

PROGRESS REPORT

ON

SELECTED SYSTEM DEVELOPMENT PROJECTS

IN THE

COMMONWEALTH

AS OF DECEMBER 31, 2015

Auditor of Public Accounts Martha S. Mavredes, CPA www.apa.virginia.gov (804) 225-3350



REPORT SUMMARY

This report reflects our on-going review of \$269 million in Commonwealth information technology (IT) systems development projects. Our review goal is to detect problems at the earliest possible point and alert decision makers of this information, thereby reducing potential project failures. We have chosen to highlight three projects in this report because they are experiencing schedule delays or budget concerns:

- Virginia Employment Commission Unemployment Insurance Modernization Project
- Department of State Police Central Criminal History Project
- Department of Behavioral Health and Developmental Services' Electronic Health Records Project

For each of these highlighted projects, agency management is aware of the delays or concerns and the project team has been operating transparently to keep stakeholders aware of all associated risks. The project teams continue to inform us of decisions that affect these projects, invites us to attend project team meetings, and properly report the project's status to the Virginia Information Technologies Agency.

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HIGHLIGHTS OF SELECTED SYSTEMS DEVELOPMENT PROJECTS

Unemployment Insurance Modernization Project (UI Mod)

Employment Commission

<u>Background</u>

The Virginia Employment Commission is continuing to develop the Unemployment Insurance Modernization project (UI Mod), which will replace multiple existing mainframe-based software systems with a web-based platform and reengineer the Employment Commission's business processes. The UI Mod project began in 2009 and has a total budget of \$58.5 million. The UI Mod project consists of three main phases, two of which have been implemented:

- Imaging and Workflow, implemented in December 2011
- Tax, implemented in November 2015
- Benefits, in development

The Employment Commission and HCLA, the UI Mod project vendor, originally scheduled the Tax and Benefits phases of the project to go into production in December 2012 and May 2013, respectively. Various development problems required multiple extensions to the project plan, thereby delaying implementation of the Tax phase by nearly 3 years and currently the Benefits phase does not have an established go-live date. In addition, less than 20 percent of the project budget remains, which is not sufficient to cover the internal staffing costs or any contingencies that may arise while completing the Benefits phase.

<u>Risks</u>

Although, the Employment Commission, the Secretary of Commerce and Trade, and the Office of the Attorney General, are currently in negotiations with HCLA to establish a plan for the completion of the Benefits phase, the extended development time, lack of a project schedule, and limited project budget keeps the overall project at risk. The Employment Commission remains committed and engaged and the team is working to ensure that the final phase complies with the provisions of the contract, as well as ensuring that required system changes are taken into account when determining the future of the final UI Mod phase.

Central Criminal History Replacement (CCH)

State Police

<u>Background</u>

The Virginia State Police is replacing the Central Criminal History (CCH) system to modernize and improve its effectiveness and efficiency, using software developed in a modern programming and database technology consistent with Virginia's Enterprise Architecture Standards. The CCH is the sole repository of Virginia's arrest and court disposition records and is relied upon by the entire criminal justice community in Virginia for accurate offender information. The CCH system records are based on fingerprint submissions from law enforcement, which ensures the accuracy of the records. Its background check capabilities are important to actions such as hiring, adoptions, social services decisions, firearms purchases, and receipt of visas for international travel.

The 2008 General Assembly appropriated funds to begin the migration of this critical system and project initiation started in January 2013. The total budget for CCH replacement is nearly \$7.4 million with \$6.1 million coming from Purdue-Pharma funds and \$1.3 million from general funds.

This project was originally envisioned as the first part of a three-part effort to replace the State Police's antiquated COBOL-based systems. It quickly became clear during the execution of this first part that because much of the system's functionality is legislatively mandated, parts one and two needed to be merged, increasing the project's budget and extending its schedule. In addition, two unplanned changes to the legacy CCH system were mandated to be completed in 2015, while the replacement system was still under-development. Together, these legacy system changes resulted in increased costs of \$452,500, and a three-month increase to the schedule.

