EXAMINATION OF THE INMATE PAYROLL PROCESS AT KENTUCKY CORRECTIONAL INDUSTRIES

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AUDITOR OF PUBLIC ACCOUNTS
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April 22, 2008

LaDonna Thompson, Commissioner
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RE: Inmate Payroll Examination

Dear Commissioner Thompson:

We have completed our examination of the Kentucky Correctional Industries (KCI) inmate labor payroll process at the Kentucky State Reformatory (KSR) in LaGrange, Kentucky.

Examination procedures included examining and analyzing inmate timecards, payroll records, and the history of inmate commissary accounts for the period November 2006 through January 2008. In addition, we held interviews with the Office Coordinator and KCI Supervisor at KSR, along with various KSR personnel. Additional documentation examined included KCI inmate compensation policies, current and proposed.

Findings in this report include:

- Reconciliations of the inmate payroll process were not performed by KCI personnel;
- KCI inmate compensation policies were not consistently applied;
- Over $6,800 in State funds were inappropriately credited into inmate accounts; and,
- Inmate access to computers and computer files was not adequately monitored.

Detailed examination findings regarding these issues and recommendations to strengthen the agency's control procedures are presented in this report. Due to certain findings resulting from this examination, we have referred this report to the Kentucky State Police for further consideration and any further action deemed appropriate.

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We thank you, the KCI Executive Director, and other KCI and KSR employees for the cooperation and assistance received throughout this examination.

Very truly yours,

Crit Luallen
Auditor of Public Accounts

Findings and Recommendations

Reconciliations of the inmate labor payroll process were not performed by KCI personnel.

Kentucky Correctional Industries (KCI) located at the Kentucky State Reformatory (KSR), in LaGrange, Kentucky has maintained an average inmate workforce of approximately 175 inmates during calendar year 2007. This KCI location has six active industrial plants: Fabrication I, Fabrication II, Soap, Tag I, Tag II, and Welding. In addition to these plants, inmates may work as maintenance staff.

Inmate work hours were recorded using a time clock.

According to both the KCI Office Coordinator and the KCI Facilities Manager at KSR, inmate beginning and ending work hours at the KCI plants are recorded each day by using a time clock. An additional 30 minutes of time was manually applied to each inmate's daily calculation of work hours. According to the Facilities Manager, the additional 30 minutes each day is to credit the inmates for the time it takes them to get from their cells, through the gates, to the plants, and to return.

Work hours are totaled and entered into electronic spreadsheets.

At the end of the workweek, line supervisors collect the timecards, calculate and record the total hours worked on the timecards, and initial the cards. The timecards are then submitted to the Office Coordinator for entry into an Excel file used to maintain the inmate labor hours and costs. The Office Coordinator normally does not total the time, but relies on the line supervisors to complete this task. However, if the total hours are not calculated and recorded on the timecard by the line supervisors, the Office Coordinator will perform the calculation of the inmate labor hours at that point and enter the data on the Excel worksheets.

The inmate payroll is maintained on a single Excel file each month. The file consists of multiple worksheets identified by tabs at the bottom of the worksheets. Separate worksheets are provided for each plant. The Office Coordinator saves this file on a disk and provides it to an inmate clerk at the beginning of each month for the inmate clerk to update inmate names and their corresponding agency-issued identification (ID) numbers. After the inmate clerk has updated the file and saved it to the disk, the Office Coordinator receives the disk and opens the file on her computer to enter the time recorded on the weekly timecards into the separate plant worksheets.

The Pay Slips report was presented to inmate workers to verify hours worked and anticipated pay.

The monthly payroll file contains formulas, which automatically transfer total hour and pay calculations from the individual plant worksheets to two summary worksheets contained within the same file, one entitled *Monthly Report* and the other entitled *Pay Slips*. After entering the inmate hours into the separate plant worksheets, the Office Coordinator then prints out the *Pay Slips* report and presents each individual inmate with this pay report to determine if the amount represented on this report appears to accurately reflect both the hours worked and the pay each inmate anticipated receiving for the month. If no objections are made by the inmate, the Office Coordinator then submits the *Monthly Report* to KSR to be used to credit the pay for each individual inmate's commissary account.

