

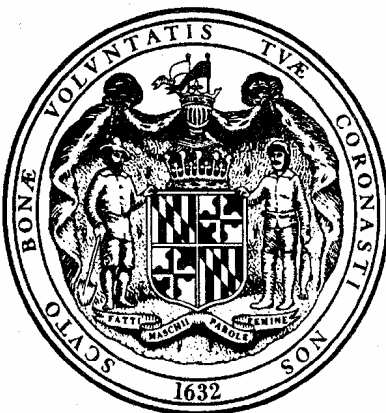
Performance Audit Report

**Department of Public Safety and Correctional Services
Correctional Officer Staffing**

Methodology Used to Develop Staffing Estimates Appears Reasonable

Lack of Data Controls Negatively Impacts the Reliability of Staffing
Estimates

December 2003



Office of Legislative Audits
Department of Legislative Services
Maryland General Assembly

-
- This report and any related follow-up correspondence are available to the public. Alternate formats may also be requested by contacting the **Office of Legislative Audits** as indicated at the bottom of the next page or through the Maryland Relay Service at 1-800-735-2258.
 - Please address specific inquiries regarding this report to the Audit Manager listed on the inside back cover by telephone at **(410) 946-5900**.
 - Electronic copies of our audit reports can be viewed or downloaded from the Internet via <http://www.ola.state.md.us>.
 - The Department of Legislative Services – Office of the Executive Director, 90 State Circle, Annapolis, Maryland 21401 can also assist you in obtaining copies of our reports and related correspondence. The Department may be contacted by telephone at (410) 946-5400 or (301) 970-5400.
-



Karl S. Aro
Executive Director

DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

Bruce A. Myers, CPA
Legislative Auditor

December 30, 2003

Delegate Van T. Mitchell, Co-Chair, Joint Audit Committee
Senator Nathaniel J. McFadden, Co-Chair, Joint Audit Committee
Members of Joint Audit Committee
Annapolis, Maryland

Ladies and Gentlemen:

At the request of the House Committee on Appropriations and the Senate Budget and Taxation Committee, we conducted a performance audit to determine the reliability of the Department of Public Safety and Correctional Services' (DPSCS) Staffing Analysis and Overtime Management (SAOM) system which is used by its custody facilities to estimate correctional officer staffing needs.

Our audit indicated that, although the assumptions and programming underlying SAOM itself are generally sound and can be properly applied to all DPSCS custody facilities, there is a significant lack of data integrity controls. The lack of controls over the recording of data (such as correctional officers use of leave) used in developing staffing estimates allowed numerous data entry errors which had an adverse impact on the accuracy of the information developed by SAOM. This resulted in unreliable correctional officer staffing estimates. Specifically, our testing disclosed numerous instances of missing, duplicated and incorrect data in the SAOM data files.

The data errors we identified were not detected by DPSCS although, in many cases, these errors appeared obvious and could have been detected by either automated edit controls or manual reviews. For example, one facility entered a biweekly overtime total of 20,391 hours for one of its three shifts for a February 2002 pay period. The correct total was 2,039 hours, which caused an 18,352 hour overstatement in the SAOM overtime total that was never corrected. Because of the number and types of errors found in the data, the reliability of the fiscal year 2002 DPSCS correctional officer staffing needs projections could not be ascertained.

During calendar year 2003, DPSCS undertook a comprehensive analysis of correctional officer posts at each of its custody facilities following Federal guidance. This preliminary analysis concluded that DPSCS had an excess number of authorized

correctional officer positions. DPSCS has recommended that these positions be converted to program positions, such as counselors.

DPSCS's analysis does not impact our findings, as our scope was limited to evaluating the existing SAOM system and not the post analysis process for determining staffing needs. We believe our recommendations, if implemented, will enhance the quality of future staffing estimates.

Our objectives, scope and methodology of the audit are explained on page 9.

We wish to acknowledge the cooperation extended to us during our audit by DPSCS headquarters staff and the staff of the agencies selected for review.

