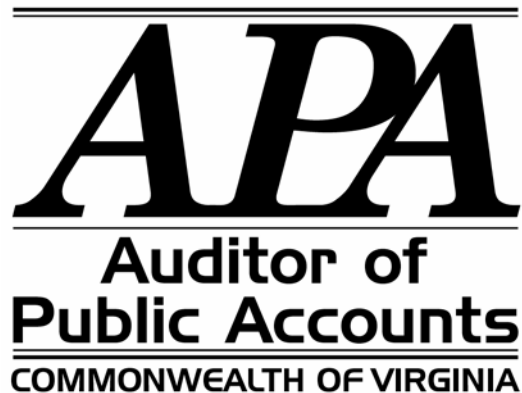


**SPECIAL REVIEW OF
PAYROLL AND HUMAN RESOURCE SYSTEMS**

OCTOBER 2004



AUDIT SUMMARY

The payment of salaries and benefits for public employees is one of the Commonwealth's largest expenses. Given the magnitude of these expenses, it is critical that the Commonwealth has the ability to analyze, monitor, and control its human resources and related costs.

Currently, the Commonwealth operates separate central systems for personnel and payroll. In 1986, the Commonwealth implemented the Commonwealth Integrated Payroll/Personnel System as its primary payroll system, but chose not to take advantage of the system's personnel functions because the Commonwealth had already implemented the Personnel Management Information System several years prior. These systems are not compatible and therefore, a significant amount of duplicate data is collected, critical internal controls commonly associated with integrated payroll and human resource systems are missing, and the systems do not fully meet all of the Commonwealth's business requirements.

Based on the results of our review we recommend the replacement of the current payroll and personnel systems with a statewide integrated payroll and personnel system that would meet the Commonwealth's needs and be mandatory for use by all agencies and institutions. The Information Technology Investment Board should define the new integrated system as a Commonwealth enterprise standard. There are two basic implementation options. The first option would require all agencies and institutions to use the integrated system upon implementation. The second option would allow agencies and institutions that currently operate independent payroll and personnel systems to continue using these systems in the interim, but develop data standards to report uniform data for collection and use in a statewide data warehouse. During this interim period, agencies and institutions should develop plans for the long-term transition to the new system.

Before making any decisions on replacing the systems, the Commonwealth should conduct a cost benefit analysis to determine the costs associated with operating and maintaining the current systems versus the cost of implementing, operating, and maintaining a new core system. This analysis should identify the business requirements of individual agencies and define the enterprise of the Commonwealth. It is the responsibility of the Department of Accounts, Department of Human Resource Management, and the Virginia Information Technologies Agency to consider the issues identified in this report and work with decision makers to implement the recommendations in the most beneficial manner for the Commonwealth.

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SPECIAL REVIEW OF PAYROLL AND HUMAN RESOURCE SYSTEMS

Department of Human Resource Management

Department of Accounts

Introduction

The office of the Auditor of Public Accounts (APA) conducted a review of the Commonwealth of Virginia's central payroll and human resource systems. The three objectives of this review were to determine whether:

- the Commonwealth is supported by central automated systems that perform payroll and human resource functions efficiently and effectively;
- the Commonwealth's central payroll and human resource systems have adequate internal controls to protect confidential employee information; and
- the Commonwealth is able to provide valid and reliable data from the central payroll and human resource systems to decision makers.

Overview

The payment of salaries and benefits for public employees is one of the Commonwealth's largest expenses. Total salaries and benefits for fiscal years 2003 and 2004 were \$5.8 billion and \$6.0 billion, respectively. Given the magnitude of these expenses, it is critical that the Commonwealth has the ability to analyze, monitor, and control its human resources and related costs.

Currently, the Commonwealth operates separate central systems for personnel and payroll. In 1986, the Commonwealth implemented the Commonwealth Integrated Payroll/Personnel System (CIPPS) as its primary payroll system, but chose not to take advantage of the system's personnel functions because the Commonwealth had already implemented the Personnel Management Information System (PMIS) several years prior. These systems are not compatible and therefore, a significant amount of duplicate data is collected and critical internal controls commonly associated with integrated payroll and human resource systems are missing.

In addition to being nonintegrated systems, separate agencies maintain the payroll and personnel systems. The Department of Accounts (Accounts) maintains the central payroll system, CIPPS, while the Department of Human Resource Management (Human Resources) controls the central personnel system, PMIS. These systems utilize different programming languages and database software products and have some electronic interfaces. This structure results in costly inefficiencies such as entering and maintaining redundant data and after-the-fact reconciliation of data. Furthermore, managers and elected officials cannot obtain complete and timely information needed to effectively manage programs and measure their level of success.

This report summarizes the Commonwealth's current lack of ability to collect and produce complete and reliable statewide payroll and personnel information. The Commonwealth has never had the capability to collect or produce statewide payroll and personnel information. The existing central payroll and human resource systems do not adequately meet all agencies' or the Commonwealth's business requirements. For this reason, many large, complex agencies and higher education institutions have implemented their own time and effort reporting or payroll and personnel systems. There are currently 13 decentralized agencies, most of which are higher education institutions, responsible for processing their own payroll. None of these

decentralized agencies report detailed payroll transactions into CIPPS, however, they do report a summary of expenses to the Commonwealth Accounting and Reporting System (CARS) for statewide accounting purposes. In addition, many of these agencies maintain their personnel data on an integrated system and several of these agencies voluntarily report some information to PMIS; however, Human Resources cannot mandate this reporting function.