Modules for queries, arrest processing, court disposition interface, and exception processing for automated transactions are complete, but the project team estimates that an additional twomonth delay in schedule is possible for completion of the remaining modules. Therefore, State Police has added two months to the schedule as a contingency reserve, giving an estimated completion date of October 31, 2016.

<u>Risks</u>

The legacy CCH system is more than 30 years old, was written in COBOL, and relies upon proprietary technology for its operations. The two employees most familiar with the legacy system are close to retirement and replacement personnel having the proper skill set are not readily available in the marketplace. For this reason, State Police has identified this project as high risk.

To date, State Police has lost one FTE and six contractors from a project team of about 20 people, meaning roughly one third of the project team has turned over since the project began three years ago. Given the time lag involved in hiring and training replacement contract personnel, a decision was made to use overtime to meet the project completion date of October 31, 2016, rather than hiring additional contract resources.

Electronic Health Records (EHR)

Behavioral Health and Developmental Services

<u>Background</u>

The Virginia Department of Behavioral Health and Developmental Services (DBHDS) is implementing a project to place the Soarian Electronic Health Record System (EHRS) into operations. Prior to implementation, all facilities were using paper health record systems. DBHDS initially budgeted \$32,392,400 to implement EHRS in 14 of its hospitals, training centers, and behavioral centers. This project was initially planned to be completed over three years.

The original budget and project schedule were grossly underestimated. The budget underestimate occurred because DBHDS did not include the on-going costs to operate and maintain the system once it was implemented in each hospital or center and the agency received no additional funding for these costs. In addition, \$2.9 million of anticipated Federal funding was not realized, creating a greater challenge to the EHRS staff. To offset this budget shortfall, the Department of Planning and Budget provided a one-time General Fund appropriation adjustment to restore those funds and increase the overall budget to its current level of just under \$40 million, but even this amount is less than is needed to fully implement the system as originally scoped.

<u>Risks</u>

Based upon the approved budget and the demonstrated development tempo, DBHDS only has sufficient funds to place the EHRS into service in three of its 14 locations, perform operations and maintenance service for the three locations, and perform a mandatory upgrade of the installed solution. In an attempt to place the system into operation in additional hospitals, DBHDS requested additional appropriations for the fiscal years 2017/2018 biennium but that funding request was denied. DBHS management intends on requesting additional funds in future years

OVERVIEW OF OUR REVIEW PROCEDURES

Objectives and Scope

The Auditor of Public Accounts (APA) audits a number of IT development projects across the Commonwealth, and Appendix A has our on-going summary of these projects. Our audit objectives are to determine if:

- the project manager complies with the Commonwealth's Project Management Standards, as issued by the Virginia Information Technologies Agency (VITA); or, if the agency is exempt from VITA requirements, that the project manager complies with project management best practices, and
- the project remains on time, within budget, and on scope.

Methodology

We continuously monitor various resources when identifying potential systems development projects, including Legislative meetings, the Appropriation Act and Budget Bill, agency management and systems professionals, VITA's Project Management Division, and other sources. Once we identify a potential systems development project, we maintain a record of that system as it progresses through its development lifecycle.

The volume of ongoing projects dictates that we identify and follow only those that represent the most risk to the Commonwealth. To determine which projects to follow, we create a list of all potential projects from the sources listed above and meet to discuss each project. During that discussion we consider things like project cost and complexity, the agency's success with similar projects, the project team's experience, and the underlying technology being deployed.

Our reviews generally include examining documents such as the project charter, project planning documents, and risk mitigation strategies. We regularly attend project meetings to note any issues affecting the project and meet with project managers to offer suggestions and recommendations based on our experience monitoring system implementations throughout the Commonwealth.

Our goal is to detect problems at the earliest possible point and alert decision makers to this information, thereby reducing project failures as well as costs. During our review process, we also gain an understanding of the system and its controls that will allow us to plan future audit work involving that system. Earlier releases of this report contain a detailed explanation of our review process, which we have not included with this report.