Respectfully submitted,

Bruce A. Myers, CPA
Legislative Auditor

Table of Contents

Background Information	5
Audit Scope, Objectives, and Methodology	9
Findings and Recommendations	11
<u>Accuracy and Reliability of SAOM</u>	
Finding 1 – Although the SAOM Calculations Were Generally Accurate, the Program Did Not Correctly Perform Certain Calculations	12
Finding 2 – Data Integrity Controls Were Not Adequate, Which Allowed Numerous Errors in the Underlying Data Used by SAOM to Calculate Staffing Estimates	13
<u>Applicability of SAOM to Non-DOC Facilities</u>	
SAOM Methodology Can Be Properly Applied to Other Facilities	16
Exhibit 1 – DPSCS Custody Facilities Tracked in SAOM With Fiscal Year 2002 Budgeted Correctional Officer PINs	17
Exhibit 2 – Illustration of SAOM PIN Average Calculation	18
Agency Response	Appendix

Background Information

Overview

Beginning in fiscal year 1997, the Department of Public Safety and Correctional Services (DPSCS) implemented a computer-based system to collect and analyze staffing data for its various custody facilities. The purpose of this system was to ensure that each facility had the necessary personnel to begin each shift adequately staffed, with minimal overtime usage, as well as to provide evidence to support requests for additional resources. This system was developed by the DPSCS, and is referred to as the Staffing Analysis and Overtime Management system or SAOM.

The DPSCS had approximately 7,000 authorized correctional officer positions for fiscal year 2002 (see Exhibit 1 for schedule of staffing by facility). As of the close of fiscal year 2002, SAOM calculated that the DPSCS (including Division of Correction - DOC, Patuxent Institution and the Division of Pretrial Detention and Services), was understaffed by 759 correctional officer positions, and had experienced an average of 448 vacant positions during the fiscal year. SAOM also reported that non-supervisory correctional officer overtime totaled 971,390 hours during that fiscal year.

Determining facility staffing requirements is a two-stage process. The first stage is to conduct a post analysis to determine how to deploy (or post) correctional officers at a specific facility to provide a secure and safe environment. The results of this analysis will be unique to each facility and each shift at a facility (most facilities have three shifts daily). Factors contributing to the uniqueness include a facility's mission, physical layout, inmate characteristics and programs offered. The Federal Department of Justice's National Institute of Corrections (NIC), considered a leader in developing correctional issues, has concluded that the post analysis process is not an exact science as it is not adaptable to the use of set formulas or ratios, but rather it is a subjective process that requires the input from numerous stakeholders who have relevant expertise and experience in correctional matters.

The second stage in developing a facility staffing plan is determining the number of correctional officers and supervisors needed to fill the established posts, while allowing for extra staffing based on non-routine, temporary or sporadic assignments. This part of the process can be reduced to mathematical equations, whereby the number of officers (or PINs) needed is determined by the total number of employee hours required to fill the posts and extra staffing requirements and the actual number of existing employees and their availability.

The availability of correctional officers to fill posts is reduced by leave benefits, training time, and other factors. For example, if correctional officers are available on average 200 days per year, it would take 5.5 positions (PINs) to staff one 24-hour, 7-day post (3 shifts daily times 365 days a year divided by 200 days).

SAOM is used for the second stage of the staffing process. After collecting, on a pay-period basis for each facility, various historical data, such as established posts, extra staffing requirements, authorized PINs, vacancies, overtime hours, and leave, SAOM utilizes the data to calculate:

- the average officer's availability,
- the number of staff days required to fill all established posts and extra staffing requirements,
- the number of PINs needed to provide the required staff days,
- a comparison of the PINs needed versus the PINs authorized, and
- the relative effects of various factors, such as vacancies, paid leave, and extra staffing requirements on overtime incurred.

