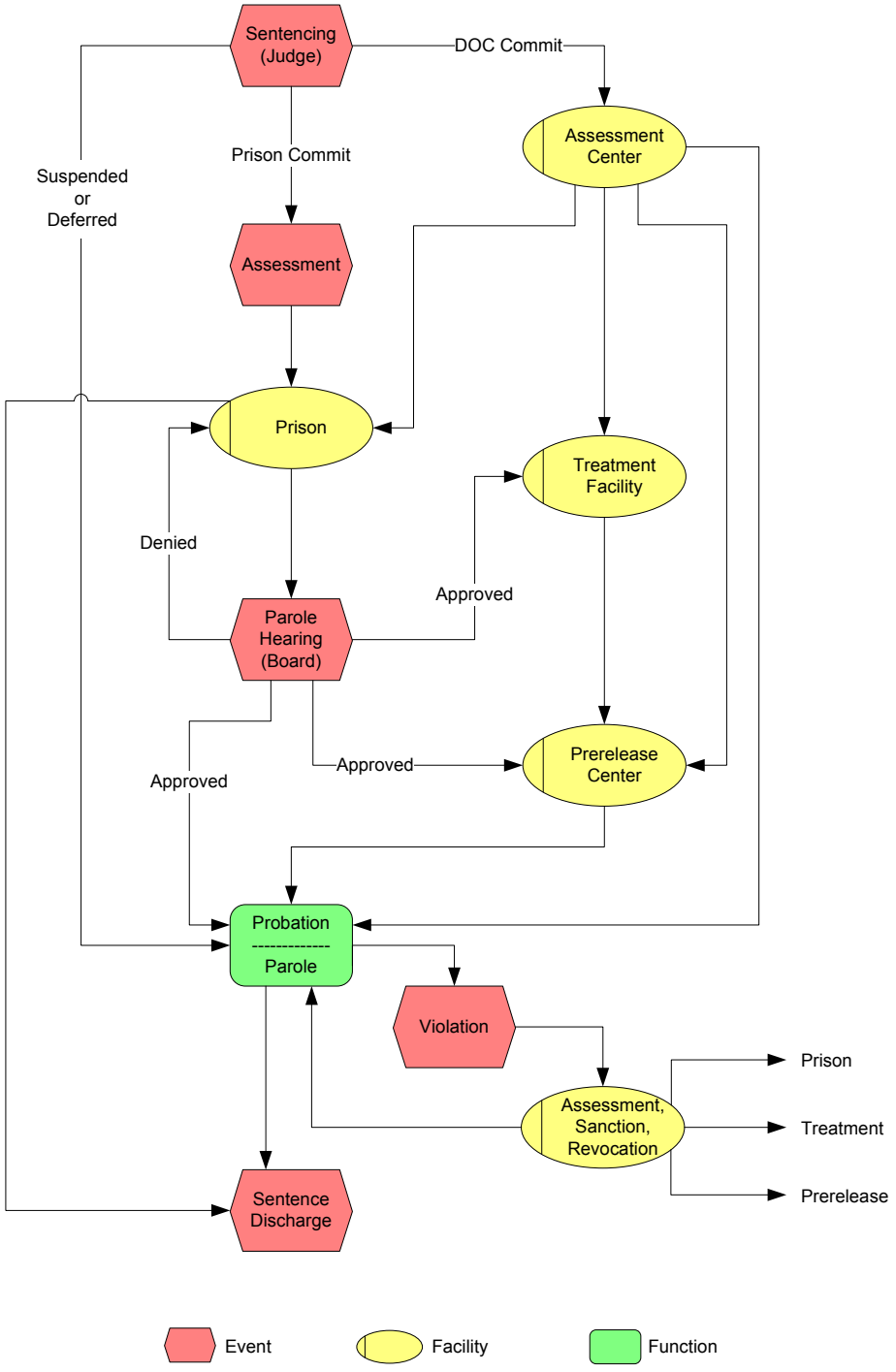
its members and assuring multi-jurisdiction compatibility to facilitate the sharing of enhancements, data integration, data sharing, and mutual support.

The department customized the O-Track source code and in 2008 implemented OMIS. Goals of the new system were to make retrieval of information about offenders easier and more efficient, as well as making data analysis easier. It was also implemented to help standardize processes for entering and reporting offender data. OMIS is used by the department to collect adult offender data and produce reports for users and requesting groups. All offenders, whether on probation in the community, incarcerated in prison or other facilities, or out on parole, are entered in OMIS.

The general course an adult offender can take while under the supervision of the department is depicted in Figure 1 on page 3.

Figure 1

Adult Offender Course While Under Supervision



Source: Compiled by the Legislative Audit Division from department records.

Data and information is entered into OMIS at various stages in the process by various individuals. The process starts in the courts and documents include a presentence investigation report, a sentence, and an order. Assessments are conducted on offenders prior to being placed into prison or other facilities. These assessments may include chemical dependency, mental health, education, and anger management. The terms of the sentence are used to calculate the length of time under supervision. A management plan is created for each offender and tracked throughout supervision. Information related to offender treatment, programming, evaluations, violations, and every day activities is entered by numerous individuals involved with management and supervision.

Department Organization

The department is organized into nine sections which include the Director's office, six divisions, and the two state prisons. In addition, the Board of Pardons & Parole is allocated to the department. The Information Technology Division (ITD) is responsible for developing and maintaining OMIS. ITD is headquartered in Helena and has offices at Montana State Prison in Deer Lodge and the Montana Women's Prison in Billings. ITD has 24.5 full-time equivalent and has no contracted information technology support staff. The ITD manages all computer related activities and monitors data quality. ITD objectives include:

- Enhance the quality of data contained within the department's information systems.
- Where possible, automate business practices to make the practices more efficient and cost effective.
- Enhance the reliability and security of the department's information systems.

Personnel throughout the department have varying responsibilities for the supervision and management of adult offenders. Supervision and management of offenders is conducted in secure facilities, community programs, and under probation and parole, including:

- 2 state prisons, 2 regional prisons, 1 private prison
- 1 infirmary for long term health care
- 6 contracted prerelease centers
- 11 community corrections programs
- 24 probation and parole offices

The Adult Community Corrections Division (ACCD) is responsible for supervision and management of offenders in the community. ACCD has an objective to successfully monitor offenders in the community. Incarcerated offenders are housed in prisons or other facilities prior to release to the community.