Effective July 1, 2009, the <u>Code of Virginia</u> 2.2-1509.3 began requiring the Budget Bill to include appropriations for major information technology projects. In 2015, that requirement was modified by Acts of Appropriation, Chapter 665, Item 424 D.2. whereby VITA's Quarterly IT Project Status Report (Quarterly Report) would be used to satisfy the <u>Code of Virginia</u> requirements. As part

of our regular review process, we reconcile projects in the Quarterly Report to information we have collected regarding current and anticipated projects. If we identify discrepancies, such as projects not in the Quarterly Report but on our list of anticipated projects, we inquire with VITA and the proponent agency to identify why the discrepancy exists.

<u>Results</u>

During the year, we report the results of our project reviews in different ways, depending on the circumstances. Often we include project background and status information within the annual audit report of the agency. However, if there is a legislative request that we review a system, we will prepare a written report specifically addressing that request. Finally, if we identify serious project management concerns, which the agency has not resolved in a timely manner, we immediately prepare a report detailing the concerns and any recommended corrective action.

The purpose of this report is to provide a progress report of selected projects along with presenting any recommendations we may have to improve project management practices. Specifically, this report highlights the following systems development projects.

- Unemployment Insurance Modernization
 Employment Commission
- Central Criminal History State Police
- Electronic Health Records
 Behavioral Health and Developmental Services

Appendix A contains a background and history of all the projects we are currently following. All agencies with a project included in this report have verified the accuracy of information included in this report. However, since there were no new findings presented in this report, we did not conduct a formal exit conference or receive an agency response. The reader can find previously released reports by searching a specific agency name on the Auditor of Public Accounts' website at <u>www.apa.virginia.gov</u>.

Comprehensive List of Systems Development Projects Currently Under Review

The systems development projects listed below are those projects we are actively monitoring. While this list is not inclusive of all current projects across the Commonwealth, it does represent those projects that we consider of the highest importance due to risk, budget, and/or impact of the system. We discuss emerging project issues within a project's grid and summary below, or within the section titled "Highlights of Selected Systems Development Projects."

| Agency | System Name | System Budget | Page |
|---------------------------|---|----------------|------|
| Accounts | Cardinal Project – Part 3 | \$ 60,000,000 | 7 |
| Behavioral Health and | | | |
| Developmental Services | Electronic Health Records System | 39,996,154 | 8 |
| Employment Commission | Unemployment Insurance Modernization | 58,540,155 | 9 |
| Human Resource Management | PMIS Migration from Unisys | 5,958,936 | 10 |
| Retirement System | Modernization | 22,215,579 | 11 |
| Social Services | Eligibility Modernization – Program Migration | 75,197,063 | 12 |
| State Police | Central Criminal History | 7,366,052 | 13 |
| Total Budget | | \$ 269,273,939 | |

Sponsoring agency and actual cost information detailed in the charts below are as of December 31, 2015. In addition, we have not repeated all projects reported in our November 2013 progress report on the following pages because some of the projects may have ended or have been reprioritized as a lower risk. The reader can find historical information on these and other projects in our previous progress reports available at <u>www.apa.virginia.gov</u>.

Cardinal Project – Part 3

The Cardinal project team successfully rolled-out the new financial system statewide in February 2016 and plans to retire the legacy CARS financial system at the end of fiscal year 2016. The project is essentially complete and the team is transitioning to the post-production support and project closeout phase.

| Sponsoring Agency Information | Project Sponsor David Von Moll, Comptroller of Virginia Project Manager Ned O'Neill, VDOT | |
|--|--|--|
| Current Phase of Development | Cutover and Go Live | |
| Project Timeline | Wave 1: Analysis and Design Execution and Construction System and User Test Cutover and Go-Live Wave 2: Analysis and Design Execution and Construction System and User Test Cutover and Go-Live | Through December 2014 May 2013 February 2014 September 2014 October 2014 December 2014 – September 2016 March 2015 July 2015 January 2016 February 2016 |
| Total Budget | \$60,000,000 | |
| Funding | All funding from the Enterprise Applications Program Working Capital Advance established in Chapter 781 of the 2009 Appropriation Act. | |
| Actual Costs (As of December 31 2015) | \$50,888,887 | |
| Outside Contractor(s) | Implementation Service Providers: Accenture IV&V Services Provider: CACI | |
| Additional Information | No additional information provided. | |
| Prior APA Report and Issue Date | No previous reports have been issued related to this project. | |

Electronic Health Records System

The Virginia Department of Behavioral Health and Developmental Services (DBHDS) is implementing a project to place the Soarian Electronic Health Record System (EHRS) into operations. Prior to implementation all facilities were using paper health record systems. DBHDS initially budgeted \$32,392,400 to implement EHRS in 14 of its hospitals, training centers, and behavioral centers. This project was initially planned to be completed over three years.