SAOM is capable of performing the above calculations for single or multiple periods, as well as for single or multiple facilities. This flexibility provides managers at all levels within DPSCS with the ability to obtain current and historical analyses of staffing patterns to meet their specific needs. The data is collected and analyzed separately for supervisory positions (lieutenants, captains and majors) and non-supervisory positions (correctional officers I and II and sergeants).

Although SAOM has been used to collect and analyze data since 1997 and SAOM-based estimates served as the basis for the DPSCS staffing requests for its custody facilities, including DOC, the Patuxent Institution and the Division of Pretrial Detention and Services, it was not formally adopted by DPSCS until August 2001¹.

NIC Review of DOC Staffing Process

At the request of the DPSCS, during November and December 2002, an evaluation of the DOC's staffing procedures, including SAOM, was conducted by independent consultants under the auspices of the NIC. The consultants' objectives included:

- developing a working understanding of the DOC staffing process,
- reviewing relevant documents used in the staffing analysis of DOC facilities,
- observing and verifying the process, and
- determining the strengths and weaknesses of the staffing procedures.

¹ DPSCS Directive #115-1, "Staffing Analysis and Overtime Management," dated August 1, 2001.

In a report dated December 15, 2002, the consultants concluded that DPSCS's staffing process was very comprehensive and provided DPSCS with a detailed assessment of the staffing requirements for its facilities. The report went on to indicate that the staffing procedures and processes used to complete the staffing analysis reports within the DPSCS should be considered as a model that could and should be replicated in other correctional systems. We agree that SAOM is designed to provide important and useful information to management.

The consultants' report also included several recommendations, some of which were similar to those addressed in this report, regarding the need for identifying and correcting periodic breakdowns in reporting data elements, and making enhancements to SAOM. The report also commented on the need to conduct more frequent and independent post analyses.

Recent DPSCS Post Analysis Project

During calendar year 2003, DPSCS conducted comprehensive post analyses for each custody facility using specially trained DPSCS staff (trained by outside consultants funded by NIC). A consistent team was used to provide uniform decisions regarding the necessity for currently established posts and to recommend post changes.

The Department preliminarily concluded that, contrary to prior years' estimates that indicated a shortage of correctional officer positions, DPSCS actually had more than 200 excess authorized correctional officer positions. This study did not include correctional supervisor and auxiliary staff (such as correctional maintenance positions). According to DPSCS, this change was not a result of any modification to SAOM methodology, but due to refinements in the posts. DPSCS has suggested that the excess correctional officer positions be converted to program positions such as counselors and job skills trainers. This finding of excess correctional officer PINs does not affect the results of this performance audit, since our scope was limited to determining the effectiveness of SAOM to calculate reasonable staffing estimates based upon actual experience data and the staffing plans developed as a result of the post analysis.

Audit Scope, Objectives and Methodology

Scope

We conducted a performance audit to determine the reliability of the Department of Public Safety and Correctional Services' (DPSCS) Staffing Analysis and Overtime Management (SAOM) system used by its custody facilities to estimate correctional officer staffing needs. This audit was conducted in response to a request made in April 2003 by the Senate Budget and Taxation Committee and the House Committee on Appropriations. The Committees were concerned that the correctional officer staffing requirements reported by the DPSCS for its custody facilities might not accurately reflect its true staffing needs. We conducted the audit under the authority of the State Government Article, Section 2-1221 of the Annotated Code of Maryland and performed it in accordance with generally accepted government auditing standards.

Objectives

We had two specific audit objectives:

- (1) To evaluate the accuracy and reliability of the SAOM for estimating correctional officer and supervisor staffing needs.
- (2) To determine whether SAOM's methodology could be properly applied to the various types of DPSCS custody facilities beyond Division of Correction (DOC), specifically, the Patuxent Institution and Division of Pretrial Detention and Services.