Audit Scope and Objectives

The audit scope focused on data integrity and controls over input, processing, and output of adult offender data. The overall objective of the audit was to determine if system controls are functioning as expected to enhance data integrity. The scope of the audit examined how offender information is entered and tracked throughout an offender's entire time under the supervision of the department. We examined input controls that support data accuracy, security, and completeness. We also analyzed processes for consistency among users entering information into OMIS. Finally, we reviewed controls around the output of data to evaluate if information was consistent throughout the reporting process. We conducted audit testing between November 2013 and April 2014. The following are control areas that were examined to meet the audit objective.

- **Access/Roles** – Determine if proper roles are assigned to all users of OMIS, and verify this access is limited to the user's specific job function.
- **Data Input** – Determine if input controls exist to ensure data integrity within OMIS.
- **Data Processing** – Determine why OMIS is not used to calculate sentence terms.
- **Data Output** – Determine if output controls exist to maintain data integrity for reports generated by OMIS.
- **Records** – Determine the impact of having both an OMIS record and a hardcopy file.

Audit Methodologies

We conducted various testing during the audit to meet our objectives including the following:

- Interviews with personnel from the department, Board of Pardons & Parole, and contracted facilities.
- Visits to Montana State Prison, Montana Women's Prison, Cascade County Regional Prison, Crossroads Correctional Center, several probation & parole offices, and one prerelease center.
- Review of associated state laws, rules, and policies, as well as system documentation.
- Observation of system operation.
- Review and analysis of OMIS users and roles established for access.
- Review and comparison of data between hardcopy files and OMIS.
- Testing of the OMIS database and associated system edits.

Conclusion

Based on the audit work performed, the Department of Corrections has established controls over the Offender Management Information System; however, controls could be strengthened in certain areas in order to increase the level of integrity of offender data.

CHAPTER II – Transitioning to an Electronic System

Introduction

Individuals responsible for offender management activities, including entities outside the Department of Corrections (department), are responsible for completing documentation regarding those activities. The Offender Management Information System (OMIS) is a web based centralized database containing adult offender data. Management and supervisory information is entered into OMIS and is also maintained in hardcopy format.

Data integrity is a key component of offender management. Data integrity refers to the accuracy, completeness, and consistency of the data, as well as the security of the information. Data is used to make decisions regarding how to best manage offenders. The more controls a system has to help maximize data integrity, the stronger the processes will be regarding management and supervision of offenders. This chapter discusses our findings related to the department's recordkeeping practices and data entry methods, and includes recommendations for improvement.

Hardcopy Versus Electronic Records

The department has two forms of recordkeeping: OMIS and hardcopy files. Based on input we received during the audit from department personnel, both forms of records are considered official. One of our areas of review was to determine what impact there is by having two record systems.

A hardcopy file is maintained for each offender and includes various information. Generally, the contents of the hardcopy file include the following:

- **Supervision** – commitment, conditions, classification, assessments, forms, correspondence
- **Legal** – court documents, police reports, presentence investigation
- **Reports** – monthly, travel, payments
- **Treatment** – evaluations, requests, reports
- **Victim** – information, letters, memos
- **BOPP** – Board of Pardons & Parole documents

For offenders incarcerated at a prison, the hardcopy file is maintained at one of the two state owned prisons. When these offenders are transferred to another secure facility, or released to community placement, a copy of their file is transferred to their new

location. For offenders sentenced directly to community placement (prerelease or probation), a hardcopy file is also created.

OMIS is the electronic version of the hardcopy file. One record is maintained for each offender. OMIS users can access the system to look up information about offenders, no matter where they are located, as well as to print reports regarding offender activities.

One of our main areas of testing for the audit was a comparison of information between hardcopy files and OMIS. We compared various pieces of information such as personal data, photos, status and locations, discharge and eligibility dates, court documents, and victim information. We reviewed 86 offender records in six facilities across the state, and obtained input from numerous department and contract employees. Overall, our findings indicate that maintaining two sets of records contributes to ineffectiveness and inefficiencies.

Issues Noted During Record Reviews

One issue we noted during our record reviews was that each form of recordkeeping is not a complete record of all offender activities. The hardcopy files contain some specific details that are not maintained in OMIS. For example, details on grievances and in-facility moves are not required data for OMIS. In turn, OMIS contains some information that is not maintained in the hardcopy file. For example, OMIS contains a section for chronological notes. These notes are basically an open text area for users to enter what they believe is necessary regarding offender management, as well as an area that receives automatic entries from OMIS. Chronological notes are not maintained in the hardcopy file.

Another issue noted during reviews relates to access to confidential information. Both forms of records contain confidential information including personally identifiable information (PII) such as social security numbers (SSNs) and victim information. In OMIS, access to specific information can be restricted to those users with an identified need. On the other hand, information within the hardcopy file is available to anyone who has access to the file. For example, most access to OMIS does not provide SSNs or victim information. However, as soon as a user gets the hardcopy file, they have access to SSNs and victim information from numerous places within the file.

The results of our records comparison indicated issues with nonmatching information, missing information in one or the other record, or outdated information. The following lists some of the areas we noted.

- **Nonmatching classification** – each offender incarcerated in a secure facility is classified to determine needs and the best option for placement. We noted

3 percent of the files we reviewed had differences in classification between OMIS and the hardcopy file.