The original budget was grossly underestimated because DBHDS did not include the on-going cost to operate and maintain the system once implemented and received no additional funding for these costs. As a result, DBHDS was only able to place the EHRS into service in three of its hospitals, perform operations and maintenance service for those hospitals, and perform a mandatory upgrade of the installed solution.

In an attempt to place the system into operation in additional hospitals, DBHDS requested additional appropriations for the fiscal year 2017/2018 biennium, but that funding request was denied.

| Sponsoring Agency Information | Secretary of Health and Human Resources | |
|--|---|--|
| Current Phase of Development | Execution and Control | |
| Project Timeline | Phase I Complete Implementation of EHRS Clinical Care Pilot Western State Hospital Go Live Southern Virginia Mental Health Institute Go Live Upgrade to Soarian 4.0 Southwestern Virginia Mental Health Institute May 2016 | |
| Total Budget | \$39,996,154 | |
| Funding | 48 percent General Funds, 52 percent Special Revenue Funds | |
| Actual Costs (As of December 31, 2015) | \$30,918,385 | |
| Outside Contractor(s) | Primary Implementation Service Provider: Cerner Corporation IV&V Service Provider: Impact Makers Inc. | |
| Additional Information | The section entitled "Highlights of Selected Systems Development Projects" contains additional information on this project. | |
| Prior APA Report and Issue Date | No previous report issued related to this project. | |

Unemployment Insurance Modernization Project (UI Mod)

The Virginia Employment Commission (Employment Commission) is developing a modern unemployment insurance system, the Unemployment Insurance Modernization Project (UI Mod). UI Mod reengineers business processes to provide expanded customer service, increase efficiency for Employment Commission staff, respond faster to legislative changes, meet all United States Department of Labor reporting requirements, and improve system stability and reliability.

UI Mod is replacing systems that are 25 to 35 years old and impose risks and limitations to the Employment Commission's ability to administer the UI program adequately. The total project budget is \$58.5 million; \$49.1 million of which comes from the UI Trust Fund under provisions of the Reed Act, and the remaining from the Employment Commission's penalty and interest funding.

In December 2011, the Employment Commission successfully implemented the Imaging and Workflow (IWF) component of the UI Mod project. The remaining phases of the project, Tax and Benefits, were originally scheduled to go live in December 2012 and May 2013; however, the Employment Commission and HCLA extended the implementation dates multiple times and the Tax component, recently went live in November 2015.

| Sponsoring Agency Information | Secretary of Commerce and Trade Maurice Jones Project Sponsor William Walton, Unemployment Insurance Director, VEC Acting Project Manager Kim Lee, VEC | |
|--|--|--|
| Current Phase of Development | Execution and Control | |
| Project Timeline | Information Technology Investment Board Approval Vendor Selection and Contract Negotiation January 2010 Project Plan Complete Project Execution Begins UI Imaging and Workflow System (IWF) Complete UI Tax System Complete UI Benefit System Execution UI Benefit System Completion TBD Project Closeout June 2018 | |
| Total Budget | \$58,540,155 | |
| Funding | 85 percent Federal Funds, 15 percent Special Revenue Funds | |
| Actual Costs (As of December 31, 2015) | \$ 46,243,650 | |
| Outside Contractor(s) | Prime Development Vendor: HCL America Inc.; IV&V Service Provider: Impact Makers Inc. | |
| Additional Information | The section entitled "Highlights of Selected Systems Development Projects" contains additional information on this project. | |
| Prior APA Report and Issue Date | Virginia Employment Commission, Report on Audit, For the Year Ending June 30, 2015 <u>http://www.apa.virginia.gov/reports/VEC2015.pdf</u> | |