These objectives differed somewhat from those originally established in the April 2003 legislative request, due to certain information subsequently coming to our attention that was not known at the time of request. Our final audit objectives did not include conducting an inventory of correctional officer posts or verifying the reasonableness of the current posts established at each DPSCS facility. Such an assessment requires intimate, specialized knowledge of the facilities, programs, inmate population and correctional staff under review. Refinements of the audit objectives were discussed with, and concurred to, by legislative staff.

Methodology

To accomplish our objectives, we analyzed the mathematical algorithms and program source code for SAOM, and conducted analytical reviews and testing of the SAOM fiscal year 2002 data records (most recent year available). We also reviewed staffing policies and procedures established by DPSCS, DOC, the Patuxent Institution and the Division of Pretrial Detention and Services (DPDS), and interviewed personnel at

seven DPSCS custody facilities and DOC headquarters. Finally, we obtained documents from the Federal Department of Justice's National Institute of Corrections related to prison staffing plans in general and DPSCS's SAOM system in particular.

Agency Selection Process

Seven DPSCS custody facilities were chosen for detailed review and testing. Three of the facilities, the Patuxent Institution and the two facilities of the DPDS were included based on specific concerns of the budget committees and the fact that they are organizationally separate from DOC. The four DOC facilities were judgmentally selected based on their contributing the most days in the SAOM data including overtime, extra staffing requirements (such as court appearances), entitlement usage (such as annual and sick leave), vacancies and collapsed posts². The seven facilities reviewed were as follows:

Patuxent Institution
DPDS – Baltimore City Detention Center
DPDS – Baltimore City Booking Intake Center
DOC – Maryland House of Correction
DOC – Maryland House of Correction Annex
DOC – Maryland Correctional Institution – Jessup
DOC – Maryland Transition Center (Baltimore)

Fieldwork and Agency Responses

We conducted our fieldwork from August to November 2003. The DPSCS's response to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise DPSCS regarding the results of our review of their responses.

² Defined as an established post in a facility's staffing plan that may be closed on a short-term basis due to overall staffing needs without endangering the security of the facility.

Findings and Recommendations

Accuracy and Reliability of SAOM

Conclusion

Our review disclosed that the SAOM will generally calculate the correct results, including staffing estimates, as long as accurate data is input into the system. Nevertheless, we did identify two problems with SAOM's mathematical algorithms that, if corrected, would improve the accuracy of SAOM's results. Specifically, changes are needed in the program logic to ensure that correct averages are calculated and that the zeros in certain data fields (that is, instances of no activity or occurrences during a pay period) are properly accounted for and appropriately included in the SAOM calculations. For fiscal year 2002, the problems with the program logic did not significantly impact the overall DPSCS staffing analysis results. However, the impact associated with these problems will fluctuate with each year's data.

We also found a lack of control over the inputting of data into SAOM and maintaining the data correctly once entered, which had a significant impact on the accuracy of the information developed by SAOM. At the seven facilities we visited, material, obvious data errors indicated a general lack of any process, either manual or automated, to verify or ensure the accuracy of the data input into SAOM. For example, data was frequently off by factors of 8 (hours not converted to days), 10 (shifted decimal), or 14 (total provided rather than pay period daily average).

Although our test results cannot be projected on a statistical basis, when presented with our findings, DPSCS officials acknowledged the potential for similar data error problems to exist for all custody facilities because: (1) the SAOM program does not include sufficient edit controls, (2) the SAOM procedures do not include sufficient, detailed data input verification instructions, (3) the data merging process to prepare consolidated reports requires manual loading of data from numerous diskette files prepared by the facilities, and (4) data on the facilities' diskette files are not protected from changes. Accordingly, it is likely that there are many additional data errors which were not disclosed by our testing and, as a result, many of the SAOM reported staffing estimates may be incorrect and unreliable due to these errors.

SAOM Program Errors

Finding 1

The SAOM program did not correctly calculate authorized positions and staff days required when reporting over more than one pay period.

Analysis

We determined that the SAOM program generally performed the proper calculations to produce the intended results, and that the program was based on reasonable assumptions (exclusive of data entry shortcomings noted in Finding 2). However, we did identify two program changes that are needed for SAOM to consistently produce accurate results for multi-pay-period reports (such as yearly reports).