There are also agencies, such as the Department of Transportation, that are not decentralized, but have purchased their own systems in order to meet agency-specific needs. These agencies utilize their own systems for time and effort reporting, which is not a functionality of CIPPS, but must also report to CIPPS and PMIS in detail. This requirement results in the duplication of data and the use of additional resources to create interfaces or double key into both systems.

In summary, the Commonwealth should implement an integrated system to collect statewide payroll and personnel information. . The Information Technology Investment Board should define the new integrated system as a Commonwealth enterprise standard. The “Recommendations” section of this report presents two options for implementing a statewide integrated payroll and personnel system to address the deficiencies in the current payroll and human resource collection and reporting functions. The Commonwealth must decide whether all agencies and institutions should be required to use the integrated system upon implementation or in the interim allow agencies and institutions that currently operate independent systems to continue and expand the use of these systems, by reporting uniform payroll and personnel data to a centralized data warehouse for statewide budget and reporting capabilities. During this interim period, agencies and institutions should develop plans for the long-term transition to the new system.

Payroll System

As previously reported, Accounts maintains and operates CIPPS, which it has significantly modified over the years from the original purchased off-the-shelf payroll and human resource software package. CIPPS software runs on the IBM mainframe computer at the Virginia Information Technologies Agency (VITA). Accounts receives software update tapes twice a year and every few years, Accounts receives new releases for major changes to the software.

Agency payroll personnel access CIPPS via computer terminals located at the agency payroll offices. The agency must have an IBM 3270 terminal or equivalent with nine function keys. VITA must approve the use of other equipment configurations that may be capable of interfacing with CIPPS. When either a classified (salaried) or wage employee is hired, agency payroll personnel set up the employee’s pay and leave information in CIPPS. CIPPS processes salaried paychecks as auto-pay; therefore, CIPPS automatically processes a payment unless there is an override to the employee’s base salary. Salaried employees are not required to confirm hours worked during the pay period in order to receive payment. Payroll personnel must enter wage employees’ hours in CIPPS each pay period in order for the individual to receive payment.

CIPPS also contains a leave accounting subsystem that provides a standard system for processing and recording employee leave activity in accordance with state leave policy. CIPPS-Leave features include the recording and maintenance of leave balances. The system also provides leave balances through online inquiry, system reports and printing of employee earnings notices. Additionally, the system automatically calculates fiscal year-end leave liability. However, complete duplication of data entry occurs if an agency or institution uses any form of internal time and effort reporting. CIPPS does not have an interface to take time and effort reporting information and use this data in the leave accounting subsystem.

Human Resource System

Human Resources maintains PMIS, the personnel management system. PMIS is a legacy, online, transaction-based system that contains employee and benefits records of all active and separated salaried employees of the executive branch, higher education institutions, and certain agencies exempt from the provisions of the Virginia Personnel Act, such as the State Corporate Commission and the Virginia Workers' Compensation Commission. Human Resources developed PMIS in-house in 1978, several years before the implementation of CIPPS. PMIS software runs on the Unisys computer at VITA. PMIS consists of a database used for processing and managing personnel, compensation, and health benefits data. The database includes secretary, agency, position, role, and personal employee information. It also maintains information such as an employee's pay rate, hire date, and funding source. For active permanent employees, the database maintains a history of all transactions and the current employee record. For separated employees, the database maintains a history of all transactions.

Authorized data entry operators access PMIS via computer terminals located at the agency human resource offices. When a salaried employee is hired, he or she fills an agency's open position. PMIS designates full-time and permanent part-time positions by a position number within each agency. PMIS assigns a job role, designated by a numeric role code and an alpha role title, to each position based on the duties and responsibilities of the position. When an employee terminates from a position, human resource personnel remove the employee from the assigned position number in PMIS, so the number will be open for the next employee hired for the vacant position.

The Benefits Eligibility System (BES) is a subsystem of PMIS that serves as the Commonwealth's official healthcare enrollment system. When employee information is entered into PMIS upon hiring, the system automatically assigns a "waived" benefits record. This allows the employee to access benefits through Human Resources' web-based system, EmployeeDirect, to choose his or her healthcare plan. BES is not a standalone system; therefore, there is not a "transfer" of employee data between PMIS and BES, but rather they share the data.

Human Resources has developed a data warehouse to facilitate management analysis. The warehouse stores the data from PMIS and incorporates "purchase of prior service" data from the Virginia Retirement System, as well as leave data from Accounts. Some of the agencies that do not use PMIS provide personnel data electronically to Human Resources for inclusion in the warehouse; however, as previously reported, there is no requirement for these agencies to submit this data.

Statistical Information

Each month Human Resources produces the "Commonwealth of Virginia Full-Time Equivalent Employment by Agency" report and according to the April 2004 report, there are over 107,000 Commonwealth of Virginia employees. However, not all of these employees are included in the Commonwealth's primary payroll and human resource systems, CIPPS and PMIS, as there are a number of decentralized agencies that process payroll using their own payroll systems. There are also a number of agencies exempt from using PMIS. See Appendix A for a table of users and non-users of CIPPS and PMIS.