- **Nonmatching SSNs** – the social security number of each offender is maintained in both OMIS and the hardcopy file. While we only had access to the last four digits of the SSN in OMIS, we noted almost 7 percent of the SSNs did not match.
- **Nonmatching date of birth** – date of birth information is maintained for each offender. We noted about 2 percent of the files we reviewed had nonmatching dates.
- **Nonmatching commit type** – each offender is committed to a certain placement within their sentence. About 7 percent of the files we reviewed had differences between the two sets of records.
- **Nonmatching dates** – each offender has dates calculated for parole eligibility, prison discharge, and sentence discharge. We noted differences between records for over 2 percent of parole eligibility dates, and over 9 percent of sentence discharge dates.
- **Nonmatching judgments/orders** – each offender has a judgment and order from the court. This information is entered into OMIS and maintained in hardcopy format. We noted about 6 percent of the records we reviewed did not have matching information.
- **Nonmatching offenses** – the information on the offense or offenses committed by the offender is maintained in OMIS. Almost 6 percent of the files we reviewed had differences between OMIS and the hardcopy file for the offender's current offenses.
- **Nonmatching movements/locations** – the location of offenders is recorded in each record, and includes a listing of any movements. We noted differences in over 2 percent of locations and almost 7 percent of movements.
- **Outdated photos** – each record contains photos of the offender including a main photo and other scars/marks/tattoos. We noted about 17 percent of offender main photos were over three years old.
- **Missing documentation** – statute requires DNA testing on offenders, and we noted missing documentation in over 23 percent of the OMIS records and 36 percent of the hardcopy files we reviewed.

While the majority of the issues noted above occurred in less than eight percent of the files reviewed, the integrity of the data is still impacted. The purpose of this analysis was to determine the integrity of the data; it was not to identify inappropriate or incorrect placement of offenders. We noted information was recorded in two different places and sometimes it was done in two different ways.

Finally, access to the hardcopy file is not always readily available. When offenders are transferred to other facilities, which happens quite often, the hardcopy file is not always transported at the same time as the offender. For offenders who were sentenced

to one of the two state prisons, the hardcopy files do not leave those facilities; rather, a copy of the file is made and sent out. According to department personnel, it can take days and even weeks before the file gets to the new location of the offender. Additionally, the file is transported in various different ways such as being mailed, sent with another offender transport, or taken by a department employee who is traveling to that location. In contrast, anyone who has access to an internet connection and is an authorized user, has immediate access to OMIS. While some personnel use the hardcopy file as their go-to record, the majority of people we talked to said they go to OMIS first to get information because it is easier and quicker; they then go to the hardcopy file if the information cannot be obtained from OMIS.

Dual Recordkeeping Creates Inefficiencies and May Impact Data Security

Having two separate versions of an offender's record can impact data integrity, which can impact operations and offender supervision and management. Data can be different between the two records, which can cause confusion amongst users and could impact decision making. Use of erroneous data could also occur which could have legal ramifications for the department. There could be challenges in defending which file is the official record if multiple files are maintained. Hardcopy records are more difficult to control, and require physical transport with the offender. In addition, having two sets of records creates inefficiencies among personnel who have to go back and forth between records to locate the information they require. One user said you basically go where you can find the information you are looking for.

Security of data, which is part of data integrity, is critical regarding offender records, both for protecting PII as well as from a management standpoint. If details from offender records are reviewed by unauthorized personnel, the consequences could impact operations. Because two separate records are maintained and staff knowledge of data entry varies, offender information could be entered in different places within files, both the hardcopy file and OMIS. This could result in access to data that is normally restricted, thus impacting data security.

An objective of the Adult Community Corrections Division is to cultivate consistency in processes including electronic data entry. According to Probation & Parole standard operating procedures (P&P 70-1), Probation & Parole Bureau (bureau) employees will follow established procedures for inputting data into OMIS or future generation information and reporting systems to enable the bureau and the department in making informed management decisions with respect to staffing, offender programs, and legislation. OMIS also greatly enhances sharing offender information with local, state, and federal law enforcement agencies. This policy also indicates bureau staff will

promptly and accurately input the offender data, ensuring the information is accurate and complete. The effectiveness of these policies may be diminished by using two methods of recordkeeping.

Numerous people use information from offender records to make decisions regarding supervision and management. Reports are generated from OMIS for day-to-day activities, for use at court hearings and probation and parole hearings, as well as for making management and legislative decisions. In order to have a complete picture of offender actions and avoid the need for manual review of hardcopy documents, a single record of all data is a more effective method. In addition, Victim Information & Notification Everyday (VINE) is a free service that provides automated notification of the current location and custody status of state prison inmates. VINE uses OMIS information, so timely entry of location information into OMIS is critical for VINE notification to be accurate. Maintenance of two sets of records may negatively impact this automated connection.

Transitioning to OMIS as the Primary Record

The main reason for maintaining two sets of records appears to be historical as well as a resistance to reduce or eliminate hardcopy documentation. The culture of the department and correctional operations has always included hardcopy documentation, even at the policy level. Department policy (DOC 1.5.5) includes operational procedures to establish both an electronic and a paper offender case file for each offender at the time of sentencing, or at the time the offender is transferred to department custody or supervision. However, the department has invested a significant amount of time and resources toward implementation and maintenance of OMIS, and since all personnel with offender management responsibilities use the system, it seems logical to continue with this practice and shift to an electronic record system.

While there are advantages to both forms of recordkeeping, the benefits of using an electronic record system outweigh the hardcopy method. The benefits of using OMIS for recordkeeping include:

- Greater control of access
- Greater security of information
- Minimization of data entry errors through system controls
- Faster and more efficient searches for information
- Greater accessibility to information

According to department personnel, there are some documents, such as court documents, that must be maintained in a hardcopy format, but the majority of

hardcopy documentation could be eliminated by maintaining the documents within OMIS. While our review did not include an analysis of the amount of paper generated from use of hardcopy records, we were informed by department personnel, and noted it during our audit, that a lot of paper is generated by the department related to management of offenders.

Including an Electronic Records Management Process

The department developed a section within OMIS to house documents. This framework allows for scanned documents to be stored in the system. However, this process is relatively new and has not been fully implemented. As a result, there is limited hardcopy documentation (scanned documents) available in OMIS. In addition, the data within scanned documents is not part of OMIS; rather, it can only be viewed through OMIS. The data still needs to be entered into the system. While this is a good concept for making OMIS a more complete record, it does not help minimize hardcopy documentation. For generation of future records, hardcopy documentation should only be created for those documents that must be completed by hand, or that must be maintained in hardcopy format. Various forms and other template type documents can be built into OMIS to help minimize the use of hardcopy documentation. If any forms are needed in hardcopy format, they could be printed out of OMIS. Having a single record should also help keep files up to date as there will be only one record, so there will not be lag time between completion of hardcopy files and entry into OMIS.