SAOM performs a number of calculations using the staff data file that includes the authorized PINs (position identification numbers used in the State's budget process) for each facility, and the posts data file that summarizes correctional officer post assignments for each facility by shift. Reporting over multiple pay periods requires certain averaging calculations to be performed. Our audit disclosed that two of the SAOM averaging calculations produced incorrect results.

- When reporting for multiple pay periods, SAOM calculated an inappropriate weighted average for authorized PINs. The number of PINs is recorded several times for each pay period in the staff data file³. Because SAOM uses every record for each pay period to calculate the average authorized PINs, the pay periods with more records (that is, instances in which PINs are recorded in multiple work categories) will skew the true average (see Exhibit 2 for an example of this calculation).

This calculation error also affects the SAOM calculation of the average correctional officer days available for duty that uses, as one of its factors, the results of the authorized PINs calculation. For example, this error resulted in overstating, by 18, the number of additional non-supervisory PINs needed during fiscal year 2002.

- When reporting for multiple pay periods, the SAOM calculation of total staff days needed to fill established posts incorrectly ignored zeros

³ Each record in the staff data file contains the number of PINs authorized for the pay period as well as information regarding staffing days needed for various work categories such as inmate work detail, court appearance. The number of categories used for a pay period will determine the number of times the authorized PINs are recorded for that pay period.

(instances of no activity or occurrences) in the posts data file when calculating an average, and also incorrectly applied the average to every pay period. Specifically, when calculating the total staff days needed to fill established posts, SAOM develops an average for pay periods when those posts did exist and incorrectly applies it to all pay periods in the reporting period, including pay periods when the posts legitimately did not exist (that is, were not authorized in the facility's staffing plan). Ignoring instances of un-staffed posts artificially raises the average that is applied to each pay period. Thus, SAOM added staff days for posts that were not in existence and overstated the total staff days and PINs needed. For example, our audit identified 112 instances for six facilities where SAOM added a total of 1,320 non-supervisory staff days for non-existent posts during fiscal year 2002. These extra days resulted in overstating, by 7, the number of additional non-supervisory PINs needed during fiscal year 2002.

The impact of the overstatement of 25 positions for staffing projection purposes was not significant considering the total number of authorized positions.

Recommendation 1

We recommend that the SAOM program code be modified to correctly calculate authorized PINs and staff days needed to fill established posts when reporting over more than one pay period. Specifically, the calculation of authorized PINs should not be dependent on the number of records for each pay period; the correct average should be based on only the number of authorized PINs for each pay period. Also, the calculation of staff days needed to fill established posts should not ignore significant zeros in the posts data file for the averaging part of the calculation, nor apply the average to pay periods where posts did not exist.

SAOM Data Errors

Finding 2

Data integrity controls were not adequate, which allowed numerous errors in the underlying data used by SAOM to calculate staffing estimates.

Analysis

Our testing disclosed a general lack of controls to ensure the accuracy and completeness of staffing data which contributed to numerous data reliability issues (see Table 1 on page 15). Specifically, we performed an analytical review of the

49,422 data records contained in three critical fiscal year 2002 SAOM files that had been input by the 30 facilities to identify anomalies, and conducted detailed tests of certain biweekly data input by 7 facilities. We vouched the anomalies and tested data to supporting documentation (for example, time reports, payroll records, training records) and found numerous instances of missing, duplicate and incorrect data in the SAOM data files. For example, one facility entered a biweekly overtime total of 20,391 hours for one of its three shifts for a February 2002 pay period. The correct total was 2,039 hours, which caused an 18,352 hour overstatement in the SAOM overtime total that was never corrected.