The table below illustrates the total number of Commonwealth employees, the percentage of employees in PMIS, and the percentage of employees in CIPPS. Due to the inconsistencies in reporting requirements to the two systems, it is not reasonable to analyze the number of employees in CIPPS and PMIS on a one-to-one basis. For example, there are numerous agencies, particularly higher education institutions, which are not in CIPPS, but are in PMIS. On the other hand, the legislative and judicial branch employees are in CIPPS, but do not use PMIS. Additionally, PMIS does not collect wage employee information.

Total Number of Commonwealth Employees	107,835
Percentage of Commonwealth Employees in CIPPS	80.0%
Percentage of Commonwealth Employees in PMIS	78.0%
Percentage of Commonwealth Employees in both CIPPS and PMIS	62.4%

Sources: Human Resources FTE Report as of 4/30/04
 APA PMIS download as of 4/30/04
 APA CIPPS download as of 4/30/04

In summary, CIPPS and PMIS account for approximately 80 percent of the Commonwealth's employees, but the actual individuals in CIPPS and PMIS are not necessarily the same since the systems capture different information for different employees. These systems do not have complete data and are not capable individually of providing statewide payroll and personnel information.

Issues

Dated Technology

The Commonwealth implemented PMIS in 1978 and CIPPS in 1986. The Commonwealth developed these systems using what is now dated technology, which presents several challenges. First, it becomes more difficult for Accounts and Human Resources to maintain qualified staff to support these systems, which increases the risk of system failure. Second, the lack of integration and design of the systems makes it difficult for agencies to generate useful ad hoc and analytical reports for decision makers. Third, the design of the PMIS system makes it difficult to add and track edit controls on data fields since most controls are directly part of the programming logic. In addition, the existing systems do not provide automated workflow, which automatically routes documents to the appropriate individual for review and approval and helps eliminate some of the paper-driven processes of aging technology. Lastly, access controls over CIPPS and PMIS are not as sophisticated as newer systems. CIPPS users must pass through two levels of security to access the system. Both of these levels are necessary to maintain adequate security of the system.

Lack of Wage Employee Information and Ability to Monitor Wage Hours

Within PMIS is a wage subsystem; however, the wage system is not a data entry tool. Human Resources does not actually collect information on wage employees. The wage system's purpose is to serve as a reporting tool. Accounts provides Human Resources with an extract file of wage information from the CIPPS system on a semi-monthly basis to populate the wage system. However, according to Human Resources, management does not use the system for statewide reporting; therefore, the wage system does not serve as a valuable reporting tool for the Commonwealth.

State policy prohibits part-time employees from working more than 1,500 hours during a work year, which begins with an employee's agency start date, without prior written approval from the cabinet secretary. Although agency payroll personnel use CIPPS to process pay for wage employees, CIPPS itself does not track wage employees' hours for purposes of monitoring the 1,500-hour rule, in part because agencies do not enter an employee start date in the system as required by Accounts.

Accounts provides a tool, the Payroll Audit Tool (PAT), which is a Microsoft Windows-compatible automated desktop application that facilitates the review and comparison of key payroll and leave information using reports and data downloaded from the CIPPS Financial Information Downloading System. One of the tools available is the Wage Employee 1500 Hour Tool, which, if used properly, helps track wage employees' hours and compliance with state policy. Although agencies can download the data from CIPPS, using the tool is a labor-intensive process. There are several fields needed for calculation that CIPPS information does not

identify as mandatory fields. For instance, the ‘employee agency start date’ is a necessary field to calculate the hours per wage employee for each year, but the field is optional in CIPPS. Furthermore, agencies have no requirement to use the 1500 Hour Tool and there is no formal training available on the use of PAT.

Separation of Duties

The existing payroll and human resource systems are not integrated; therefore, payroll operators are responsible for entering all data into CIPPS, including a certain degree of personnel information necessary to establish new employees and process payroll. Consequently, there is not always an adequate separation of duties between payroll and personnel data entry in CIPPS. This lack of separation of duties may allow payroll personnel to establish and pay employees, thus increasing the risk of fraudulent payments and the establishment of ghost employees. An integrated human resource and payroll system allows human resource personnel to establish and make changes to an employee’s personal record, while payroll personnel only update necessary changes to payroll.

Additionally, CIPPS is a non-positive time reporting model, which means that once set up, a salaried employee automatically receives a paycheck every pay period. There is no requirement for the submission of hours and leave taken and supervisor approval before an employee is paid. Furthermore, the employee termination date is not a mandatory field in CIPPS. These weaknesses in the system could allow improper payments to current employees or the continued payment of terminated employees. Proper controls should require that employees submit their time and leave for the pay period and supervisors review and approve the time worked before the system produces a paycheck for the time submitted. If an employee terminates, the date of termination should be a mandatory requirement for the payroll system. The lack of segregation of duties both within CIPPS and between CIPPS and PMIS is a result of the operation of two systems by two different agencies and the use of dated systems.

Incomplete Data in CIPPS and PMIS

As noted in the statistical section of this report, CIPPS includes information excluded from PMIS and vice versa. This situation has increased over the past few years as agencies receive reporting exemptions. A number of higher education institutions process payroll using their own systems and use PMIS, but not CIPPS. Executive branch employees are included, for the most part, in both CIPPS and PMIS. However, legislative and judicial branch employees are included in CIPPS, but not in PMIS. Again, CIPPS processes wage employees’ pay, but wage employee information is not actually collected in PMIS. Given all of these variances and incomplete data in both systems, it is difficult to generate statewide analytical reports. Although Human Resources makes efforts to accumulate employee data from those agencies exempt from using PMIS for inclusion in its data warehouse, there is no guarantee that the agencies will submit the requested information.