The main purpose of management information systems is to provide effective and efficient ways to capture, track, analyze and apply information to organizational needs and outcomes. The department should develop a plan to assist with transition to a single form of recordkeeping. This should include a plan to minimize the use of hardcopy documentation, as well as creating a process for incorporating existing hardcopy documentation within OMIS. This will help the department realize the original goals of the system for easier and more efficient retrieval of information and standardization of data entry and reporting. While OMIS is already in place, we acknowledge that it will take time to completely convert to an electronic system.

RECOMMENDATION #1

We recommend the Department of Corrections implement a plan to:

A. *Make the Offender Management Information System the official record.*

B. *Minimize the use of hardcopy documentation.*

C. *Create an electronic records management process for maintaining existing hardcopy documentation within the Offender Management Information System.*

D. *Address data integrity issues noted during the audit.*

Defining Data Entry Responsibilities

Various individuals are responsible for conducting activities related to supervision and management of offenders. These individuals can be referred to as the "process owners." The activities that are conducted generate various types of documentation. The data included within this documentation is entered into OMIS. Table 1 is only a partial listing of some of the documentation involved.

Table 1
Examples of Documentation Related to Offender Supervision

Phase	Document	Description	Process Owner	OMIS Data Entry
Sentencing	PSI	Presentence investigation of offender's situation	Probation & Parole	Not entered
Sentencing	Judgment/ Order	Legal documents describing sentence and conditions	Sentencing Court	Prisons or P&P
Intake	Assessment	Various types of evaluations to assess programming needs	Prison - Intake	Prison-Records
		Various types of evaluations to assess programming needs	Assessment Centers	Various
Intake	Sentence Calculation	Spreadsheet used to calculate days/dates under supervision	Montana State Prison	MSP
		Process used to calculate discharge date (probation)	Department - Central Office	Central Office
Incarceration	ADR	Admissions/discharge report to track location/movement	Prisons	Various
Incarceration Supervision	OMP	Offender management plan outlines programming requirements	Prisons P&P	Various
Incarceration Supervision	Chronos	Chronological notes about offender activities	Users	Users
Supervision	All	Daily records and reports of offender activity	Prerelease Centers	P&P

Source: Compiled by the Legislative Audit Division from department records.

We noted department processes where the person who completes the hardcopy documentation is not the same person who enters the information into OMIS. For example, the Admissions and Discharge Report (ADR) is used to track movements of offenders within and among facilities. The hardcopy form is completed by personnel in specific locations within facilities; however, these same personnel do not always enter the data into OMIS. The hardcopy documentation is transmitted to other personnel for data entry. These are often times completed by someone in an administrative support position who may not know where an offender is actually located; they are just completing a form. This transfer of responsibility increases the possibility for error, which impacts data integrity. In addition, some data maintained within OMIS is not entered by the original creator of the information. Examples include sentencing courts and prerelease centers. The courts are organized under a different agency and do not have access to OMIS. Thus, all sentencing information is entered by someone other than the originators. Prerelease centers are contracted by the department and have access to OMIS, but the access is read-only. As a result, the supervision and management activities that take place within prerelease centers are not recorded directly into OMIS as they occur, or by the process owner, and sometimes not at all, thus impacting data integrity. If the information from prerelease centers is entered into OMIS, that responsibility falls on Probation & Parole personnel. However, these individuals have their own supervision and management responsibilities, so time constraints sometimes hinder what, if any, information is entered into OMIS.

Fragmented Data Entry Responsibilities Undermines System Integrity

This transferring of responsibility for entering data can create data integrity issues including errors, inconsistencies, omissions, and duplication. Errors such as transposed numbers may not be caught as the originator of the data is not entering the information. In addition, if any information is omitted, the person entering the data may not know the information, so in order for the entry to be complete and accurate, they would have to contact the originator to obtain the data, which adds time to the process and can still result in errors.

As part of offender management, it is common for users to access offender records and look at past behavior. However, if records are not complete or have erroneous data, improper decisions may be made. For example, a common occurrence in prerelease facilities is to complete assessments of offenders to determine what programming they need. Information from OMIS is used to help make decisions. Offenders are then supervised and managed during this stage of their custody. However, prerelease centers use their own management systems and this information is not entered into OMIS, so subsequent providers and others responsible for supervision and management do

not have a complete picture of what occurred with an offender's management. If this information is not available in OMIS, offenders may be reassessed upon release to the community and enrolled in programs they have already completed, or not enrolled into programs they should attend.

Standard IT goals are to optimize use of information, reduce data redundancy, and maintain data integrity. Industry standards suggest assigning an owner for each IT process. This should include clearly defining the roles and responsibilities of the process owner including accountability for the process end deliverables. Standards also suggest creation of a business information model to optimize the use of information. Defining the information architecture helps improve the quality of management decision-making by making sure that reliable and secure information is provided. This IT process is also needed to increase accountability for the integrity and security of data and to enhance the effectiveness and control of sharing information across applications and entities. Assigning data ownership helps provide reliable and consistent information which helps ensure the integrity and consistency of all data.

Department policy (DOC 1.7.3) includes language regarding data quality and states all employees and contracted persons who are authorized to enter, modify, or delete data are responsible for and accountable for the completeness, accuracy, and timeliness of the data they handle. The policy defines the following:

- **Completeness** – All of each record's fields are completed and contain all pertinent information.
- **Accuracy** – All information entered is correct.
- **Timeliness** – Information is entered as close to the triggering event as possible.

In addition, Probation & Parole policy (P&P 40-3) discusses case records management and requires case record entries into OMIS to be complete, accurate, and accomplished in a prompt and timely fashion.

Historical Processes Have Led to a Dual Recordkeeping System

The reason for this transfer of data entry responsibility relates to use of hardcopy documentation and related procedures. With the ADR example, the procedure has always been to complete a hardcopy form. Depending on the situation and facility, this then leads to shuffling the paperwork to another section for entry into OMIS. If OMIS is used as the official record and hardcopy documentation minimized, data entry will become the originating procedure which will compel entry by the originating individual. For those entities that do not have access for entry to OMIS, the department

has either not yet been able to establish access (courts) or made a decision to not provide this access (prerelease). Department personnel indicate they have been working with the courts to try to implement a process but the court system is not yet at a point to be able to enter data into OMIS. In the case of prerelease centers, department personnel indicate a contracting issue has prevented them from providing this type of access to contractors. The department should continue its efforts to establish methods for OMIS entry by non-department personnel. OMIS has the capability to restrict access and track activities, so entry can be controlled. The department could consider developing interfaces to capture data from separate systems and avoid direct entry access to OMIS. This would also reduce the need for dual entry by entities that have separate offender management systems. These are just a couple examples of ways to address the concern.