Detailed findings of a technical nature regarding these data issues were previously shared with DPSCS representatives, who generally agreed with the conclusions reached and the need for enhanced controls. DPSCS officials conceded that there were significant problems with the reliability of the data input into SAOM, which is consistent with our identifying data errors in 1,576 records in the three critical SAOM files reviewed (we did not test every record so the number of errors noted is probably understated).

Although the impact of the individual errors will vary in significance, the large number of errors found indicates that corrective actions are required. Since our testing was not conducted on a statistical basis, we cannot project the results to the SAOM staffing estimates. However, we believe that the type and quantity of errors noted from this limited testing casts significant doubt on the reliability of SAOM staffing data and projections.

Recommendation 2

We recommend that DPSCS take appropriate action to ensure the accuracy, completeness and reliability of the data used for producing SAOM reports.

Table 1
Summary of Error Conditions Found in the SAOM Data Files

Description of Error	Example of Error/ Fiscal Year 2002 Effect (if known)	Corrective Actions Indicated
Duplicate records were identified that caused overstatements of benefit usage (e.g., leave) and staffing needs.	Estimate of non-supervisory PINs needed was overstated by 148, at an estimated cost of \$4 million, if the related positions had been authorized and filled.	Automated edit controls should be established.
Overtime hours were misstated due to duplicate/missing data and entry errors.	Reported non-supervisory overtime of 971,390 hours contained errors which overstated the reported hours by 47,569 and, in other instances, understated the hours by 18,551.	
Comparison of certain data reported from different pay-periods disclosed incorrect data submissions.	14 vacancy rate errors at 5 facilities caused a 2,040 day overstatement in the reported number of vacancy days which impacts projected overtime.	
Individual facility data files were not properly merged for department-wide reporting.	Certain staffing data totaling 5,583 days (such as bereavement leave and tactical operations) reported by 14 facilities was not reflected in department wide reports.	Controls should be enhanced over the process for merging individual facility data files.
Post staffing data (number and type of authorized correctional officer posts) and authorized PINs data used in SAOM did not always agree to the official authorized staffing plans.	Numerous error conditions were noted, including missing records and conflicting numbers of authorized PINs and posts for the same pay period.	Changes to SAOM's post and PINs master files should be restricted, and the data should always be agreed to the each facility's authorized staffing plan and the State's budgeted PINs.
Numerous undetected data entry errors were found at the facilities (such as keying errors and incorrect accumulations from daily records).	<p>Examples:</p> <ul style="list-style-type: none"> • 336 sick leave hours for one pay period were entered as 336 sick leave days. • The total posts unfilled for one pay period (111) was mistakenly entered instead of the daily average of posts unfilled (7.9) for the pay period. 	Establish adequate independent review at the facilities to ensure the accuracy of data input into SAOM.

Applicability of SAOM to Non-DOC Facilities

We reviewed the DOC staffing plan methodology, including SAOM, as implemented by the Patuxent Institution and the Division of Pretrial Detention and Services. The audit disclosed that the SAOM methodology can be properly applied to these non-DOC facilities.

SAOM is basically a historical data collection and analysis tool that could be properly applied to almost any type of custody facility. The SAOM methodology is used to collect data for numerous variables that affect facility staffing patterns and then to analyze this data mathematically. None of the SAOM data variables or calculations is dependent upon the unique missions, physical layouts, programs offered, and inmate characteristics of the facilities (that is, factors that would significantly impact the subjective post analysis process). The December 15, 2002 report by National Institute of Corrections entitled, "*Evaluation of the Staffing Procedures of the Maryland Division of Corrections*" supports this conclusion.

