

Audit Report

**University System of Maryland
Towson University**

December 2009



OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

Karl S. Aro
Executive Director

December 18, 2009

Bruce A. Myers, CPA
Legislative Auditor

Delegate Steven J. DeBoy, Sr., Co-Chair, Joint Audit Committee
Senator Verna L. Jones, Co-Chair, Joint Audit Committee
Members of Joint Audit Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have audited the University System of Maryland (USM) – Towson University (TU) for the period beginning March 16, 2006 and ending February 8, 2009. TU is a comprehensive public institution of the USM and operates under the jurisdiction of USM's Board of Regents. TU provides a broad range of baccalaureate programs in both traditional arts and sciences and in applied professional fields, as well as selected professionally oriented graduate and doctoral programs.

Our audit disclosed that TU had not established sufficient internal controls over several significant financial areas and the information systems used to process financial, personnel and student-related transactions. For example, several individuals were granted improper access that could allow unauthorized purchase and disbursement transactions to be processed. In addition, adequate controls were not in place over student residency classifications, which determine whether students pay in-state or out-of-state tuition rates. Finally, we noted other internal control deficiencies with respect to electronic wire transfers for federal financial aid funds and certain cash receipts.

An Executive Summary of our findings can be found on page 5. The USM Office's response to this audit, on behalf of TU, is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by TU.

Respectfully submitted,

Bruce A. Myers, CPA
Legislative Auditor

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Executive Summary

Legislative Audit Report on University System of Maryland Towson University (TU) December 2009

- **TU did not adequately control certain critical purchase and disbursement transactions processed on its computer system.**

TU should ensure that all critical transactions processed on its computer system are subject to independent online authorization.

- **TU did not verify that student residency determinations, and related changes in residency status, were properly recorded on its computer system. There are significant differences between tuition rates for in-state and out-of-state students.**

TU should take the recommended corrective actions to help ensure that student residency determinations, and related changes in residency status, are proper and correctly recorded on its computer system.

- **Internal controls over electronic wire transfers for federal financial aid funds were inadequate.**

TU management should provide written notification to the United States Department of Education (USDOE) identifying the TU employees who are authorized to open new bank accounts and submit requests for federal financial aid fund transfers. In addition, TU should ensure that all fund transfer requests are reviewed and approved by independent supervisory personnel, and that all transfers processed by USDOE on TU's behalf are credited to the State's authorized bank account.

- **Internal control deficiencies were noted over certain cash receipts, checks received by TU on behalf of students, such as for loans and scholarships, and TU's information systems security. For example, access controls and monitoring of security-related events over the student administration, human resources, and financial information systems were inadequate, and TU's computer network did not sufficiently protect against internal and external threats.**

TU should take the recommended actions to improve controls in these areas.

Background Information

Agency Responsibilities

Towson University (TU) is a comprehensive public institution of the University System of Maryland (USM) and operates under the jurisdiction of the System's Board of Regents. TU provides a broad range of baccalaureate programs in both traditional arts and sciences and in applied professional fields, as well as selected professionally oriented graduate and doctoral programs. Student enrollment for the Fall 2008 semester totaled 21,111, including 17,272 undergraduate students and 3,839 graduate and doctoral students. TU's budget is funded by unrestricted revenues (such as tuition and fees), a State general fund appropriation, and restricted revenues (such as federal grants and contracts). According to the State's accounting records, TU's revenues for fiscal year 2008 totaled approximately \$331 million, including a State general fund appropriation of approximately \$82.5 million.

Questionable Contractor Billings

We were advised by TU's legal counsel that, in November 2007, it had been contacted by the Office of the State Prosecutor (OSP) regarding an allegation that the OSP had received related to questionable billing practices of a contractor performing work for TU. According to TU's records, during fiscal years 2006 through 2008, TU awarded four service contracts for maintenance work (such as painting and drywall) to the contractor in question, with a combined maximum value of \$1.87 million. We were also advised that payments under the contracts were based on paying for services at stipulated hourly rates. According to TU records, during the aforementioned period, the contractor submitted bills to TU totaling approximately \$2.2 million, of which TU paid \$1.75 million. We were further advised that TU discontinued paying the contractor in September 2008 due to certain inconsistencies identified with the contractor's invoices.