Lack of Communication between Systems

The Commonwealth’s existing payroll and human resource systems do not easily and routinely communicate with one another. As a result, there is duplicate data entry and storage between CIPPS and PMIS. There are also agencies that use their own time and effort reporting systems and then transfer data into PMIS, typically via double data entry. For example, the Virginia Department of Transportation operates a financial management system that includes a time entry module and payroll allocation module, which allows Transportation to track payroll information at the level of detail necessary for its operations. Transportation payroll personnel also key additional information into CIPPS in order to process pay. Transportation must reconcile each payroll between CIPPS, its financial management system, and the Commonwealth’s accounting system. As another example, the Department of Mental Health’s facilities use a timekeeping system other than CIPPS, but still use CIPPS to process payroll. Mental Health’s system electronically

calculates hours worked based on the scanning of key cards as a time keeping transaction. Payroll personnel then key hours worked and adjustments from their own timekeeping system into CIPPS each pay period.

Since the payroll and the human resource systems are not integrated, Human Resources makes PMIS data files available to Accounts on a semi-monthly basis. Accounts uses this file to compare CIPPS records to PMIS records, generating a listing of all exceptions, including payments that exceed classification limits. Accounts performs this CIPPS/PMIS audit after payments are processed and has until the next pay period to complete the audit process. The CIPPS/PMIS audit is a labor-intensive process for both the agencies and Accounts. Agencies are responsible for researching their differences and Accounts is responsible for ensuring that the agencies provide reasonable explanations and take appropriate corrective action if necessary. Accounts has identified 27 types of CIPPS/PMIS differences. Examples of these differences include the following: "Gross Pay Higher than PMIS Authorized Pay;" "No PMIS Record Found;" PMIS SSN Does Not Match CIPPS SSN;" and "Wage Payment with No Hours." For the quarter ended March 31, 2004, Accounts reported over 2,900 CIPPS/PMIS exceptions in the Comptroller's Report on Statewide Financial Management and Compliance. Given the existing structure of the payroll and human resource systems, it is important that Accounts routinely performs this match of records. However, the CIPPS/PMIS audit is an 'after the fact' comparison of data, which is labor intensive. It is up to agency personnel to process payroll-related changes in PMIS before payroll is certified. Failure to make timely, necessary updates in CIPPS and PMIS increases the risk of improper payments.

Agency Systems

The Commonwealth's existing payroll and human resource systems do not fully meet all agencies' or the Commonwealth's business requirements; therefore, there is a need for the development and ongoing maintenance of certain agency systems. For example, Transportation's financial management system payroll module includes employee time tracking capabilities that allows Transportation to allocate employee payroll costs to the appropriate project or cost center. Other agencies such as Mental Health and State Police also operate their own time and effort systems that allow for payroll cost allocation and billing. It is reasonable for these agencies to operate their own systems since CIPPS does not provide time and effort reporting functionality, however, these agencies must still enter detailed information into CIPPS.

This process means duplication of stored data and time and energy spent by some agencies double keying into both systems. Additionally, there are a number of decentralized agencies, primarily higher education institutions, not required to report to CIPPS and/or PMIS, which use their own systems to process human resources and payroll. Further, many of the agency and higher institution systems are more sophisticated and use more modern technologies to process information.

Conclusion

Our review of the central payroll and human resource systems did not identify any significant weaknesses of the internal controls protecting confidential employee information. Therefore, it appears the controls currently available to protect confidential employee information are working properly.

However, the previously identified issues support the conclusion that CIPPS and PMIS are not sufficient to support the Commonwealth's central payroll and human resource functions from a statewide perspective. To summarize, the technology is dated, the data is incomplete, there is a lack of separation of duties, and the systems do not meet all of the Commonwealth's business requirements.

The CIPPS and PMIS systems do not provide complete and integrated statewide data from the payroll and human resource systems to decision makers. The older technology of the systems makes it difficult for users to generate useful ad hoc and analytical reports for decision makers. The lack of wage employee data in

PMIS and the incomplete data in both systems clearly makes the data unreliable, particularly if the decision maker is seeking statewide data. The fact that certain agencies and higher education institutions find it necessary to implement their own systems in order to meet their time and effort reporting and human resource requirements supports the conclusion that the central systems are not meeting business needs. Decision makers, including the management of these agencies, cannot rely solely on the data in CIPPS and PMIS or the functionality of those systems to collect and report relevant and reliable information. The data collected by CIPPS and PMIS appears to be valid, however, there are several critical fields in CIPPS, such as employee termination date, that are not mandatory and therefore, potentially useful data is not collected.

Based upon this review, the Commonwealth faces several challenges concerning its payroll and human resource functions. In order to properly budget and fully comprehend statewide payroll and associated costs, the Commonwealth requires a statewide integrated payroll and personnel reporting mechanism.

Recommendations

We recommend the replacement of the current payroll and personnel systems with a statewide integrated payroll and personnel system that would meet the Commonwealth's needs and be mandatory for use by all agencies and institutions. The Information Technology Investment Board should define the new integrated system as a Commonwealth enterprise standard. There are two basic implementation options. The first option would require all agencies and institutions to use the integrated system upon implementation. The second option would allow agencies and institutions that currently operate independent payroll and personnel systems to continue using these systems in the interim, but develop data standards to report uniform data for collection and use in a statewide data warehouse. During this interim period, agencies and institutions should develop plans for the long-term transition to the new system.