Exhibit 1

DPSCS Custody Facilities Tracked in SAOM

Custody Facility Name	Authorized PIN Positions ¹	
	Non-Supervisor ²	Supervisor ³

* Patuxent Institution	361	35
------------------------	-----	----

Division of Pretrial and Detention Services Facilities

* Baltimore City Booking Intake Center	374	47
* Baltimore City Detention Center	558	59

Division of Correction

Baltimore City Correctional Center	88	15
Brockbridge Correctional Facility	139	18
Baltimore Pre-Release Unit	25	4
Baltimore Pre-Release Unit For Women	31	6
Central Laundry Facility	80	11
Eastern Correctional Institution Annex	577	89
Eastern Correctional Institution-East	↓	↓
Eastern Correctional Institution-Transportation	↓	↓
Eastern Correctional Institution-West	↓	↓
Eastern Pre-Release Unit	25	4
Home Detention Unit	29	8
Jessup Pre-Release Unit	108	10
Maryland Correctional Adjustment Center	221	26
Maryland Correctional Institution - Hagerstown	467	44
* Maryland Correctional Institution Jessup	276	28
Maryland Correctional Institution Women	189	25
Maryland Correctional Training Center	477	49
* Maryland House Of Correction	340	31
* Maryland House Of Correction Annex	387	46
Maryland Reception Diagnostic And Classification Center	343	30
MRDCC - Transportation	↓	↓
* Maryland Transition Center	368	39
Popular Hill Pre-Release Unit	24	4
Roxbury Correctional Institution	324	38
Southern Maryland Pre-Release Unit	25	4
Herman L. Toulson Boot Camp	74	12
Western Correctional Institution	349	44

Total Authorized Positions

6,259

726

* Facilities selected for detailed review and testing from the 30 facilities tracked in SAOM

¹ Fiscal year 2002 actual positions per the State budget book.

² Non-supervisory positions are Correctional Officer I, Correctional Officer II, and Sergeant.

³ Supervisory positions are Lieutenant, Captain and Major.

Exhibit 2

Illustration of SAOM PIN Calculation

Purpose:	To show by illustration the effect of using weighted average for determining authorized PINs.			
Basis:	SAOM calculates the average PINs for each facility over the selected reporting period using all records in the staffing data file for the reporting period.			
Example:	The example will use 1 facility for 2 pay periods. The example will assume a change in authorized PINs for that facility between pay periods.			
Record Number	Pay Period End Date	Entitlement / Extra Staffing Category	Days Usage in Pay Period	PINs Authorized
1	7/10/2001	(R) Annual Leave	5	10
2	7/10/2001	(R) Personal Leave	1	10
3	7/10/2001	(R) Sick Leave	4	10
4	7/10/2001	(X) Court Appearances	2	10
5	7/10/2001	(V) Collapsed Posts	1	10
6	7/10/2001	(V) Vacancies	0	10
7	7/24/2001	(V) Collapsed Posts	1	8
8	7/24/2001	(V) Vacancies	2	8
				76
<u>Effect of SAOM Calculation Methodology</u>				
Weighted Average Authorized PINs:				
Total of "PINs Authorized" from above 8 records				76
<u>Divide by number of records</u>				8
Weighted Average for PINs Calculated by SAOM				9.5
True Average for Authorized PINs:				
"PINs Authorized" Used in Pay Period End Date 7/10/2001				10
<u>"PINs Authorized" Used in Pay Period End Date 7/24/2001</u>				8
Sum of the Two Pay Periods				18
<u>Divide by the Number of Pay Periods</u>				2
True Arithmetic Average for PINs				9.0
<u>Excess PINS from the weighted average methodology used by SAOM:</u>				0.5
Conclusion: Calculation of the correct average PINs authorized over a reporting period should not be dependent on the number of records for each pay period. The correct average should be based on only the number of authorized PINs for each pay period.				