In February 2009, TU hired an outside public accounting firm to review internal controls over the contract management process and to review selected contracts and vendor invoices (including those related to the aforementioned contractor). The firm's report, which was received by TU on July 8, 2009, identified a number of questionable transactions (such as possible overbillings) related to the aforementioned contractor, and concluded that TU had several internal control deficiencies related to the monitoring of these maintenance contracts. The report also included several recommendations to address these deficiencies. TU management advised that it has taken corrective action to address the deficiencies identified in the report.

We were advised by the OSP that, as of September 30, 2009, its review into this matter remained ongoing.

Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the 11 findings contained in our preceding audit report dated October 19, 2006. We determined that TU satisfactorily addressed 8 of the findings. The 3 remaining findings are repeated in this report, one of which appears as two items in this report.

Findings and Recommendations

Purchases and Disbursements

Finding 1

Towson University (TU) had not established adequate controls over critical purchase and disbursement transactions processed on its automated system.

Analysis

TU did not adequately control critical purchase and disbursement transactions processed on its automated system. Specifically, our audit disclosed that five employees could perform all critical purchasing and disbursement transactions—including initiating and approving requisitions and purchase orders, recording the receipt of incoming shipments, adding new vendors to the system, and processing vendor invoices for payment—without independent online approvals being required. We also noted that two procurement department employees could initiate and approve purchase orders.

As a result, unauthorized purchases could potentially be made and not readily detected by TU management. According to the State’s accounting records, TU processed disbursements totaling approximately \$161 million during fiscal year 2008.

Recommendation 1

We recommend that all critical purchase and disbursement transactions be subject to independent online authorization.

Verification of Student Residency

Finding 2

TU did not verify that student residency determinations were proper.

Analysis

Verifications to ensure the accuracy of student residency determinations, which serve as the basis for student tuition charges, were not sufficiently performed.

Specifically, we noted the following conditions:

- Initial determinations of student residency status were not independently verified by supervisory personnel prior to being recorded on TU's automated system.
- Changes made to recorded student residency status were not verified.
- TU lacked output reports identifying all recorded transactions (both initial determinations and subsequent changes) affecting student residency status.

As a result, initial determinations and changes to student residency status could be incorrectly recorded and remain undetected. Student residency is a critical data element because of the significant differences between tuition rates for in-state and out-of-state students. For example, TU's full-time undergraduate tuition for the 2008-2009 academic year was \$5,180 for Maryland residents and \$15,726 for non-residents – a difference of \$10,546 per year.

Similar conditions regarding changes to residency status and the lack of required output reports were commented upon in our preceding audit report.

At our request, TU generated a report that identified 24 students who were classified as Maryland residents for the 2008-2009 academic year, but for whom out-of-state addresses were recorded on TU's automated student files. Our review disclosed that, for 20 students, TU had appropriate documentation on file to support the Maryland residency, such as an exemption for students in the military; for the remaining 4 students, TU lacked required supporting documentation (such as a signed lease agreement) or could not adequately explain why these 4 students were classified as Maryland residents. Based on our review, we concluded that TU undercharged these four students \$30,289 for tuition applicable to the aforementioned period. TU agreed that these 4 students were inappropriately charged in-state tuition.

Recommendation 2

We recommend

- a. that initial determinations of student residency status be reviewed and approved by independent supervisory personnel prior to being recorded;**
- b. that TU generate output reports containing all transactions affecting student residency status and verify the transactions, at least on a test basis, to the related source documents (for example, approved admission applications). These verifications should be performed by employees independent of the student residency recordation function (repeat); and**
- c. that TU generate reports to identify any currently registered students who are improperly classified as in-state residents, conduct appropriate**

follow-up investigations, and issue revised billings to those students (including the aforementioned four students) determined to be out-of-state residents (repeat).

