

**VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY**

**REPORT ON AUDIT
FOR THE YEAR ENDED
JUNE 30, 2010**



AUDIT SUMMARY

Our audit of Virginia Polytechnic Institute and State University for the year ended June 30, 2010, found:

- the financial statements are presented fairly, in all material respects;
- a certain matter involving an internal control finding requiring Management's attention; however, we do not consider it to be a material weakness; and
- an instance of noncompliance or other matter required to be reported under Government Auditing Standards.

We have audited the basic financial statements of Virginia Polytechnic Institute and State University as of June 30, 2010, and for the year then ended and issued our report thereon dated November 4, 2010. Our report is included in the President's Annual Report that the University anticipates releasing in December, 2010.

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AUDIT FINDINGS AND RECOMMENDATIONS

Review Current Operations for Opportunities to Enhance Financial Reporting and Reduce Paperwork

The University uses a strategic plan for improving automation of university-wide business processes. This broad plan does not focus on individual department improvements.

Opportunities may exist to improve the financial reporting process and make it more efficient. We recommend the University incorporate into its strategic plan an examination of its financial reporting process. This plan should include reviewing additional Banner features that may increase efficiencies and provide for succession planning.

Improve Database Management

The University should improve its protection of the databases storing critical and confidential data. Our audit of the Oracle databases supporting the administrative systems noted no password and logging controls over the database administrators responsible for managing Oracle, and the need to formalize into written policies and procedures its current database practices.

While the University exercises strong password and logging controls for most of its Oracle users, it does not require the same degree of rigor and control over the personal accounts of its Oracle database administrators. These administrator accounts have significantly more access than typical user accounts, and therefore represent an increased security risk.

To protect the University's critical and confidential data and improve accountability for changes to this data, we recommend the University establish password and logging controls over the administrators personal accounts. Specifically, we recommend the University create personal accounts for all administrators rather than using shared accounts, enforce password controls consistent with existing password policies, log critical administrator activity, review the logs regularly to search for inadvertent or malicious changes, and prevent administrators from gaining access to the logs so they cannot alter them.

Additionally, our review found several areas where the University should formalize its Oracle database practices into written policies and procedures. Written policies and procedures provide an effective vehicle for management to communicate its expectations and increase the likelihood that employees will understand and comply with those expectations. We recommend that the University develop or improve its written policies and procedures relative to the review of Oracle default settings, change management, and data backup and restoration tests.



Commonwealth of Virginia

Walter J. Kucharski, Auditor

**Auditor of Public Accounts
P.O. Box 1295
Richmond, Virginia 23218**

November 4, 2010

The Honorable Robert F. McDonnell
Governor of Virginia

The Honorable Charles J. Colgan
Chairman, Joint Legislative Audit
and Review Commission

Board of Visitors
Virginia Polytechnic Institute and State University

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS

We have audited the financial statements of the business-type activities and aggregate discretely presented component units of **Virginia Polytechnic Institute and State University** as of and for the year ended June 30, 2010, which collectively comprise the University's basic financial statements and have issued our report thereon dated November 4, 2010. Our report includes a reference to other auditors. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. We did not consider internal controls over financial reporting or test compliance with certain provisions of laws, regulations, contracts, and grant agreements for the financial statements of the component units of the University, which were audited by other auditors in accordance with auditing standards generally accepted in the United States of America, but not in accordance with Government Auditing Standards.

Internal Control Over Financial Reporting

In planning and performing our audit, we considered the University's internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over financial reporting.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of

deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be deficiencies, significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses, as defined above. However, we identified a deficiency in internal control over financial reporting entitled, "Improve Database Management" which is described in the section titled "Audit Findings and Recommendations," that we consider to be a significant deficiency in internal control over financial reporting. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed instances of noncompliance or other matters that are required to be reported under Government Auditing Standards. An other matter, entitled "Review Current Operations for Opportunities to Enhance Financial Reporting and Reduce Paperwork" is described in the section titled "Audit Findings and Recommendations".

The University's response to the findings identified in our audit is included in the section titled "Agency Response." We did not audit the University's response and, accordingly, we express no opinion on it.

Report Distribution and Exit Conference

The "Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters" is intended solely for the information and use of the Governor and General Assembly of Virginia, the Board of Visitors, and management, and is not intended to be and should not be used by anyone, other than these specified parties. However, this report is a matter of public record and its distribution is not limited.

We discussed this report with management at an exit conference held on November 4, 2010.