Individuals who are responsible for supervising and managing offenders need to be held accountable for data entry. Correlation between ownership of the process and data entry should be implemented. This would help minimize possibilities for error in misinterpretation and omission. To the extent possible, this concept should be implemented for all OMIS users, not just department personnel, which will include the Judicial Branch as well as contracted employees. OMIS is the department's system so it has responsibility for controlling all users and ensuring completeness and accuracy of information. In order to enhance data integrity, the department should correlate process ownership with OMIS data entry.

RECOMMENDATION #2

We recommend the Department of Corrections implement policy to correlate process ownership with data entry for all information entered into the Offender Management Information System.

Sentence Term Calculations

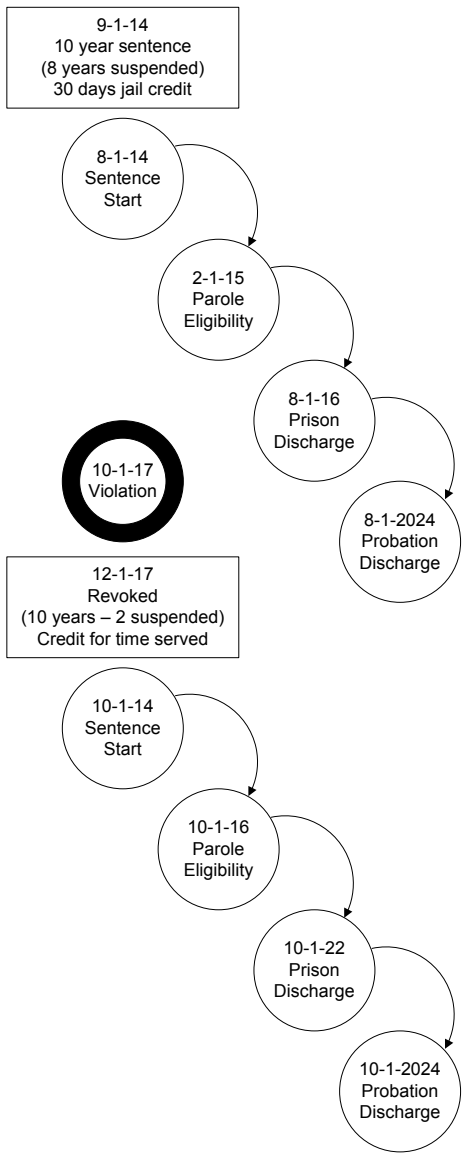
An offender is sentenced by a court of law for each offense committed, which includes the length of time of the sentence (term). The term of the sentence is how long the department has responsibility for supervision and management of the offender. Depending on the conditions of the sentence, as well as subsequent actions by the offender, there are several dates that need to be calculated, and recalculated, to determine where an offender can serve their time and when that time is complete. Generally, these dates include:

- Parole Eligibility (date offender is legally eligible to be released from prison)

- Prison Discharge (date offender's prison sentence expires)
- Probation Discharge (date the offender's sentence is complete)

In order to calculate these dates, there are a couple of key dates that are needed. The first date is the offense date which is significant for determining parole eligibility. Then there is the sentencing date which is usually the date the sentence was orally pronounced in court. Finally, if the court awards credit for time served in jail, this credit must be applied to the sentencing date to determine a sentence commencement or start date. These dates are used to calculate the dates in the bullet list above. Figure 2 provides a visual of sentence term calculations for a hypothetical situation in which an offender is originally sentenced to 10 years with 8 years suspended. The offender then violates the conditions of the sentence, it is revoked, and a new sentence is ordered by the court.

Figure 2
Example of Sentence Term Calculations
(Hypothetical Situation)



Source: Compiled by the Legislative Audit Division.

OMIS Is Not Used to Calculate All Sentence Terms

Currently, these dates are calculated using Excel spreadsheets or OMIS. For offenders who go to prison or another facility, the dates are calculated by personnel at Montana State Prison using a series of spreadsheets and manual calculations. Calculated dates are then manually entered into OMIS. For those offenders whose sentences are deferred or suspended, which results in them going straight to probation, calculating the sentence term is partially completed within OMIS. However, some external calculations are completed as well. If an offender has been given credit for jail time or street time, this must be included in calculating their

probation discharge date. The current practice is to use an application on the Internet to calculate the number of days of credit, and then manually transfer this number into OMIS. Dates and terms from the sentencing documents are then entered into the system and the probation discharge date is calculated by OMIS.

Current Methods Impact Data Integrity

Based on our findings, using spreadsheets and manual methods to complete calculations has an impact on data integrity and availability of information. Several department personnel involved with the calculations indicated the spreadsheets are not always accurate, so they have to complete some manual calculations to verify dates. During our discussions with department personnel, several individuals indicated they had encountered errors in sentencing dates. Another impact exists with the manual entry of dates into OMIS. Anytime data has to be manually entered into a system, it increases the potential for human error, which can impact data integrity. For example, while discussing the procedures used to calculate probation discharge dates with department personnel, the example used to illustrate the procedure turned out to have an error in the number of days of credit. It was believed this was due to human error. Subsequent to our discussion, OMIS was updated to reflect the correct number of days of credit. Sentence terms can be complex, and sentencing documents are not consistent and can be difficult to interpret. All these things increase the potential for human error. While human error is possible whether or not OMIS is used to calculate sentence terms, using spreadsheet and manual calculations outside OMIS, then transferring that information into OMIS increases this possibility. Transfer errors could go unnoticed as they would be more difficult for someone to identify at face value in OMIS.