Electronic Wire Transfers

Finding 3

Internal controls over electronic wire transfers for federal financial aid funds were inadequate.

Analysis

TU did not establish adequate controls to ensure that federal financial aid reimbursements received in response to requests for wire transfers submitted to the United States Department of Education (USDOE) were credited to the bank account authorized by the State Treasurer's Office (STO). In this regard, we were advised by USDOE that it did not receive a written request from TU specifying which employees were authorized to open new bank accounts and, therefore, it would transfer funds to any bank account requested in writing by any TU representative, provided the request was submitted on official TU letterhead. Furthermore, the reimbursement requests were not reviewed and approved by independent supervisory personnel. Finally, TU did not independently compare cumulative drawdown information recorded in its federal financial aid records, including documentation of funds received by the STO, with related information maintained by USDOE on its website, to ensure that all wire transfer requests were properly authorized and credited to the State's authorized bank account. Consequently, funds could be transferred to unauthorized bank accounts and such transfers would not be timely detected.

TU obtains federal funds from USDOE for Pell grants and direct loans that it distributes to students. During fiscal year 2009, wire transfers for federal Pell grants and direct student loans totaled approximately \$82.5 million.

Recommendation 3

- a. We recommend that TU management forward to appropriate USDOE authorities written instructions that specify the TU employees who are authorized to submit requests for federal financial aid reimbursements and open new bank accounts;**
- b. that all requests for electronic wire transfers and new bank accounts related to federal student financial aid be reviewed and approved by independent supervisory personnel; and**

- c. **that TU independently compare, on a weekly basis, information recorded in its federal financial aid records with related information maintained on USDOE’s website to ensure that all wire transfer requests were properly authorized and credited to the State’s authorized bank account.**

Student Loan, Scholarship, and Third-Party Checks

Finding 4

TU did not timely account for all student loan, scholarship, and third-party checks.

Analysis

TU did not timely account for student loan, student scholarship, and third-party checks received by the Bursar’s Office. When received by the Bursar’s Office, the checks were recorded onto prenumbered forms and held while awaiting pick-up by the applicable students. Once claimed, students endorsed the checks over to TU for subsequent deposit. A cash register receipt was attached to the prenumbered form to document that the check had been deposited. TU advised us that it periodically performed independent verifications to account for the disposition of all such checks. However, as of May 26, 2009, TU had not reviewed appropriate supporting documentation (that is, prenumbered forms, checks on hand) to verify that approximately 1,650 student loan checks received during the period from August 13, 2008 to March 16, 2009 were either still on hand or already deposited. A similar condition was commented upon in our preceding audit report.

According to its records, during fiscal year 2008, TU received private student loan, scholarship, and third party checks totaling approximately \$12.5 million, \$2 million, and \$750,000, respectively.

Recommendation 4

We again recommend that TU timely verify (that is, monthly) that all student loan, scholarship, and third-party checks received are properly accounted for (that is, either deposited or are on hand).

Cash Receipts

Finding 5

TU had not established adequate controls over certain cash receipts.

Analysis

TU had not established adequate controls over cash receipts collected at two locations. Specifically, independent verifications were not performed to ensure that collections received at these locations were forwarded to the Bursar's Office for deposit. In addition, the employee who maintained the accounts receivable records at one of the locations also had access to the related cash receipts. As a result of these conditions, cash receipts collected by these units could be misappropriated and not timely detected. Similar conditions were commented upon in our preceding audit report.

According to TU's records, during fiscal year 2009, these two locations collected cash receipts totaling approximately \$7.1 million.

Recommendation 5

We recommend

- a. that employees independent of the cash receipts functions verify that all recorded cash receipts collected by their respective units are forwarded to the Bursar's Office for deposit (repeat), and**
- b. that employees who maintain accounts receivable records not have access to cash receipts (repeat).**

Information Systems Security and Control

Background

TU's Office of Technology Services (OTS) provides information technology support to TU by developing and maintaining campus-wide administrative applications, such as the student administration system. The OTS also operates an integrated administrative and academic computer network, which provides connections to an administrative minicomputer and multiple servers used for administrative database applications. The campus network includes separate email and file servers, connectivity to the Internet, and an extensive wireless network with access across the entire campus. TU also maintains a website that functions as an entry point to many of its services.