AUDITOR OF PUBLIC ACCOUNTS

KKH/alh

January 6, 2011

Mr. David A. Von Moll
State Comptroller
Department of Accounts
P. O. Box 1971
Richmond, VA 23218-1971

Dear Mr. Von Moll:

Enclosed are the university's responses to the June 30, 2010 audit by the Auditor of Public Accounts (APA). Copies of these responses are being provided to the APA, the Director of Planning and Budget, and the Secretary of Education as required by Section 10205 of the CAPP manual.

Please contact me if additional information is needed.

Sincerely,



M. Dwight Shelton, Jr.
Vice President for Finance and
Chief Financial Officer

Enclosures

cc: Gerard Robinson, Secretary of Education
Daniel Timberlake, Director of Planning and Budget
Walter J. Kucharski, Auditor of Public Accounts (with diskette)
Kenneth E. Miller, University Controller

VIRGINIA TECH
RESPONSES TO THE AUDITOR OF PUBLIC ACCOUNTS
2010 MANAGEMENT LETTER

1. Review Current Operations for Opportunities to Enhance Financial Reporting and Reduce Paperwork

A. Summary of Auditor's Comment.

The University uses a strategic plan for improving automation of university-wide business processes. This broad plan does not focus on individual department improvements.

Opportunities may exist to improve the financial reporting process and make it more efficient. We recommend the University incorporate into its strategic plan an examination of its financial reporting process. This plan should include reviewing additional Banner features that may increase efficiencies and provide for succession planning.

B. Summary of Corrective Action.

Virginia Tech will complete a review of its financial reporting process to identify cost-beneficial opportunities where additional efficiencies may be realized. This review will include an evaluation of additional Banner features, analysis of adjusting journal entries, and a benchmarking study to compare current practices with peer institutions (including peer institutions which use Banner and several who use other ERP systems). A cost-benefit analysis will be performed of alternative processes considered more effective or efficient to identify which practices will be considered for implementation by the university. The results of the review will be summarized in a report to the Vice President for Finance. Any alternatives chosen for implementation which require information technology resources, will be compared against other competing projects in the strategic plan and prioritized based on relative merits and benefits.

C. Completion Date(s).

December 31, 2011

D. Responsible Position.

University Controller

2. Improve Database Management.

A. Summary of Auditor's Comment.

Virginia Tech should improve its protection of the databases storing critical and confidential data. Our audit of the Oracle databases supporting the administrative systems noted no password and logging controls over the database administrators responsible for managing Oracle, and the need to formalize into written policies and procedures its current database practices.

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Additionally, our review found several areas where Virginia Tech should formalize its Oracle database practices into written policies and procedures. Written policies and procedures provide an effective vehicle for management to communicate its expectations and increase the likelihood that employees will understand and comply with those expectations. We recommend that Virginia Tech develop or improve its written policies and procedures relative to the review of Oracle default settings, change management, and data backup and restoration tests.

B. Summary of Corrective Action(s).

1. Personal Accounts for Database Administrators and Password Management for Database Administrator Accounts.

Virginia Tech has completed the implementation phase of the standard use improvements to the management of administrator's personal accounts. A personal account has been created for the one secondary database administrator that did not have an account for his use in occasional administration assignments. The Standards of Practice (SOP) documentation for Oracle database administration has been updated with regard to the

recommended usage of personal accounts and this practice has been reiterated with all staff.

For password management of the Oracle database administrator personal accounts, Virginia Tech has created an Oracle account profile which has been applied to all Oracle database administrator accounts. This profile enforces password controls that meet and exceed password requirements for Virginia Tech user accounts. The written documentation of the Standards of Practice for the database administration group has been updated to include the use of this Oracle account profile for password management of all administrator personal accounts.

a. Implementation Date.

Completed

b. Responsible Position.

Associate Vice President for Enterprise Systems

2. Logging Database Administrator Activity and Creating Updated Formal, Written Documentation for Oracle Database Administration Practices.

Virginia Tech is researching and evaluating effective methods for logging critical administrator activity, appropriately reviewing logs, and protecting the logs from administrator access. The University has begun testing possible implementations for database logging in order to analyze impacts on performance of production systems, assess what activities should be logged, and evaluate how the resulting logs can be effectively monitored. Database logging and review processes will be defined and implemented to search for potential inadvertent or malicious activities using administrator access.

Virginia Tech is currently reviewing and updating formal, written documentation for Oracle database administration practices. The University will continue to develop or improve its written policies and procedures relative to the areas of review of Oracle default settings, change management, and data backup and restoration tests.

a. Implementation Date.

March 15, 2011

b. Responsible Position.

Associate Vice President for Enterprise Systems

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Blacksburg, Virginia

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