An integrated payroll and personnel system can meet the demands of most agencies and provides:

- automated workflows, which route documents electronically to the appropriate individual for review and approval;
- a time tracking module, which allows costs to be properly allocated, and automatically updates pay and leave hours in the payroll system;
- elimination of the double keying of employee and payroll information by integrating the functions, which results in maximum efficiency for the Commonwealth and provides for appropriate separation of duties between the payroll and human resource functions;
- the ability to easily generate custom reports to meet the unique needs of agencies, legislative bodies, and other pertinent decision makers; and
- a high level of security available to protect confidential payroll data. New technology allows for multiple layers of security while providing easier security maintenance and review capabilities.

Most state agencies currently required to use CIPPS and PMIS would benefit from an integrated payroll and personnel system. However, many larger and decentralized agencies have invested in independent systems that meet their business needs. The most efficient solution would be to allow the agencies already processing their own payroll or having the capability to process payroll the option to either

continue using their system in the interim or use the central system. Allowing decentralized agencies having systems that are more modern the capability of using their existing systems would permit a smaller, more orderly transition over time to a statewide integrated system. This approach would also over time eliminate much of the current duplication with redundant data entry. This approach appears to work effectively with institutions of higher education.

In order to collect complete and accurate information, the Commonwealth must establish data standards and mandatory reporting requirements for agencies not currently using the central system. However, it is important to note that not all large or decentralized agencies require an independent system. The Information Technology Investment Board at VITA must carefully evaluate the costs and benefits of these requests.

The current systems cannot support the integration and collection of payroll and personnel data. However, before making any decisions on whether to maintain the existing systems or replace them, the Commonwealth should conduct a cost benefit analysis to determine the costs associated with operating and maintaining the current systems versus the cost of implementing, operating, and maintaining a new core system. This analysis should identify the business requirements of individual agencies and define the enterprise of the Commonwealth. It is the responsibility of Accounts, Human Resources, and VITA to consider the issues identified in this report and work with decision makers to implement the recommendations in the most beneficial manner for the Commonwealth.

It is important to consider the most efficient and effective way to meet the total needs of the Commonwealth. An important factor to consider is how a core payroll and personnel system fits into the evaluation of all of the Commonwealth's existing primary systems. If the Commonwealth's plan is to replace other primary systems, then it could potentially include a new payroll and personnel system as part of this change.

The Commonwealth's reliance on nonintegrated, outdated systems poses risks and creates inefficiencies. The lack of separation of duties and use of older technology increases the risk of improper payroll payments. The use of dated technology also increases the risk of system failure due to lack of support. These systems create inefficiencies due to the non-integrated technology of the systems and the incomplete data housed in both systems. Management cannot easily and quickly create ad-hoc or analytical reports useful in the management of workforces and budgets and these systems provide no means for managing or tracking wage employees. The dated technology and inefficiencies of the existing systems and the additional benefits provided by a new system are the major factors that support the implementation of an integrated payroll and personnel system.



Commonwealth of Virginia

Walter J. Kucharski, Auditor

**Auditor of Public Accounts
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October 15, 2004

The Honorable Mark R. Warner
Governor of Virginia
State Capital
Richmond VA

The Honorable Lacey E. Putney
Chairman, Joint Legislative Audit
and Review Commission
General Assembly Building
Richmond, VA

We have completed our review of the Commonwealth of Virginia's central payroll and human resource systems and submit our report, "Special Review of Payroll and Human Resource Systems."

Objectives

We had three objectives for our review of the Commonwealth's central payroll and human resource systems:

- the Commonwealth is supported by central automated systems that perform payroll and human resource functions efficiently and effectively;
- the Commonwealth's central payroll and human resource systems have adequate internal controls to protect confidential employee information; and
- the Commonwealth is able to provide valid and reliable data from the central payroll and human resource systems to decision makers.

Scope

In conducting this review, we researched the design and utilization of the payroll and human resource systems, as well as the roles and responsibilities of the agencies involved in the Commonwealth's payroll and human resource functions. We obtained this information through interviews with agency personnel, reviews of policies and procedures, and reviews of system documentation. We documented the status of the systems and identified issues with the systems as they currently operate. We also proposed recommendations, presenting two alternatives to address the issues.

Summary

The payment of salaries and benefits for public employees is one of the Commonwealth's largest expenses. Given the magnitude of these expenses, it is critical that the Commonwealth has the ability to analyze, monitor, and control its human resources and related costs.

Currently, the Commonwealth operates separate central systems for personnel and payroll. In 1986, the Commonwealth implemented the Commonwealth Integrated Payroll/Personnel System (CIPPS) as its primary payroll system, but chose not to take advantage of the system's personnel functions because the Commonwealth had already implemented the Personnel Management Information System (PMIS) several years prior. These systems are not compatible and therefore, a significant amount of duplicate data is collected and critical internal controls commonly associated with integrated payroll and human resource systems are missing.