Finding 6

Access controls over the student administration, human resources, and financial information systems were not adequate.

Analysis

Access controls over the student administration, human resources, and financial information systems were not adequate. Specifically, we noted the following conditions:

- There were 136 active accounts on the TU network and the student administration and human resources systems that belonged to terminated employees. These accounts had been active for 20 to 370 days after the respective employees' termination dates.
- Default passwords were not changed for 13 default accounts used for the student administration, human resources, and financial information systems. Since the default accounts and passwords are known to the public, they could be used to obtain unauthorized modification access to these applications.
- Fifteen user accounts were assigned unnecessary access to an application maintenance tool that could be used to modify the financial information systems' application security settings and make unauthorized changes to the information in the related database.
- Eleven user accounts had unnecessary modification access to the student administration, human resources, and financial information systems' user profiles, roles, and permissions. Accordingly, these accounts could make improper changes to user profiles, roles, and permissions, and the related system data.
- Five users were granted unnecessary administrator access to the student administration, human resources, and financial information applications' programs. As a result, these users could make changes to programs and migrate them to production.

Recommendation 6

We recommend that TU

- a. ensure that account accesses reflect, on a current basis, all changes in employee status;**
- b. change the default passwords for all default critical application system accounts;**

- c. **limit access to the aforementioned application maintenance tool to personnel whose job duties require use of this tool;**
- d. **restrict modification access to critical applications' user profiles, roles, and permissions to personnel whose job duties require such access; and**
- e. **restrict administrator access to the student administration, human resources, and financial information applications' programs to employees requiring such access.**

Finding 7

Monitoring of security-related activity was inadequate for critical systems, and proper controls were not established over program changes.

Analysis

Monitoring and program change controls over critical systems were inadequate. Specifically, we noted the following conditions:

- Security-related reports were not generated for the student administration, human resources, and financial information applications. In addition, security reports for the database supporting the student administration and human resources applications did not include critical security events, such as the creation and deletion of accounts, changes in assigned roles, and failed logon attempts for certain critical system accounts. Finally, for the database supporting the financial information application, most critical security-related events (such as changes to users' roles and privileges) were not logged. As a result of these conditions, unauthorized or inappropriate activities affecting the integrity of application data could go undetected.
- Adequate control procedures did not exist to ensure that only management-authorized computer programs had been placed into production. For the student administration and human resources systems, all program changes tested were migrated into production by programmers, thereby bypassing the supervisory review process. In addition, for these systems, automated tools were not used to highlight all of the code changes made to programs; therefore, management could not readily identify all program changes for review.

Recommendation 7

We recommend that TU

- a. **regularly generate security-related reports and review all significant security events for its critical systems, and log critical security-related events for the databases supporting these systems; and**

- b. **appropriately segregate program change control procedures, and use automated tools to highlight all code changes made to critical programs for supervisory review.**

Finding 8

TU's computer network was not sufficiently secured.

Analysis

Sufficient security measures had not been established to protect TU's critical network devices and administrative systems from external and internal threats. Specifically, we noted the following conditions:

- Intrusion detection systems (IDS) were not properly used to protect critical portions of the internal network. While the network included an IDS, its protection did not extend to several segments of the internal network which included numerous critical servers and network devices. In addition, the system was not configured to send automatic email alerts concerning critical or emergency conditions to network administrators. IDS gather and analyze network traffic to identify network security breaches and attacks, and alert network administrators of these situations. Similar conditions were commented upon in our preceding audit report.
- Administrative workstations used by staff and key faculty members on the internal network were accessible, at the network level, from untrusted portions of TU's network (that is, the student computer labs and wireless network).
- Firewall rules allowed numerous unnecessary connections (both internal and external) to portions of the TU's internal network, placing various network devices at risk. For example, we identified numerous firewall rules which allowed unnecessary access to many devices in TU's internal network over numerous ports. Similar conditions were commented upon in our preceding audit report.
- The TU firewall security policy did not include a detailed schedule which specified how the firewall should control the network traffic to be sent through the firewall. This lack of specificity increases the chances of network security problems because firewall administrators lack guidance for firewall configuration and management.