APPENDIX

Department of Public Safety and Correctional Services

Office of the Secretary

300 E. JOPPA ROAD • SUITE 1000 • TOWSON, MARYLAND 21286-3020
(410) 339-5000 • FAX (410) 339-4240 • TOLL FREE (877) 379-8636 • V/T/TTY (800) 735-2258 • www.dpscs.state.md.us

December 23, 2003

STATE OF MARYLAND
ROBERT L. EHRlich, JR.
GOVERNOR

MICHAEL S. STEELE
LT. GOVERNOR

MARY ANN SAAR
SECRETARY

G. LAWRENCE FRANKLIN
DEPUTY SECRETARY

MARY L. LIVERS, PH.D.
DEPUTY SECRETARY

DIVISION OF CORRECTION
DIVISION OF PAROLE AND
PROBATION

DIVISION OF PRETRIAL
DETENTION AND SERVICES

PATUXENT INSTITUTION

MARYLAND COMMISSION
ON CORRECTIONAL
STANDARDS

CORRECTIONAL TRAINING
COMMISSION

POLICE TRAINING
COMMISSION

MARYLAND PAROLE
COMMISSION

CRIMINAL INJURIES
COMPENSATION BOARD

EMERGENCY NUMBER
SYSTEMS BOARD

SUNDRY CLAIMS BOARD
INMATE GRIEVANCE OFFICE

Mr. Bruce A. Myers, CPA
Legislative Auditor
Office of Legislative Audits
301 West Preston Street – Room 1202
Baltimore, Maryland 21201

Dear Mr. Myers:

The Department of Public Safety and Correctional Services has reviewed the draft audit report dated December 11, 2003, regarding the **Correctional Officer Staffing Performance Audit**. The Department appreciates your confirmation that its Staffing Analysis Overtime Management system (SAOM) is an important and useful management tool and also your constructive recommendations to enhance the accuracy and reliability of SAOM. The Department is providing the following responses that address the report's findings and recommendations:

Finding #1 SAOM Program Errors - The SAOM program did not correctly calculate authorized positions and staff days required when reporting over more than one pay period.

Agree - The Department will modify the SAOM program code to correctly calculate authorized PINs and staff days needed to fill established posts when reporting over more than one pay period. The calculation of authorized PINs will not be dependent on the number of records for each pay period. Rather, the correct average will be based on only the number of authorized PINs for each pay period. Additionally, the calculation of staff days needed to fill established posts will not ignore significant zeros in the post's data file for the averaging part of the calculation, nor apply the average to pay periods where posts did not exist.

Finding #2 SAOM Data Errors - Data integrity controls were not adequate, which allowed numerous errors in the underlying data used by SAOM to calculate staffing estimates.

Agree - The Department will take appropriate action to ensure the accuracy, completeness, and reliability of the data used for producing SAOM reports. The

Department will pursue the creation of automated edit controls to the STAFF.DBF data file that will eliminate duplicate records. In addition, the Department will program the OT.DBF data file with automated edit controls to prevent acceptance of duplicated records and identify missing records in the SAOM data file. Also, automated or manual controls will be used to ensure the accuracy of the data entered into the SAOM data files and prevent unauthorized additions, deletions, or changes to the records subsequent to their acceptance and approval by facility management. The Department will also program SAOM with automated edit controls to identify unusual or unreasonable data in the STAFF.DBF data files. The data will be reviewed for propriety and corrected if found to be in error.

Further, controls will be enhanced over the process for merging individual facility data files for Department-wide reporting. Changes to SAOM's post and PINs master files will be restricted, and the data will be consistent with each facility's authorized staffing plan and the State's budgeted PINs. Finally, the Department will establish adequate independent review at the facilities to ensure the accuracy of data input into SAOM.

I hope that we have responded adequately to the draft audit report. If you have any questions regarding the Department's responses, please contact me.

Sincerely,



Mary Ann Saar
Secretary

c: Deputy Secretary G. Lawrence Franklin
Deputy Secretary Mary L. Livers
Assistant Secretary Richard Rosenblatt
Director Randall Nero, Patuxent Institution
Commissioner Frank C. Sizer, Jr., Division of Correction
Commissioner William J. Smith, Division of Pretrial Detention and Services
Inspector General Joseph M. Perry

AUDIT TEAM

Edward L. Shulder, CPA
Audit Manager

Timothy R. Brooks, CPA, CFE
Senior Auditor

Nicholas R. Hollander
Roger E. Jaynes, III
Staff Auditors