Based on the results of our review we recommend the replacement of the current payroll and personnel systems with a statewide integrated payroll and personnel system that would meet the Commonwealth's needs and be mandatory for use by all agencies and institutions. The Information Technology Investment Board should define the new integrated system as a Commonwealth enterprise standard. There are two basic implementation options. The first option would require all agencies and institutions to use the integrated system upon implementation. The second option would allow agencies and institutions that currently operate independent payroll and personnel systems to continue using these systems in the interim, but develop data standards to report uniform data for collection and use in a statewide data warehouse. During this interim period, agencies and institutions should develop plans for the long-term transition to the new system.

Before making any decisions on replacing the systems, the Commonwealth should conduct a cost benefit analysis to determine the costs associated with operating and maintaining the current systems versus the cost of implementing, operating, and maintaining a new core system. This analysis should identify the business requirements of individual agencies and define the enterprise of the Commonwealth. It is the responsibility of Accounts, Human Resources, and VITA to consider the issues identified in this report and work with decision makers to implement the recommendations in the most beneficial manner for the Commonwealth.

We discussed this report with agency directors from the Departments of Accounts, the Department of Human Resource Management, and the Virginia Information Technologies Agency.

AUDITOR OF PUBLIC ACCOUNTS

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APPENDIX A - USAGE OF STATEWIDE PAYROLL AND HUMAN RESOURCE SYSTEMS

Legend: x Non-User of the respective system

* Non-PMIS but in DHRM data warehouse

Agency Name	Branch	Count of Employees in System		System Usage			FY 2004 Payroll Expense
		CIPPS	PMIS	CIPPS	PMIS	BES	
Attorney General and Department of Law	Exec	259	249				\$ 18,600,009
Auditor of Public Accounts	Leg	106	-		x		6,419,731
Board of Accountancy	Exec	8	4				314,754
Board of Bar Examiners	Jud	8	-		x		659,397
Chesapeake Bay Local Assistance Dept	Exec	17	17				1,016,839
Chippokes Plantation Farm Foundation	Exec	5	1				129,272
Christopher Newport University	Exec	1,330	562				33,299,405
Circuit Courts	Jud	183	-		x		31,108,952
College of William and Mary in Virginia	Exec	-	1,390	x			98,386,867
Combined District Courts	Jud	213	-		x		14,793,456
Commision on Virginia Alcohol Safety Action Program	Exec	-	3				404,205
Commonwealth Attorney's Services Council	Exec	5	4				348,412
Commonwealth Center for Behavioral Rehabilitation	Exec	62	61				1,868,484
Commonwealth Competition Council	Exec	1	1				109,453
Compensation Board	Exec	24	21				2,273,965
Cooperative Extension and Agricultural Research Service	Exec	69	56				3,658,653
Court of Appeals of Virginia	Jud	67	-		x		5,236,461
Dept for the Aging	Exec	25	23				1,564,686
Dept for the Deaf and Hard-of-Hearing	Exec	12	11				585,231
Dept of Accounts	Exec	95	93				5,910,990
Dept of Agriculture and Consumer Services	Exec	539	461				26,789,667
Dept of Alcoholic Beverage Control	Exec	2,026	917				58,016,433
Dept of Aviation	Exec	34	29				1,912,961
Dept of Business Assistance	Exec	48	41				3,346,117
Dept of Charitable Gaming	Exec	27	18				1,407,689
Dept of Conservation and Recreation	Exec	635	356				23,963,833
Dept of Correctional Education	Exec	750	659				38,515,276
Dept of Corrections	Exec	11,797	11,586				527,665,373
Dept of Criminal Justice Services	Exec	402	346				23,806,058
Dept of Education - Central Office Operations	Exec	348	292				21,348,505
Dept of Emergency Management	Exec	123	91				6,045,571
Dept of Employment Dispute Resolution	Exec	15	13				968,795
Dept of Environmental Quality	Exec	819	783				48,903,000
Dept of Fire Programs	Exec	80	27				2,325,215
Dept of Forestry	Exec	415	265				14,624,758
Dept of Game and Inland Fisheries	Exec	474	441				24,983,177
Dept of General Services	Exec	630	597				31,510,979
Dept of Health	Exec	3,918	3,495				185,544,454
Dept of Health Professions	Exec	198	158				10,316,157
Dept of Historic Resources	Exec	42	39				2,223,318
Dept of Housing and Community Development	Exec	136	119				7,931,449
Dept of Human Resource Management	Exec	77	77				5,536,378
Dept of Juvenile Justice	Exec	2,318	2,156				103,838,075
Dept of Labor and Industry	Exec	171	164				8,729,362
Dept of Medical Assistance Services	Exec	349	303				20,025,012
Dept of Mental Health, Mental Retardation and Substance Abuse Services-Central Office	Exec	9,848	8,952				398,580,582
Dept of Military Affairs	Exec	368	238				13,718,483
Dept of Mines, Minerals and Energy	Exec	230	230				15,076,458