Recommendation 8

We again recommend that TU improve security over its network. Specifically, we made detailed recommendations, which if implemented, should provide for adequate security over its network.

Audit Scope, Objectives, and Methodology

We have audited the University System of Maryland (USM) – Towson University (TU) for the period beginning March 16, 2006 and ending February 8, 2009. The audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine TU's financial transactions, records and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations. The areas addressed by the audit included, but were not limited to, purchases and disbursements of TU's operating expenditures, student accounts receivable, cash receipts, payroll, and information technology systems. We also determined the status of the findings contained in our preceding audit report.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of materiality and risk. Our audit procedures included inquiries of appropriate personnel, inspections of documents and records, and observations of TU's operations. We also tested transactions and performed other auditing procedures that we considered necessary to achieve our objectives. Data provided in this report for background or informational purposes were deemed reasonable, but were not independently verified.

Our audit did not include certain support services provided to TU by the USM Office. These support services (for example, endowment accounting, and bond financing) are included within the scope of our audit of the USM Office. In addition, our audit did not include an evaluation of internal controls for federal financial assistance programs and an assessment of TU's compliance with federal laws and regulations pertaining to those programs because the State of Maryland engages an independent accounting firm to annually audit such programs administered by State agencies, including the components of the USM.

TU's management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records, effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes findings that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect TU's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to TU that did not warrant inclusion in this report.

The USM Office response, on behalf of TU, to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise the USM Office regarding the results of our review of its response.

APPENDIX



OFFICE OF THE CHANCELLOR

December 16, 2009

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

**RE: University System of Maryland –
Towson University
Audit Period: March 16, 2006 –
February 8, 2009**

Dear Mr. Myers:

I have enclosed the University System of Maryland's revised response to your draft report covering the examination of processes and controls of Towson University. Our comments refer to the individual items contained in the report.

Sincerely,

WE Kirwan
William E. Kirwan
Chancellor

Enclosure

WEK:mpk

cc: Dr. Robert L. Caret, President, TU
Mr. Clifford M. Kendall, Chair, Board of Regents, USM
Mr. Robert L. Page, Comptroller, USM
Mr. Kevin M. O'Keefe, Chair, MHEC
Dr. James E. Lyons, Sr., Secretary of Higher Education, MHEC

1807
University of Maryland,
Baltimore

1856
University of Maryland,
College Park

1865
Bowie State University

1866
Towson University

1886
University of Maryland
Eastern Shore

1898
Frostburg State University

1900
Coppin State University

1925
Salisbury University

1925
University of Baltimore

1925
University of Maryland
Center for Environmental
Science

1947
University of Maryland
University College

1966
University of Maryland,
Baltimore County

1985
University of Maryland
Biotechnology Institute

**RESPONSE TO THE LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND
TOWSON UNIVERSITY
FOR THE PERIOD MARCH 16, 2006 – FEBRUARY 8, 2009**

Purchases and Disbursements

Finding 1

Towson University (TU) had not established adequate controls over critical purchase and disbursement transactions processed on its automated system.

Recommendation 1

We recommend that all critical purchase and disbursement transactions be subject to independent online authorization.

Response 1

We agree. Access by the 5 employees mentioned has been rescinded.

Verification of Student Residency

Finding 2

TU did not verify that student residency determinations were proper.