PMIS Migration from Unisys

The Department of Human Resources Management (DHRM) is migrating the Commonwealth's personnel management and health benefit election systems, known as PMIS and BES, from their current Unisys mainframe environment, to a modern technology platform. The Unisys mainframe is cost prohibitive for DHRM to maintain and operate alone since all other agencies have recently migrated away from Unisys and no longer share in its costs. In addition, PMIS and BES were at risk since there is a dwindling pool of support personnel who can manage these applications built on obsolete technologies.

| Sponsoring Agency | Secretary of Administration Nancy Rodrigues | | |
|------------------------------------|--|--|--|
| Information | Project Sponsor | | |
| | Project Manager DHRM | | |
| Current Phase of | | | |
| Development | Execution and Control | | |
| Project Timeline | Perform Detailed Project Planning April 2015 | | |
| | DHRM Acceptance of Code Delivery (4 phases) | | |
| | • December 2015 | | |
| | February 2016 | | |
| | March 2016 | | |
| | April 2016 | | |
| | DHRM User Acceptance Testing June 2016 | | |
| | Go-Live with Migrated Systems June 2016 | | |
| Total Budget | \$5,958,936 | | |
| Funding | General Fund | | |
| Actual Costs (As of | \$1 520 000 | | |
| December 31, 2015) | \$1,520,000 | | |
| Outside Contractor | Fujitsu Ltd. | | |
| Prior APA Report and Issue Date | No previous report issued related to this project. | | |

Modernization

The Virginia Retirement System (Retirement System) is replacing their existing mainframebased systems with a web-based platform, changing the way employers and members interact with the Retirement System. The Modernization project was designed in four phases. The first three phases have been successfully completed and focused on detailed planning, business process reengineering, and the implementation of employer functionality.

The final phase, Modernization Phase 4, is currently in development and will transition all remaining functionality from the legacy system to the new modern system, thereby eliminating the need for staff to use two systems as well as mainframe expenses. This final phase will also provide enhanced member services, including the ability to make online refund requests, as well as various self-service capabilities which will enhance the member's knowledge and experience.

| Sponsoring Agency Information | Sponsors L. Farley Beaton, Jr., Chief Technology Officer, Retirement System Program Manager: Denise Rasmussen, Program Manager, Retirement System Project Manager: Krishna Dandamudi, Project Manager, Retirement System | |
|--|---|---|
| Current Phase of Development | Execution and Control | |
| Project Timeline | Phase 4 Planning Refunds – go live Customer Self Service – Go Live Benefits Calculation Engine – Go Live Retirements and Health Insurance– Go Live Benefit Account Maintenance– Go Live Purchase of Prior Service – Go Live Disbursements and Tax Processing – Go Live Virginia Local Disability Program & Long Term Care – Go Live Disability and Death Retirements | January 2015 December 2015 March 2016 April 2016 July 2016 October 2016 January 2017 July 2017 November 2017 December 2017 |
| Total Budget | \$22,215,579 | |
| Funding | Agency Funds | |
| Actual Costs (As of December 31, 2015) | \$ 7,879,765 | |
| Outside Contractor(s) | Various contractors are used to supplement Retirement System staff in technology roles. | |
| Additional Information | Total Program Budget does not include salary costs of VRS staff assigned to project. | |
| Prior APA Report and Issue Date | No previous report issued related to this project. | |

Eligibility Modernization – Program Migration (Migration)

The Migration project modifies the Virginia Case Management System (VaCMS) to manage the Aged, Blind, and Disabled Medicaid; Long-Term Care Medicaid; Temporary Assistant for Needy Families; Supplemental Nutritional Assistance Program; and the Energy Assistance Programs. The two Medicaid program categories are currently manually processed, so the Migration team will be highly dependent upon Case Workers to develop their automated solutions. The remaining programs are automated in their current IT systems. The Program Migration Team will also deliver a document management and imaging service to the VaCMS which will serve as a digital repository for supporting documents for program management.