Because KSR only requires the breakdown of inmate pay by inmate and total pay, the KCI Office Coordinator does not submit the detail information associated with the inmate payroll to KSR. Although this information is maintained on the same computer file, the tabs that indicate additional supporting worksheets are hidden from view when sent electronically to KSR.

Payroll worksheets are not reconciled.

The *Monthly Report* worksheet contains a field, which, if left blank, will hide all additional worksheet tabs. According to the Office Coordinator, the two summary reports, *Pay Slips* and *Monthly Report*, are not reconciled either to one another or back to the individual plant worksheets. Because these worksheets are not reconciled, any differences that exist between worksheets in this file would not be identified.

KSR requests reimbursement from KCI for inmate labor costs.

Upon receipt of the *Monthly Report* from KCI, KSR credits inmate commissary accounts for the amount shown on the *Monthly Report* worksheet. After entering the amounts into the Kentucky Inmate Management System (KIMS), KSR personnel recalculates the total of each page of the *Monthly Report* and submits the total inmate labor costs calculated to the KCI Central Office for reimbursement using an Internal Transfer Initiator (ITI) through eMARS, the financial management and reporting system used by the Commonwealth.

Supporting documentation is not required to be submitted for labor reimbursements.

According to the KCI Executive Director, the reimbursement process for correctional facilities across the state varies by location. The KCI facility located at KSR is not required to submit any supporting documentation to the KCI Central Office for the reimbursement of inmate labor costs. Although supporting documentation is not required, the KCI Office Coordinator at KSR stated that a copy of the monthly Excel file containing the inmate payroll worksheets have been placed on a shared drive for access by Central Office KCI since September 2007; however, when this was discussed with the Central Office KCI Financial Manager, we discovered that the Central Office was unaware that these files were located and available for review on the shared drive. As such, the Central Office had never accessed these files before this examination.

Recommendations

We recommend KCI implement a reconciliation process of the KCI inmate labor records. The worksheets recording the inmate payroll should be reconciled to each other and to the original inmate timecard source documents to ensure the proper hours for each pay period have been recorded.

We recommend that the KCI Central Office reconcile inmate labor reimbursement requests from each correctional facility to inmate labor cost reports from area offices to ensure requests are valid costs of the program.

We recommend the KCI Central Office implement a policy that requires all KCI facilities to submit documentation that supports the reimbursements made for inmate labor costs. Further, this supporting documentation should be reviewed by KCI Central Office to ensure the accuracy of a reimbursement request.

KCI inmate compensation policies are not consistently applied.

The KCI Inmate Compensation Policy states:

"All inmates working in Correctional Industries shall receive financial remuneration based on skill level, tenure, and the quantity and quality of their work. Inmates shall be paid according to hours worked which shall be documented by use of time clocks." Further, it states, *"Inmates working beyond the normal work hours in a calendar week shall be paid at one and one-half times their normal pay rate for the excess time. Exceptions are only granted to inmates in the Governmental Services Program (GSP) who make straight pay."*

While examining the inmate payroll process for the period November 2006 through January 2008, we reconciled inmate hours reported on the monthly payroll worksheets for each plant back to inmate timecards on a sample basis. As a result of this reconciliation process, we found a few instances when inmate labor hours reported as overtime on the inmate timecards were not supported by the date and hours recorded as actually worked during the workweek. Agency policies clearly state that inmates will be paid according to the hours documented using time clocks. Therefore, we expected the time recorded on the timecard each day to reflect the actual hours worked each day of the workweek.

KCI policies do not define the number of work hours for a full inmate workweek.

In addition, we found several instances of overtime credited to inmates though the inmates worked less than a full workweek of 36.25 hours. According to the KCI Office Coordinator at LaGrange, a full workweek for inmates is 36.25 hours. According to this policy, hours worked by inmates in excess of 36.25 are to be paid for at a rate one and one-half times their normal pay rate. However, according to the Facilities Manager, inmate workweeks may be shortened due to fog days or other reasons outside of the inmate's control. The Facilities Manager stated that he tries to be fair and pay the inmates according to the policies. The policies however, do not directly address this type of situation and leave such situations to the discretion of the Facilities Manager.