Information from sentencing documents is needed to calculate sentence terms; however, these documents are not always available to department personnel when calculations are being made. To account for delays in receiving sentencing documents, the Montana State Prison (MSP) created a Verification of Commitment (VOC) form. This form is completed by Probation & Parole officers at the sentencing hearing and includes information on the sentence. MSP uses information from the VOC to calculate sentence terms. When the actual sentencing documents arrive, MSP personnel recalculate sentence terms using the official legal documents. This too can cause data integrity issues as numerous department personnel indicated the VOC information is not always correct.

During discussions with OMIS users, we noted concerns with OMIS not being used to calculate sentence term dates. Personnel responsible for supervision and management of offenders constantly receive questions about sentence dates. Because the details of sentence term calculations are not maintained within OMIS, these questions cannot

be adequately addressed right away. Contacts have to be made with other department personnel in order to have the dates verified, and the verification may not include any details with the response. In addition, by not having the details of calculations within OMIS, less people can review the calculations, which limits the amount of review and identification of possible errors. While OMIS can be used to calculate the probation discharge date, most dates are not calculated by OMIS. Rather, the information is manually entered, so these fields are text fields. As a result, if errors are made during entry, OMIS controls would not be able to identify and correct, or inform the user of an issue.

We reviewed the spreadsheets used to calculate sentence terms. We noted the spreadsheets have unprotected cells so formulas could be modified, some information in the spreadsheets is outdated, and some of the descriptions for cell entry are incorrect or confusing. Also, the accompanying guideline was last updated in February 2006. We also conducted a test of the probation discharge calculation by using the Internet application and entering the sentence dates from OMIS for a randomly selected offender, then comparing the total days. This test resulted in the same total number of days for the entire sentence. While we did review the department's process for calculating sentence terms, our audit did not include a review of specific offender sentences. The purpose of our analysis was to review existing controls related to enhancing data integrity; not to analyze the correctness of any sentence dates. As a result, our audit makes no representation of the accuracy of sentence calculations.

Other States Use System to Calculate Sentence Dates

Industry guidelines suggest organizations design and establish IT processes that are repeatable and consistently produce expected results. Use of consistent processes helps ensure reliability with data output, and processes should only be modified when unavoidable. During the audit we contacted the state of Utah to inquire about O-Track, its offender management system. O-Track was the base system that OMIS was originally modeled after. While Utah's sentencing practices are different than Montana's, they still require calculation of discharge dates. In Utah, the prison term is calculated in O-Track, as well as all other dates pertaining to offender sentences, which helps ensure consistency.

The accuracy of sentence terms is critical to offender management. Miscalculating a date by even one day can have negative impacts. The department could face liability issues if it holds an offender longer than sentenced, as well as if it releases an offender early. We talked with department personnel and asked why spreadsheets are used to calculate sentence terms rather than OMIS. They indicated offender sentence terms have never been calculated using OMIS or any previous offender management

system. The spreadsheets were developed in 2003 to handle standard sentencing and enhance the hand calculation method used prior to 2003. ITD created a module in OMIS to perform the sentence calculations that worked with standard sentencing and also contained the logic for more complicated sentencing scenarios. However, they encountered resistance and hesitation to move away from the spreadsheets. ITD maintained the module in the background for a period of time, but were never able to validate all of the functionality because of lack of use. ITD has developed a sentence term calculation process within OMIS 3.0, which is the upcoming new release of OMIS. Because a framework is already in place and to help enhance data integrity, the department should integrate the sentence calculation process into OMIS. In order to ease the transition, the department could run parallel methods until staff are confident with OMIS calculations.

RECOMMENDATION #3

We recommend the Department of Corrections use the Offender Management Information System to calculate all offender sentence terms.

CHAPTER III – Improving Key System Controls

Introduction

The scope of this audit focused on data integrity within the Offender Management Information System (OMIS). Because OMIS is a web-based centralized database, system controls can be implemented to assist in maximizing data integrity. Controls related to who has access to the system and what data they have access to helps ensure security of the data. Input and processing controls help ensure accuracy, completeness, and consistency of data. Backup and recovery controls help ensure data is available at all times. We conducted testing of system controls related to ensuring data integrity. This chapter discusses our findings related to key system controls and includes recommendations for improvement.

Data Quality

There are a number of data quality issues that can occur such as misspellings, incorrect data, and misuse of an OMIS field. While human error can cause data quality issues, system controls can help minimize those errors. The Department of Corrections (department) has developed system controls to help minimize data input errors including dropdown boxes, conditional dropdowns, autopopulating fields, and limiting data entry. For example, OMIS has a correlation between an offender's correctional status and location. If an offender's correctional status is secure, the options for where that offender can be housed are limited and must be selected from a dropdown list. Some of these aids provide users with expected values such as keeping selections up to date or providing a narrow list of possibilities. For data quality purposes, OMIS can restrict data entry and/or modification of an entry. If a user does not have proper access rights to either add or change a field, they will not be able to enter any information into the field and an error message will be displayed.

There are several triggering events that make automatic OMIS entries in an offender's chronological notes. For instance, new entries or updates to an offender's address or employment will generate a standard entry. Other triggering events include substance tests, travel permits, contact letters, and disciplinary hearings. Another example regarding data quality relates to sentence conditions. OMIS captures the conditions set by the court. The department determined certain conditions require certain goals for the offender's management plan. To aid users, OMIS automatically creates an Offender Management Plan and/or assigns a goal based on conditions. For example, a sentencing condition for Chemical Dependency Education will automatically assign the offender a goal of Complete Substance Abuse Evaluation.

We conducted testing of OMIS data edits and concluded that system controls performed as designed. Utilizing the department's test database, we entered information into various screens and fields and attempted to change existing data. We noted dropdown boxes provided a selection of choices for certain fields, and various screens were autopopulated with data from other areas. Attempts at entering data or changing data that were not allowed resulted in error messages indicating a lack of proper access rights and not allowing entry of data into those fields. In addition, during our review of OMIS records, we noted the various dropdown boxes and other autopopulated fields, and obtained input from OMIS users regarding the various system edits.

Conclusion

The data and field edits within the Offender Management Information System function as expected and enhance the quality of data.

User Reference Guides and Training

While there are some controls related to data quality, not all fields have dropdowns or auto-populate existing data. As a result, it is critical for users to have a good understanding of what data is required, where the data should be entered, and the format of the data. During our audit, we noted a lack of training provided to OMIS users, as well as a lack of user and operations manuals.