Recommendation 2

We recommend

- a. that initial determinations of student residency status be reviewed and approved by independent supervisory personnel prior to being recorded;
- b. that TU generate output reports containing all transactions affecting student residency status and verify the transactions, at least on a test basis, to the related source documents (for example, approved admission applications). These verifications should be performed by employees independent of the student residency recordation function (repeat); and
- c. that TU generate reports to identify any currently registered students who are improperly classified as in-state residents, conduct appropriate follow-up investigations, and issue revised billings to those students (including the aforementioned four students) determined to be out-of-state residents (repeat).

Response 2

a. We agree. The Office of Admissions will perform an audit of residency decisions for new students starting at Towson University. The audit will be conducted on a random sample (10%) of newly matriculated undergraduate students, including degree-seeking, non-degree, and certification students. Each selected student's residency decision will be evaluated based on the information supplied on the application or enrollment form and supporting documentation as necessary. The audit will be conducted after the drop/add period for every term, and the final results of the audit will be approved by the Assistant Vice President and Director of Admissions.

b. We agree. The Office of the Registrar will perform an audit of all changes of residency status from out of state to in state three times a year: fall, spring, and summer. The Office of Technology Services has provided an output report as of September 8, 2009 that will be generated from within PeopleSoft. The audit will be performed by an employee who does not have the ability to change residency status. We have agreed to audit a random sample (10%) of the changes made in each of the three terms.

c. We agree. The Office of the Registrar will run a report within PeopleSoft to show those students with an out-of-state address but classified as in state for tuition purposes. We will investigate and issue revised billings to those students determined to be out-of-state residents. We will conduct this audit after the drop/add period every term.

Electronic Wire Transfers

Finding 3

Internal controls over electronic wire transfers for federal financial aid funds were inadequate.

Recommendation 3

- a. We recommend that TU management forward to appropriate USDOE authorities written instructions that specify the TU employees who are authorized to submit requests for federal financial aid reimbursements and open new bank accounts;
- b. that all requests for electronic wire transfers and new bank accounts related to federal student financial aid be reviewed and approved by independent supervisory personnel; and
- c. that TU independently compare, on a weekly basis, information recorded in its federal financial aid records with related information maintained on USDOE's website to ensure that all wire transfer requests were properly authorized and credited to the State's authorized bank account.

Response 3

- a. We agree. Towson will forward to appropriate US Department of Education authorities written instructions to specify the Towson employees who are authorized to submit requests for federal financial aid reimbursements and to open new bank accounts.
- b. We agree. Wire transfers and new bank accounts will be reviewed and approved by independent supervisory personnel.
- c. We agree. A person independent of the process will compare information in Towson's financial aid records with related information maintained on USDOE's website to ensure all wire transfer requests are properly credited to the State's bank account.

Student Loan, Scholarship, and Third-Party Checks

Finding 4

TU did not timely account for all student loan, scholarship, and third-party checks.

Recommendation 4

We again recommend that TU timely verify (that is, monthly) that all student loan, scholarship, and third-party checks received are properly accounted for (that is, either deposited or are on hand).

Response 4

We agree. The Bursar's Office has a procedure to conduct a verification of all student loan, scholarship, and third party checks. This verification will be conducted on at least a quarterly basis.

Cash Receipts

Finding 5

TU had not established adequate controls over certain cash receipts.

Recommendation 5

We recommend

- a. that employees independent of the cash receipts functions verify that all recorded cash receipts collected by their respective units are forwarded to the Bursar's Office for deposit (repeat), and

- b. that employees who maintain accounts receivable records not have access to cash receipts (repeat).

Response 5

- a. **We agree. In both locations mentioned, procedures have been established to provide for verification that cash receipts received have been forwarded to the Bursar's Office for deposit. This verification is being performed by an individual independent of the cash receipts collection function.**
- b. **We agree. The employee mentioned above who maintains accounts receivable records no longer has access to cash receipts.**

Information Systems Security and Control

Finding 6

Access controls over the student administration, human resources, and financial information systems were not adequate.

Recommendation 6

We recommend that TU

- a. ensure that account accesses reflect, on a current basis, all changes in employee status;
- b. change the default passwords for all default critical application system accounts;
- c. limit access to the aforementioned application maintenance tool to personnel whose job duties require use of this tool;
- d. restrict modification access to critical applications' user profiles, roles, and permissions to personnel whose job duties require such access; and
- e. restrict administrator access to the student administration, human resources, and financial information applications' programs to employees requiring such access.