While examining the timecards, two instances were identified where the time reflected on the timecard was recorded inaccurately on the corresponding inmate payroll worksheet. Based on the infrequency of these two occurrences, we believe these discrepancies are due to data entry errors and could have been caught through reconciling worksheets back to original source documentation.

Supervisors did not consistently initial timecards to verify inmate labor.

Finally, we also noted instances when supervisors did not total inmate labor hours or initial the inmate timecards. While this is not a violation of the agency's formal inmate compensation policy, it is an exception to the routine practice followed by the office. The purpose of the supervisor's initials is to verify the accuracy of the time reported on the inmate timecard to the Office Coordinator. Without this approval, there is no independent verification of the hours worked by an inmate.

Recommendations

We recommend KCI ensure all inmate labor hours, regular and overtime, are properly supported by detailed records. The records should include the exact date and times worked by the inmate.

We recommend KCI update agency policies to clearly identify when to apply overtime rates to inmate labor hours. Upon updating agency policies, KCI should disseminate these policies to all personnel that are responsible for implementing or assessing compliance with these policies.

We recommend KCI ensure that reconciliations between monthly payroll files and the timecards are routinely performed.

We further recommend a policy be adopted that requires all timecards to be totaled and signed by a supervisor to verify that the hours reported on the timecard accurately reflect the hours worked by the inmate.

Concealed formulas found within the monthly inmate payroll file resulted in a total of $6,876.65 in excess payments made to 21 inmates over one year period.

The inmate payroll process for the period July 1, 2007 through December 31, 2007 was initially examined. During this initial examination, we identified a total of $7,080.33 in discrepancies between the *Monthly Report* submitted by KCI to KSR that is used to determine the amount credited to inmate commissary accounts and the *Payroll Slips* worksheet presented by the Office Coordinator to inmates each month. Due to the discrepancies identified between July 2007 and December 2007, the examination period was expanded to include November 2007 through January 2008. An additional $2,351.23 in discrepancies were identified in the expanded period examined. In total, $9,431.56 in discrepancies were identified when reconciling these two reports for the period January 2007 through January 2008.

Program code created formulas that altered the data recorded on inmate labor worksheets.

In addition to identifying $9,431.56 in discrepancies between the *Monthly Report* worksheet and the *Pay Slips* worksheet, what appeared to be "plugged" numbers were also found in the *Monthly Report* for certain inmates, while other inmates' total pay was clearly calculated by a visible formula in a cell of the electronic worksheet. However, upon further review, it was determined that the pay calculations for those certain inmates were not plugged, but rather the result of concealed formulas using Visual Basic program code. After locating these formulas using the Visual Basic Editor within Excel, we were able to successfully identify that these formulas caused the

higher payroll amounts to be recorded for certain inmates on the *Monthly Report* worksheet. To determine the necessity and validity of these concealed formulas, all processes of the inmate payroll process were tested.

As noted in the previous report finding, we tested a sample of inmate timecards by pay-period, reconciling the timecards to the hours entered within the individual plant worksheets. We included in the sample tested each inmate whose payroll amount was affected by the concealed formulas. While some routine exceptions were found during testing of the inmate timecards as previously documented in this report, none of those exceptions related to the $9,431.56 discrepancy found when reconciling the *Monthly Report* worksheet and the *Pay Slips* worksheet.

Discrepancies resulted in over $6,800 in overpayments to inmate commissary accounts.

The payroll process at KSR was then examined to determine whether the discrepancies identified above impacted the amounts credited to the inmate accounts and reimbursements made by the Frankfort KCI office for labor costs. A sample of inmate accounts for each month was selected to be tested, including those inmates specifically identified whose pay was affected by the Visual Basic program code, and found the inaccurate higher dollar amounts listed on the *Monthly Report* were applied to the inmate accounts for the period January 2007 through December 2007, with the exception of October 2007 and January 2008. Therefore, of the $9,431.56 in discrepancies found when reconciling the *Monthly Report* and the *Payroll Slips* worksheet for the period January 2007 through January 2008, $6,876.65 in overpayments were made to certain inmates' commissary accounts.