The department has implemented some data quality checks in the form of a help desk and data checks. If users identify errors during record reviews, they can report directly to the person who made the entry, contact the Help Desk, or use a feature in OMIS that generates an e-mail to the Help Desk with the issue. The Help Desk then tracks the problem through resolution. During our interviews with department personnel, we received comments indicating users will inform the person who entered the information in question, or if they know what the information is supposed to be, they will correct it and then let the person who entered the information know about the change. The Data Quality Bureau within the Information Technology Division (ITD) has also developed numerous reports that are run periodically to identify potential entry errors or omissions. While these controls help to identify specific data integrity issues, they do not assist with reducing and preventing errors.

According to industry guidelines, knowledge about new systems should be made available, which includes production of documentation and manuals for users, and training to ensure the proper use and operation of applications. Providing effective user manuals and training programs increases effective use of technology by reducing

user errors, increasing productivity, and increasing compliance with key controls, such as user security measures.

OMIS Guidance and Training Is Limited

Based on information received during the audit, user training on OMIS has been limited. There are a few tutorials that provide a brief overview of the system, but there are no detailed manuals or user guides explaining OMIS operation. Although a new training website is currently being developed, the information contained on the website is limited. We asked the users we interviewed what OMIS training they had received. The majority of users indicated they were self-taught by trial and error or had experienced users show them the steps for their job functions. Providing training for users and reference materials detailing OMIS operations will help strengthen data integrity by increasing consistency and decreasing errors. While the department has implemented a Help Desk function for users, it does not appear to be used for learning how OMIS operates. The Help Desk is a problem solving function that users call when they are having issues with OMIS operation.

RECOMMENDATION #4

We recommend the Department of Corrections improve its training plan and written reference materials to assist users with operations of the Offender Management Information System.

Assigning Access to OMIS

Anyone needing access to OMIS must complete an access request form. The form must be signed by the requester's supervisor, and reviewed and approved by ITD. Once approved, each user is assigned access according to the request. As part of our audit, we obtained a listing of all users with access to OMIS. As of January 2014, there were 985 users assigned access to OMIS. There were over 80 different job titles for the users on the list, and the list only contained job titles for 70 percent of the users, indicating a wide range of users. The largest user base is Montana State Prison with 340 users.

OMIS Access Request Process

According to department personnel, the following fields are required to be completed on the access request form.

- Type of Request
- Date

- User ID
- User Name
- Supervisor Name
- Facility
- Access Required
- Signature of Approving Authority

We reviewed a judgmental sample of 81 access request forms to see if all required fields were completed. The review noted that 22 percent (18 of 81) of the forms reviewed had some type of error in completing fields. Errors included one form with an incorrect type of request, four forms with erroneous dates, seven forms with missing supervisor signatures, five forms with missing facility locations, and one missing ITD signoff. While the percentage of errors is rather low, the process does not ensure proper completion of access requests.

Security Roles Are Assigned by Access Requests

Each user is assigned security roles according to their access request. Security roles are established to restrict access to only those areas needed by users to complete their job responsibilities. Currently, ITD has established 54 security roles including some associated with specific facilities and some associated with specific documents or activities. For example, there is a role to allow a user to view victim information, and there is a role associated with intake at Montana State Prison. The main "read only" security role allows users to view all OMIS screens with the exception of victim and medical information, and only shows the last four digits of the social security number (SSN).

State policy (MOM 327) requires agencies to implement an information security program using guidance from the National Institute of Standards and Technology (NIST), U.S. Department of Commerce. NIST standards suggest access be controlled by the "least privilege" principle, which allows only authorized access for users which are necessary to accomplish assigned tasks. Department policy (DOC 1.5.5) defines "need to know" as the staff member requesting information must have that information in order to properly and adequately perform his or her job-related duties and responsibilities.

OMIS Security Roles Are Not Always Aligned with Job Responsibilities

As mentioned, we visited six facilities and spoke with numerous OMIS users and asked about their access, and if they had the access they needed to do their jobs. Some users

did not know the extent of their access, while other users indicated they had what they needed to do their jobs. Other users indicated they had more access then they needed, including users who said they had switched jobs but still had the access from their old positions. Several users indicated they could not see SSNs in OMIS but had job responsibilities that required they have it; in all instances they indicated they could get the SSN from another worker, or get it from the hardcopy file. We also selected a judgmental sample of 15 job descriptions and compared access to job responsibilities. Some descriptions referred to use of computer systems generally, some referred to previous offender management systems, others referred to OMIS specifically, while some do not mention use of a computer system at all.

Based on input from OMIS users, combined with the general information from the job descriptions, we concluded user access security roles are not specific enough to limit access to the least privileged level. For example, the grievance role (cor_grvnc_edit) allows users the ability to add/edit offender grievances and edit OMIS documents. There are 28 users assigned this role. However, according to department personnel, not all these users require the ability to edit grievances. This is the only role established for grievances.

The cause of excessive access to the system can be attributed to several things. First, the access request form template has a dropdown list for the type of change (add, change, delete) but most forms we reviewed used the "add" category because the users were requiring new roles. When a person switches positions or takes on different responsibilities, they often keep their existing access roles because the process only addresses what new roles the user requires; the process does not ensure existing roles are removed when users move to a new position. While the department has established a process of implementing security access roles and its policy aligns with NIST guidelines, the roles are not specific to business processes. Because of the wide variation in job responsibilities between users, both department and contracted employees, the department needs to develop a more extensive list of access security roles to provide more specific security within the system. This will ensure users only have access to the information they need to complete their jobs. Additionally, while the department has established a process for requesting and assigning access, there are no written procedures. The process for assigning access to OMIS is an essential aspect to maintaining a secure system. Written policies and procedures help individuals understand how access is assigned and what is expected of them regarding use. Written guidance provides documentation of expectations of who, what, when, and why certain activities need to take place, which helps provide consistency across the program. All this helps to maintain data integrity.