APPENDIX A - USAGE OF STATEWIDE PAYROLL AND HUMAN RESOURCE SYSTEMS

Legend: x Non-User of the respective system

* Non-PMIS but in DHRM data warehouse

Agency Name	Branch	Count of Employees in System		System Usage			FY 2004 Payroll Expense
		CIPPS	PMIS	CIPPS	PMIS	BES	
Dept of Minority Business Enterprise	Exec	14	10				721,397
Dept of Motor Vehicles	Exec	2,142	1,871				95,086,763
Dept of Planning and Budget	Exec	59	55				4,599,428
Dept of Professional and Occupational Regulation	Exec	162	131				7,700,389
Dept of Rail and Public Transportation	Exec	33	33				2,549,308
Dept of Rehabilitative Services	Exec	834	779				40,971,859
Dept of Social Services	Exec	1,672	1,592				82,488,120
Dept of State Police	Exec	2,618	2,480				154,745,831
Dept of Taxation	Exec	1,125	882				50,561,056
Dept of the Treasury	Exec	111	103				6,214,741
Dept of Transportation	Exec	10,018	9,648				511,999,537
Dept of Veterans Services	Exec	303	254				10,089,684
Div of Legislative Automated Systems	Leg	24	-		*		1,368,231
Div of Legislative Services	Leg	88	71				3,769,115
Division of Attorney General Debt Collection	Exec	18	17				889,725
Division of Capitol Police	Exec	97	93				4,330,874
Frontier Culture Museum of Virginia	Exec	53	32				1,379,689
General District Courts	Jud	1,048	-		x		50,204,041
George Mason University	Exec	-	2,772	x			237,549,642
Gunston Hall	Exec	11	7				427,737
House of Delegates	Leg	435	-		*		12,104,856
Human Rights Council	Exec	3	5				236,117
James Madison University	Exec	-	2,105	x			130,623,149
Jamestown - Yorktown Foundation	Exec	356	151				7,864,991
Jamestown 2007	Exec	115	15				1,341,880
Joint Legislative Audit and Review Commission	Leg	29	-		*		2,155,184
Judicial Inquiry and Review Commission	Jud	3	-		x		362,498
Juvenile and Domestic Relations District Courts	Jud	607	-		x		35,156,734
Library of Virginia	Exec	207	170				9,161,914
Lieutenant Governor	Exec	4	4				263,534
Longwood University	Exec	745	536				32,405,267
Magistrate System	Jud	442	-		x		17,523,886
Marine Resources Commission	Exec	149	139				7,032,091
Mary Washington College	Exec	1,563	579				33,615,310
Motor Vehicle Dealer Board	Exec	26	19				1,231,534
Norfolk State University	Exec	1,644	909				58,333,133
Office for Substance Abuse Prevention	Exec	4	3				227,217
Office of Commonwealth Preparedness	Exec	4	3				397,876
Office of the Governor	Exec	54	38				2,816,303
Old Dominion University	Exec	-	1,862	x			117,698,122
Public Defender Commission	Jud	399	-		x		19,620,219
Radford University	Exec	1,778	1,046				56,265,353
Richard Bland College	Exec	93	82				5,067,105
Science Museum of Virginia	Exec	158	87				5,241,782
Secretary of Administration	Exec	11	10				872,650
Secretary of Commerce and Trade	Exec	6	6				499,340
Secretary of Education	Exec	6	5				557,781
Secretary of Finance	Exec	4	4				454,172
Secretary of Health and Human Resources	Exec	8	5				651,814

APPENDIX A - USAGE OF STATEWIDE PAYROLL AND HUMAN RESOURCE SYSTEMS

Legend: x Non-User of the respective system

* Non-PMIS but in DHRM data warehouse

Agency Name	Branch	Count of Employees in System		System Usage			FY 2004 Payroll Expense
		CIPPS	PMIS	CIPPS	PMIS	BES	
Secretary of Natural Resources	Exec	5	5				461,672
Secretary of Public Safety	Exec	7	6				643,320
Secretary of Technology	Exec	6	5				472,212
Secretary of the Commonwealth	Exec	21	18				1,063,957
Secretary of Transportation	Exec	5	5				520,741
Senate	Leg	132	-		*		7,048,706
Southwest Virginia Higher Education Center	Exec	-	-	x	*	x	859,737
State Board of Elections	Exec	33	29				1,343,988
State Corporation Commission	Indep	621	-		*		40,824,033
State Council of Higher Education for Virginia	Exec	35	30				2,597,518
State Lottery Department	Indep	339	297				18,858,386
Supreme Court	Jud	184	-		x		10,140,212
Tobacco Indemnification and Revitalization Commission	Exec	13	9				618,797
University of Virginia - Academic Division	Exec	-	-	x	*	x	455,567,072
University of Virginia Medical Center	Exec	-	-	x	x	x	315,117,934
University of Virginia's College at Wise	Exec	-	-	x	*		12,652,528
Va Polytechnic Institute and State Univ, Va Cooperative	Exec	-	-	x	x	x	53,218,829
Virginia Board for People with Disabilities	Exec	10	8				524,814
Virginia College Savings Plan	Indep	38	37				2,295,442
Virginia Commission for the Arts	Exec	6	5				268,529
Virginia Commonwealth University-Academic Division	Exec	-	4,437	x			310,710,803
Virginia Community College System	Exec	11,481	5,204			x	391,523,104
Virginia Criminal Sentencing Commission	Jud	8	-		*		579,493
Virginia Dept for the Blind and Vision Impaired	Exec	343	270				10,876,393
Virginia Employment Commission	Exec	1,576	990				70,801,461
Virginia Information Technologies Agency	Exec	385	354				31,324,935
Virginia Institute of Marine Science	Exec	-	328	x			21,535,606
Virginia Liaison Office	Exec	4	3				274,374
Virginia Military Institute	Exec	-	425	x			21,009,184
Virginia Museum of Fine Arts	Exec	190	142				7,746,588
Virginia Museum of Natural History	Exec	35	28				1,465,828
Virginia Office for Protection and Advocacy	Indep	31	27				1,580,409
Virginia Polytechnic Institute and State University	Exec	-	6,156	x			394,729,876
Virginia Port Authority	Exec	-	51	x			9,527,593
Virginia Racing Commission	Exec	11	7				752,230
Virginia Rehab Center for the Blind and Vision Impaired	Exec	41	25				1,409,791
Virginia Retirement System	Indep	268	-		*		16,129,233
Virginia School for the Deaf and Blind at Staunton	Exec	197	138				5,799,848
Virginia School for the Deaf, Blind and Muliti-Disabled at Hampton	Exec	178	105				4,845,055
Virginia State Bar	Jud	87	-		x		5,623,058
Virginia State University	Exec	809	551				35,543,550
Virginia Tobacco Settlement Foundation	Exec	14	14				1,043,411
Virginia Workers' Compensation Commission	Indep	200	182				10,387,000
Virginia - Israel Advisory Board	Exec	1	1				92,773
Woodrow Wilson Rehabilitation Center	Exec	371	287				15,930,682
Councils and Commissions - no employees	Exec	-	-				1,579,075