The Migration Team selected a phased approach for the development and implementation of this project. The team developed and implemented the Medicaid solution prior to the end of calendar year 2015 and the remaining solution will be developed and implemented in 2016. The executive oversight committee approved this approach to provide assurance that enhanced federal funding, which is expected to end in 2015, is used to the fullest extent possible. The Migration Project entered into its execution phase in January 2016 and is moving according to plan.

| Sponsoring Agency Information | Secretary of Health and Human Resources William Hazel Project Sponsor | |
|--|---|--|
| Current Phase of Development | Execution and Control | |
| Project Timeline | Project Development | |
| Total Budget | \$75,197,063 | |
| Funding | 75 percent Federal Funds and 25 percent General Funds | |
| Actual Costs (As of December 31, 2015) | \$71,119,666 | |
| Outside Contractor(s) | Implementation Service Provider: Deloitte, LLC IV&V Service Provider: Impact Makers | |
| Additional Information | This project was a component of the eHHR Program. The eHHR Program's work was substantially complete and closed in September 2015. | |
| Prior APA Report and Issue Date | Progress Report on Selected System Development Projects, dated February 2014 <u>http://www.apa.virginia.gov/reports/ITPM14.pdf</u> eHHR Program, Virginia's Medicaid Modernization Solution, dated August 2013 <u>http://www.apa.virginia.gov/reports/eHHR13.pdf</u> | |

Central Criminal History

The Virginia State Police is developing a replacement to the Central Criminal History (CCH) system that aims to modernize and improve the effectiveness and efficiency of the current system. This system underlies not only the criminal justice system, but also provides background checks for activities such as hiring, adoptions, firearm purchases, and visas for international travel. It also links to the FBI's system.

This project's budget and schedule have been extended to reflect work that was added to address unplanned functionality changes to both the new and legacy CCH systems. In addition, there are risks associated with the potential loss of legacy support staff and project team turnover, as about one-third the team has turned over in the two years since the project's inception. Going forward, overtime will be used to meet the project completion date of October 31, 2016, rather than hiring and training additional contract resources.

| Sponsoring Agency Information | Secretary of Public Safety and Homeland Security Project Sponsor Project Manager | Brian J. Moran Alex Piven, Virginia State Police Mitchell K. Sams, Virginia State Police |
|--|--|--|
| Current Phase of Development | Execution and Control | |
| Project Timeline | Project Initiation | |
| Total Budget | \$7,366,052 | |
| Funding | Purdue Pharma Grant\$6,100,000 (83%)General Funds\$1,266,052 (17%) any additional funds will be General Funds | |
| Actual Costs (As of December 31, 2015) | \$5,263,964 | |
| Outside Contractor(s) | Implementation is in-house, with contract and internal staff labor IV&V Service Provider: International Consulting Services (ICS) | |
| Additional Information | Project is tracking green for scope, schedule, and budget. Project team have successfully completed three modules; Arrest Processing, Courts Interface, and Exception Processing. System testing, regression testing, and user acceptance testing for the remaining functionality is inflight. Deployment to preproduction environment and rollout planning will begin in March, 2016. | |
| Prior APA Report and Issue Date | No previous report issued related to this project. | |



Commonwealth of Virginia

Auditor of Public Accounts

Martha S. Mavredes, CPA Auditor of Public Accounts P.O. Box 1295 Richmond, Virginia 23218

May 26, 2016

The Honorable Terence R. McAuliffe Governor of Virginia

The Honorable Robert D. Orrock, Sr. Chairman, Joint Legislative Audit And Review Commission

We are currently conducting audits of the systems development process for several major information technology projects and submit our report entitled, **"Progress Report on Selected System Development Projects in the Commonwealth"** for your review.

We found that for the major information technology projects included in this progress report, the project managers comply with the Commonwealth's Project Management Standard, as issued by the Virginia Information Technologies Agency or with project management best practices where exempt from the Commonwealth standard. In Appendix A, we provide a summary of each of the projects we are currently following. Further, we include additional information on the projects at the Virginia Employment Commission, State Police, and Behavioral Health and Developmental Services to highlight unique aspects of their status.

This progress report does not include new audit recommendations for any of the projects we are currently following, but instead describes project history, activities, and status. We verified the accuracy of this information with all of the agencies; however, since there were no audit recommendations, we did not conduct an exit conference or receive an agency response.

AUDITOR OF PUBLIC ACCOUNTS

KKH/clj