RECOMMENDATION #5

We recommend the Department of Corrections:

A. *Develop additional security roles to further define user access rights based on job function.*

B. *Incorporate into its existing process for assigning rights, requirements for removing any existing rights before assigning new rights.*

C. *Develop written procedures for granting security access including ongoing monitoring to ensure proper procedures are followed and user access is based on a least privileged assignment.*

Backup and Recovery

An important element of business continuity is backup and recovery planning for information technology (IT) systems. Backup and recovery planning is a set of steps, communications, and responsibilities that are to be executed in the event of an interruption of services. An effective backup and recovery plan is documented and designed to quickly and completely reestablish a system or service following a service interruption or disaster resulting in minimum loss to the organization. Critical IT outages can occur under a number of scenarios and do not have to involve catastrophic events. While not as devastating, but more likely, IT outages can be the result of equipment failures, viruses, hackers, floods, theft, electrical outages, fires, and human errors. Although the department provided us with information on how the backup and recovery process would work, written documentation of the process does not exist.

NIST contains guidance regarding contingency planning. Contingency planning for information systems is part of an overall organizational program for achieving continuity of operations for mission/business functions. These guidelines state that organizations should develop, document, and disseminate a contingency planning policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance, as well as procedures to facilitate the implementation of the contingency planning policy and associated contingency planning controls. In addition, the organization should test the contingency plan for the information system to determine the effectiveness of the plan and the organizational readiness to execute the plan.

Written policies and procedures provide users the knowledge and direction for how processes need to take place, which help improve consistency in operations. Without written guidance, deviations of how processes are completed can occur. Processes may

be incorrectly executed, or may be forgotten or omitted completely. In addition, no one has the ability to refer to written guidance for proper procedures, and differences between individual's perception of how a process should work will vary from person to person, which will result in inconsistency among employees. These situations could create further delays in recovering the system, and could potentially cause additional failure and/or damage to the system and data. While OMIS is not critical in ensuring physical security of offenders, it does contain critical information used for the supervision and management of offenders. As such, there will be impacts to the operation should system failure occur.

Department Lacks Written Backup and Recovery Procedures

Department personnel informed us of what they expected would occur in the event of a system failure, but there is no written documentation of these procedures. While the department has developed written policies and procedures for other operations, it has not done so for OMIS backup and recovery. This responsibility is left to technical staff within ITD; however, according to ITD personnel, the division lacks resources and time to address this type of activity. If the department implements the recommendation for making OMIS the official record and minimizing the use of hardcopy documentation, it will be even more important to have written guidance on the procedures to follow in the event of an OMIS outage.

RECOMMENDATION #6

We recommend the Department of Corrections formalize its backup and recovery plan for the Offender Management Information System via written policy and procedures.

Department of Corrections

Department Response

Montana Department of Corrections

Director's Office

Steve Bullock, Governor

Mike Batista, Director

August 27, 2014

RECEIVED
AUG 2 8 2014
LEGISLATIVE AUDIT DIV.

Tori Hunthausen, CPA
Legislative Audit Division
Room 160, State Capitol
Helena, Montana 59620-1705

Re: Response to Legislative Audit Recommendations

Dear Ms. Hunthausen:

Thank you for the opportunity to respond to the Offender Management Information System audit report for the Department of Corrections. We have reviewed the recommendations contained in the report and our responses are as follows:

Recommendation #1: We recommend the Montana Department of Corrections implement a plan to:

A. Make the Offender Management Information System the official record.

***Response**: We concur. The Department will create a plan that formalizes the Offender Management Information System (OMIS) as the official record for offender centric information.*

B. Minimize the use of hardcopy documentation.

***Response**: We concur. The Department will continue to integrate additional forms into OMIS and establish formal working groups to prioritize those efforts.*

C. Create an electronic records management process for maintaining existing hardcopy documentation within the Offender Management Information System.

***Response**: We concur. The Department will restructure existing business practices and establish new procedures that redirect the flow of information from hardcopy documentation to the electronic storage of data.*

D. Address the data integrity issues noted during the audit.

***Response**: We concur. Upon receiving more detailed information about the 86 files that were audited, the Department will make determinations as to the primary cause for the data integrity issue and provide recommendations to increase data quality.*

Recommendation #2: We recommend the Montana Department of Corrections implement policy to correlate process ownership with data entry for all information entered into the Offender Management Information System.

Response: *We concur. The Department will identify business functions that require data entry into OMIS and will establish policy defining the process owner(s).*

Recommendation #3: We recommend the Montana Department of Corrections use the Offender Management Information System to calculate all offender sentence terms.

***Response*:** *We concur. The Department will enhance the Offender Management Information System to allow for the calculation of all sentence terms within OMIS.*

Recommendation #4: We recommend the Montana Department of Corrections improve its training plan and written reference materials to assist users with operations of the Offender Management Information System.

Response: *We concur. The Department will improve the delivery and content of its OMIS training and reference materials.*

Recommendation #5: We recommend the Montana Department of Corrections:

A. Develop additional security roles to further define user access rights based upon job function.

Response: *We concur. The Department is in process of further expanding and defining the role based system for OMIS. We are currently looking at single directory authentication against enterprise (department) roles that are currently being established.*

B. Incorporate into its existing process for assigning rights, requirements for removing any existing rights before assigning new rights.

Response: *We concur. The Department is in process with HR to discuss methods to best handle these oversights. The transition to role-based rights mentioned in our response to Recommendation #5, Bullet A should further mitigate this issue.*

C. Develop written procedures for granting security access including ongoing monitoring to ensure proper procedures are followed and user access is based on a least privileged assignment.

Response: *We concur. The Department information security officer has been charged with developing a "ground-up" security program for the Department following NIST standards. This will include developing and documenting establishment and removal system account procedures. This will be a critical piece of that program.*

Recommendation #6: We recommend the Montana Department of Corrections formalize its backup and recovery plan for the Offender Management Information System via written policy and procedures.

> ***Response:*** *We concur. While the backup and recovery procedure is formalized, it is only in the knowledge of those staff members present and we understand the necessity for it being formalized in a written manner. We will establish written procedures.*

We appreciate the legislative staff time devoted to this audit. They were professionals throughout the process and their willingness to assist with any issue was exceptional. We look forward to working with your office in the future.

Respectfully,

Sharon Wolfe for M. Batista.

Mike Batista
Director