Total	86,274	84,141	5,979,691,117
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COMMONWEALTH of VIRGINIA

October 25, 2004

Mr. Walter J. Kucharski
Auditor of Public Accounts
James Monroe Building
101 N. 14th Street
Richmond, Virginia 23219

Dear Mr. Kucharski:

The Departments of Accounts and Human Resource Management appreciate the opportunity to respond to the Auditor of Public Accounts special review of statewide payroll and human resource systems. Your report contains important recommendations that will assist the Commonwealth in determining the best courses of action towards modernizing its payroll and human resource systems. We commend you and your staff for tackling these important and complicated issues.

In general, we concur with the report's findings and recommendations. However, while an integrated system was determined to be the optimum solution in the past, we plan to update this assessment as we identify current business requirements, available technology, and the current political and cultural climate. Should an integrated model be selected, the approximately 70,000 Commonwealth employees currently served by all three central systems supporting benefits, human resources, and payroll (BES, PMIS and CIPPS) should fit smoothly in the optimal integrated model.

The remaining 40,000 non-executive branch and decentralized agency and institutions employees, pose difficult challenges. These agencies and institutions have varying degrees of autonomy from central processing and reporting requirements stemming from either the separation of powers between branches of government or laws directing that certain agencies and institutions be managed largely as autonomous enterprises. It will be critically important to define the scope of the Commonwealth's enterprise optimally served by the central system. Depending on this definition, legislative action likely will be needed for any successful modification of existing autonomy, which is considered necessary to support the recommended mandatory-use central systems.

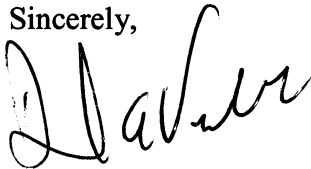
Mr. Walter J. Kucharski
October 25, 2004
Page 2

For agencies continuing to operate independent systems for a period of time following implementation of the new central system, it will be important to define the optimal/required level of functional integration between the central and independent systems, distinguishing between functional integration and simple interfaces supporting a statewide data warehouse. Also, nearly all non-executive branch and decentralized agencies/institutions currently use one or more, but not all three central systems (i.e., PMIS, BES, or CIPPS). Such selective use options, with appropriate controls to mitigate the continuing lack of functional integration among these groups, will need to be developed within the new central system.

There is and there will continue the requirement for constant development and system maintenance because the needs of the Commonwealth are ever changing. Upgrades can be extensive and frequent to keep up with these needs. While preparing for a change, the current systems must continue to be maintained and updated to reflect constant business rules changes.

Thank you and your staff for your professionalism throughout the audit process.

Sincerely,



David A. Von Moll
State Comptroller



Sara R. Wilson, Director
Department of Human Resource Management

copy: The Honorable John M. Bennett, Secretary of Finance
The Honorable Sandra D. Bowen, Secretary of Administration



COMMONWEALTH of VIRGINIA

Lemuel C. Stewart, Jr.
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371-8076

October 25, 2004

Mr. Walter J. Kucharski
Auditor of Public Accounts
James Monroe Building
101 North 14th Street, 8th Floor
Richmond, Virginia 23219

Dear Mr. Kucharski:

RE: Special Review of Payroll and Human Resource Systems

In response to your request for comments on the APA's final draft on the review of the current Commonwealth payroll and human resource systems, I am pleased to provide the following.

As you are aware, the responsibilities of the Information Technology Investment Board (ITIB) and the Commonwealth CIO for managing the state's IT investments include enterprise systems. I believe we have already demonstrated a very proactive approach, via our IT investment management and project management programs, in both identifying enterprise opportunities and ensuring that they are fully explored by the appropriate agencies.

VITA fully supports the APA's conclusion that an integrated personnel/payroll system offers significant cost and process improvement benefits and the recommendations set forth in the final report.

After your study report is finalized and published, I would be pleased to arrange for its presentation at an upcoming Board meeting, so that the full Board can consider it in the context of its ongoing efforts to improve the identification and pursuit of high-return enterprise opportunities.

We appreciate the opportunity to comment on this important study and look forward to continuing to work with you and your organization in pursuit of improving state government operations and services.

Sincerely,

A handwritten signature in cursive script, reading "Lemuel C. Stewart, Jr.", written in dark ink.

Lemuel C. Stewart, Jr.