Furthermore, the sum of the individual pay amounts reported to KSR for the examination period equaled the amount requested by KSR through an internal transfer request document, ITI, submitted using the state-wide eMARS accounting system. One exception was identified for the month of November 2007. The ITI for November 2007 was $400 less, in total, than the total amount applied by KSR to inmate commissary accounts. According to KSR personnel, this was a data entry error and the ITI would be adjusted to agree to the correct total. This exception had no affect on the discrepancies identified above that credited erroneous pay amounts for certain inmate accounts. While examining the payroll process followed by KSR, minor payroll adjustments were made at KSR, but those adjustments were directed by

KCI and documented by KSR. These adjustments had no association with the $6,876.65 in discrepancies identified above.

All worksheets were not reviewed, unnecessarily increasing the risk that discrepancies would not be detected.

To determine why the higher pay amounts were not applied to inmate accounts for October 2007 and January 2008, the worksheets submitted to KSR in November 2007 and February 2008 were examined further. In November 2007, when KCI electronically submitted the *Monthly Report* for the October 2007 inmate payroll to KSR, the supporting Excel worksheets identified by tabs at the bottom of the worksheets were hidden; however, after examining the worksheets further, it became apparent that the higher pay amounts for certain inmates were only visible on the *Monthly Report* if a certain cell within the electronic *Monthly Report* worksheet was left blank and the user clicked anywhere on the spreadsheet. This is the same field on the worksheet that if left blank will hide all supporting worksheets. KSR personnel received the file and apparently printed the report without clicking or selecting any of the cells. By hiding the supporting worksheets, the opportunity to discover the payroll discrepancies without performing a formal reconciliation process is substantially reduced.

In January 2008, the payroll file with supporting worksheet tabs visible was provided electronically to KCI; however, for the higher pay amounts to be reported, the user would be required to click or select another worksheet before going to the *Monthly Report*. In this case, when the file was opened by KSR, the report opened up automatically to the *Monthly Report* and KSR simply printed the report without accessing any other worksheets, preventing the higher dollar amounts from being reported to KSR. Because the *Monthly Report* was the only worksheet accessed, the accurate amounts were credited to all inmate commissary accounts. Had the other worksheet been accessed, a higher payroll dollar amount for certain inmates would have appeared on the *Monthly Report*.

Formulas were created to increase payments to inmates.

Testing identified no justification or requirement for the formulas found using the Visual Basic program code. Moreover, it appears the Visual Basic formulas were created in an attempt to manipulate the payroll data and resulted in higher payments being made to certain inmates' commissary accounts.

A worksheet was found that calculated the difference between actual and inflated payroll amounts.

In addition to finding formulas within Visual Basic program code, which led to increased pay for certain inmates, a hidden worksheet was found in the monthly inmate payroll files for the months October 2007 through January 2008, entitled *Test Totals*. This worksheet was discovered while using the Visual Basic Editor in Excel.

When the *Test Totals* worksheet is made visible, it appears to contain no data. Through review of the Visual Basic program code located within the worksheet, we found that a code word was required to be entered in a specific cell within the worksheet to display the data. After entering the code into a specific cell of the worksheet, additional data then appears. The additional data includes inmate-agency issued ID numbers and zero values.

However, in the *Test Totals* worksheet, additional data becomes visible when selecting different cells within the worksheet and what once appeared to be zero values are actually formulas to calculate the difference between two columns of data. One column of data reports the pay amount resulting from the hours recorded on the inmate timecards and the other data column reports the amount of increased pay resulting from applying the Visual Basic program code. The calculations uncovered within these hidden worksheets closely mirrors the differences found between the *Monthly Report* and the *Pay Slips* worksheets.

Recommendations

We recommend the agency examine subsequent pay periods following the January 2008 pay period to ensure additional discrepancies do not exist.