Response 6

We agree with one exception

- a. **The accounts have been terminated and a new process implemented that automatically reports employee terminations. All other changes to employee status are communicated by HR, Finance and the departments.**
- b. **All default passwords have been changed on the noted accounts.**

- c. **Access has been disabled on these accounts. The University is in the process of performing a security review of all access to critical applications.**
- d. **Access has been disabled on these accounts. The University is in the process of performing a security review of all access to critical applications.**
- e. **We agree. Our current process has been enhanced to include comparative reports in all program documentation. Also a review process by management and final signoff has been established. A dedicated resource has been established independent of developers for migration of software to production. A management review process has also been implemented to ensure all migrations are reviewed and approved before hand. All program change reviews and documentation is now being stored with CSR in STAT and retained for audit purposes.**

Due: 1 April 2010 as resources and budget allows

Finding 7

Monitoring of security-related activity was inadequate for critical systems, and proper controls were not established over program changes.

Recommendation 7

We recommend that TU

- a. regularly generate security-related reports and review all significant security events for its critical systems, and log critical security-related events for the databases supporting these systems; and
- b. appropriately segregate program change control procedures, and use automated tools to highlight all code changes made to critical programs for supervisory review.

Response 7

We agree with clarification

- a. **Additional Oracle database security event reports have been updated and being monitored/reviewed regularly. PeopleSoft application security event reports are currently being devised.**
- b. **Points of clarification:**

The university has an automated change control system (STAT) that manages and tracks code changes and keeps a record of all changes to PeopleSoft objects. Code changes are tracked through STAT using Customer Service Request (CSR's) which

originate from the requesting business user. STAT sends a notification to management via e-mail when changes are migrated to Production from Quality Assurance. Management currently conducts QA by reviewing a report each week that contains all closed requests (CSRs). STAT maintains a CSR History Log (details times/dates and descriptions of actions taken during each step in the changes request process, including who did development and who migrated to Production).

Due to limited resources at the time two senior developers were identified as migrators out of the seven developers on staff. At that time programs could not be migrated through STAT without management knowledge and users approval. Additional measures have been implemented to include the requirement that a developer cannot migrate there own changes, weekly management review of STAT logs; limiting migrations to once a week; and reviewing comparison reports of CSRS to users approved requests. Base on resources the long term goal is to identify a qualified, non-development migrator to perform these functions.

STAT does track all code changes highlighting before and after, with the exception of changes made using SQR's. For SQR's, STAT does not highlight the code changes. The audit test performed looked at only code changes made using SQR's which accounts for less than 10% of all code changes. Since the audit Towson has upgraded STAT which now tracks and highlights SQR's code changes.

Due: 1 April 2010 as resources and budget allows

Finding 8

TU's computer network was not sufficiently secured.

Recommendation 8

We again recommend that TU improve security over its network. Specifically, we made detailed recommendations, which if implemented, should provide for adequate security over its network.

Response 8

We agree with clarification

- a. Since the last audit, the University has strategically deployed IDSs to monitor critical networks. As recommended, the University is currently reviewing its IDSs network to determine additional IDS required. The University has integrated IDSs and other network systems into a more efficient centralized reporting system. Additional security event alerts and reports have been implemented using this centralized logging and reporting system.**

- b. The University has completed deploying Network Access Control in the residence halls. Deployment of NAC across the entire campus is being planned.**
- c. Since the last audit, the University has done significant work to implement a “least privilege” security strategy. The University also feels it has adopted the best strategy for each firewall interface and will make necessary adjustments to meet this requirement.**
- d. The University has devised a firewall standard supporting the firewall policy based on current NIST SP 800-41 rev1. It should be noted that new NIST publication doesn’t require firewall matrix as recommended in audit.**

Due: 1 September 2011 as resources and budget allows

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