We recommend the agency recover amounts overcompensated to select inmate commissary accounts.

Inmate access to computer and computer files were not properly monitored.

We understand, based on discussions with KCI personnel at the KSR facility, that the inmate performing clerk duties for the Office Coordinator has significant computer expertise. According to KCI personnel and information obtained during this examination, the inmate was a resource to KCI staff for computer-related issues at another facility prior to being transferred to KSR. KCI personnel stated that anyone having trouble with computer files or programs could go to this

particular inmate and the inmate could resolve the problem. We later learned that this inmate is the same inmate that was provided access to the Excel payroll file used by the Office Coordinator at the beginning of each month to update the inmate information. The Office Coordinator confirmed that this inmate was the only inmate given such access to the inmate payroll file.

Images were made of computers used by the Office Coordinator and the inmate clerk.

Given the examination findings, it was decided to examine the files residing on the computers used by the Office Coordinator and the inmate clerk. To capture this information this office used a 250 GB IDE hard disk to connect to each of the computers. An image, which is a byte-by-byte copy, of the original hard disk was taken. The imaging process reads each sequential byte from the source hard disk and writes that material to a single file on the destination disk. Afterwards, the imaged file was opened and reviewed without altering its contents. Review of the contents of the image files included:

- Scanning for viruses and other malware;
- Generating a list of files and directories that can be searched by keyword;
- Generating a list of deleted file names that can be searched by keyword;
- Generating a timeline of all file activity;
- Identifying and decoding log files of Internet and other system activity;
- Recovering deleted files of interest; and,
- Copying live and deleted files of interest for examination.

At no time during this process were the image files connected to any type of computer network. Finally, the image files are mounted in read-only mode so that their contents cannot be altered, including the access timestamps.

Inmate clerk's computer activity was not adequately monitored.

In addition to capturing the files maintained on these computers, the physical access to the computers as well as the technical capabilities of the computers were examined. The computer used by the inmate is located behind a tall counter down the hallway from the offices of the Facilities Manager and Office Coordinator. The inmate computer faces an outside wall with no clear line of vision by KCI personnel. Rather than a clear line of vision, KCI personnel must walk behind the counter to visibly observe the inmate's computer screen. Best practice to ensure proper supervision of an inmate's computer activity, at a minimum, is to have the computer screen positioned so that a clear, direct line of vision exists for KCI personnel. This allows KCI personnel to consistently observe the activity of the inmate while using computer equipment.

Software programming tools within Excel were available on the Inmate Clerk's computer.

The technical capability of the inmate's computer was limited, as it is not linked to a network. This limits access to other potentially sensitive information, including internet access. However, the computer runs the Microsoft Windows program, which, by design, creates a general-purpose computer, meaning that the manufacturer does not know for what purpose the computer will be used, so software tools are included to perform a wide range of tasks. These include word-processing, software programming, Visual Basic programming language, network administration, multimedia creation and editing, communications, and research. It should be noted that a modem was identified on the computer used by the inmate; however, system logs found on the computer indicated this device was not used.

The computer used by the Office Coordinator also runs on Microsoft Windows but unlike the inmate computer is connected to the computer network. The computer is physically located at the Coordinator's desk with the computer screen facing an outside wall. The Office Coordinator's desk is located directly outside the Facilities Manager's office and is within a clear line of vision from that office. The computer screen may be observed if standing next to the desk but not in front of it. According to the Office Coordinator, inmates are not allowed to use KCI employees' computers. In addition, the Office Coordinator's computer is password protected.

Text documents on inmate's computer included Visual Basic program code similar to that found in the Monthly Report worksheets that inflated certain payroll amounts.

Because of the volume of information maintained on both the inmate and Office Coordinator's computers, a filter was used to search files for key words, such as "payroll" and "test," or key document types, such as ".txt," ".xls," and ".doc." In addition to finding monthly inmate payroll files, which we had already obtained through the data captured on the Office Coordinator's computer, four .txt documents were identified on the hard drive of the inmate's computer that included Visual Basic program code similar to that found on the *Monthly Report* worksheets. The files were located in a separate directory within the computer hard drive. The coding included inmate references and formulas used to increase pay for certain inmates. Similar files were not identified on the Office Coordinator's computer.

Controls should be strengthened to ensure only authorized activity is performed.

Strong internal controls dictate that inmate access to computers and computer files should be routinely and thoroughly monitored. Physical access to a computer constitutes potential access to all of its capabilities. Although an inmate's time to work within the monthly inmate payroll file may be limited by KCI personnel to simply updating inmate information, use of other software tools found within the general purpose Windows package, including Visual Basic, may be used so that program code or other information could be quickly and easily inserted into a file.

Recommendations

We recommend the agency implement a well-known principal in information security known as "defense in depth." This principal is based on the idea that no single protection measure is likely to be effective. Instead, the agency should build several layers of protection into any solution. In this situation, defense in depth means to apply both technical and procedural controls. The technical controls may include, but not be limited to, the following:

- Use of a fixed function program that has only one use, which would allow an inmate to perform data entry by typing in material that is later imported to another program.
- "Lock down" the Visual Basic for Applications (VBA) code to make the coding inaccessible to unauthorized users. This can be done with the "protection" feature in the VBA editor.

We recommend the agency periodically perform reviews of inmate computer access rights, as well as periodic reviews of computer files accessed or stored on computers used by its inmates. Access rights should be limited to allow the inmate to perform only the duties assigned by the agency.

We recommend the agency review the physical location of all inmate and agency personnel computers to ensure that activity performed on these computers may be properly supervised.

Finally, we recommend the agency perform an in-depth review of current and previous access by this inmate clerk to agency computers and computer systems to determine if any additional anomalies may exist.

DEPARTMENT OF CORRECTIONS RESPONSE

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April 16, 2008

Crit Luallen
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Dear Ms. Luallen:

This letter is to serve as the preliminary response to the recent briefing on the "Examination of the Inmate Payroll Process at Kentucky Correctional Industries" as prepared by the Office of the Auditor of Public Accounts.

I would like to preface this response with an appreciation to the Auditor of Public Accounts for the professional and thorough investigation at KCI. This investigation revealed to both Auditor and Department of Corrections staff of the existence of an inmate employed by KCI who possessed the unique ability, skill set, and technological knowledge to exploit the weaknesses of the KCI Information and Technologies (IT) System. The investigation provided us an opportunity to review and strengthen the protocol for the IT system. The opportunity for improvement is especially important for the department given the reliance and prevalence of the use of electronic data in a quickly-changing technological environment.

The Kentucky Department of Corrections has closely reviewed all of the Auditor recommendations. The recommendations have been accepted and shall be implemented by the department. There are several situations where DOC will exceed the expectations. All of the recommendations will be incorporated by:
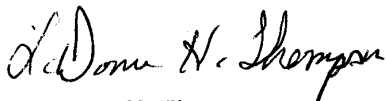
- The development of policy and procedure that defines and establishes accountable business rules for payroll practices.

- The development of policy and procedure for computer use and corresponding security protocol for both computer software and hardware.

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- The continued implementation of the Kentucky Offender Management System, which provides an inmate payroll service that is administrated solely by staff. The implementation will eliminate an inmate's access to payroll data.

- Visual Basic for Applications (VBA) will be removed from all computers accessible to inmates. All Microsoft Office files will be checked for Macros on inmate accessible PC's and on KCI computers that have previously opened documents that may have originated or been opened by inmates. All files found to be having Macros present will be flagged and investigated. All installations of Microsoft Office within DOC will be set to the default security levels for Macros (HIGH) which disables the usage of Macros.

- The Department of Corrections will investigate the involvement of inmates in the alleged wrongdoing in accordance with the due process procedures inherent in the administrative inmate disciplinary system. Recovery of the overcompensation may occur as a result of the administrative sanctions.

The Department of Corrections, again, appreciates this investigation and will continue to cooperate with the Auditor's office to create a secure inmate payroll system within KCI.

Sincerely,

LaDonna H. Thompson
Commissioner

LHT/JE/km

Cc: Brian Lykins, Director
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