

Audit Report

**University System of Maryland
Bowie State University**

October 2017



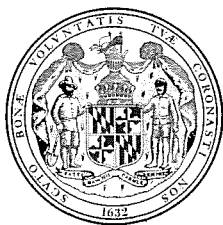
OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

October 31, 2017

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Executive Director

Thomas J. Barnickel III, CPA
Legislative Auditor

Senator Craig J. Zucker, Co-Chair, Joint Audit Committee
Delegate C. William Frick, Co-Chair, Joint Audit Committee
Members of Joint Audit Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a fiscal compliance audit of the University System of Maryland (USM) – Bowie State University (BSU) for the period beginning July 1, 2013 and ending August 28, 2016. BSU is a regional university offering a broad range of undergraduate and selected professionally oriented graduate programs.

Our audit disclosed that BSU had not established sufficient controls over certain financial aid awards to ensure that only proper awards were made to eligible students. Our tests disclosed improper awards totaling \$54,000. In addition, internal control deficiencies were noted over the monitoring of certain payments to contractors and changes to student residency status. For example, BSU paid its building system maintenance and housekeeping services vendors without ensuring the required level of services were performed.

We also noted that appropriate safeguards were not established to protect sensitive personally identifiable information maintained by BSU in a critical database. In addition, malware protection controls were not sufficient to provide BSU with adequate assurance that BSU computers were properly protected.

The USM Office's response to this audit, on behalf of BSU, is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by BSU.

Respectfully submitted,

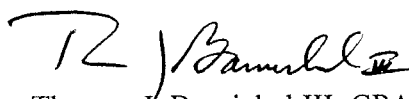

Thomas J. Barnickel III, CPA
Legislative Auditor

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Background Information

Agency Responsibilities

Bowie State University (BSU) is a comprehensive public institution of the University System of Maryland and operates under the jurisdiction of the System's Board of Regents. BSU is a regional university that provides a broad range of undergraduate and selected professionally oriented graduate programs, including doctoral level programs in educational leadership and computer science. BSU's undergraduate and graduate student enrollment during fiscal year 2016 totaled 4,369 full-time equivalent students.

BSU's budget is funded by unrestricted revenues, such as tuition and fees and a State general fund appropriation, and restricted revenues, such as federal grants and contracts. According to the State's accounting records, BSU's revenues for fiscal year 2016 totaled approximately \$124 million, including a State general fund appropriation of approximately \$41.7 million.

Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the six findings contained in our preceding audit report dated May 5, 2014. We determined that BSU satisfactorily addressed these findings.

Findings and Recommendations

Student Financial Aid

Finding 1

Bowie State University (BSU) lacked an independent verification of the propriety of certain financial aid awards and adjustments, resulting in improper awards totaling \$54,000 going undetected.

Analysis

BSU lacked an independent verification of the propriety of certain financial aid awards and adjustments, allowing improper awards to occur and to remain undetected. According to BSU's records, financial aid awarded to students totaled approximately \$60 million during fiscal year 2016, including \$37.6 million for loans and \$22.4 million for grants and scholarships.

- Grant awards (such as honor and merit scholarships) were not subject to an independent verification, and our tests disclosed certain improper awards that were not detected. Specifically, scholarship decisions forwarded by various BSU departments to the Financial Aid Office for entry into the financial aid system were not subject to any independent review. Prior to July 1, 2013, independent reviews were conducted of 10 percent of all awards made during an academic year.

Our test of 26 awards totaling approximately \$381,000 disbursed in academic years 2012 through 2016, disclosed that 9 awards totaling \$54,000 were improper. For example, BSU disbursed 4 annual scholarships to a student that included \$43,600 for room and board for the four academic years even though the student was eligible for and signed an award letter accepting financial aid only for tuition and fees. BSU was not aware of these improper awards until we brought them to its attention and could not readily explain the reasons for these errors.

- Manual adjustments made by BSU employees to system-generated financial aid awards posted to student accounts were not subject to independent supervisory review and approval. Although legitimate reasons exist for making award adjustments (such as, when a student drops classes and is no longer eligible for an award), the adjustments should be subject to independent supervisory review and approval to ensure their propriety. We could not determine the value of these adjustments since BSU did not generate

system output reports of manual adjustments, which could be used by supervisory personnel to review and verify their propriety.

Recommendation 1

We recommend that BSU

- a. independently verify the propriety of grant awards and manual adjustments to financial aid awards; and**
- b. take appropriate corrective action for any errors identified, including those noted above.**

Contract Monitoring

Finding 2

BSU paid its building system maintenance and housekeeping services vendors without ensuring that the required level of services were received.

Analysis

BSU paid for building system maintenance and housekeeping services for the 23 buildings located on its campus but did not verify the required level of services were received. The current building system maintenance contract was valued at \$3.2 million for the period from August 2016 through July 2021 and the housekeeping services contract was valued at \$12.9 million for the period from July 2016 through June 2021. Payments to these vendors under the current contracts totaled approximately \$977,000 as of October 31, 2016. Both vendors provided these services during the audit period under previous contracts.

BSU paid both vendors' invoices but took no steps to verify that contractually required work was performed. Specifically, BSU did not require either vendor to submit monthly reports of the specific maintenance and housekeeping services performed, as required by both contracts, as a means to verify vendor invoices. For example, the building system maintenance contractor was to perform maintenance services (such as filter changes) in accordance with an approved schedule. In addition, the housekeeping contractor was to perform periodic cleaning services (such as window washing and carpet cleaning) in accordance with an approved schedule.

While BSU relied on an external consultant to conduct triannual reviews of the overall condition of BSU buildings maintained by the housekeeping contractor, this should not take the place of ongoing monthly monitoring. Furthermore, the most recent October 2016 consultant report identified certain housekeeping

deficiencies relating to services that were required to be performed by the contractor.

Recommendation 2

We recommend that BSU obtain the monthly reports of services performed as required by the respective contracts and compare to vendor invoices prior to payment.

Student Residency

Finding 3

BSU did not verify the propriety of changes to student residency status and did not generate a comprehensive report of such changes to facilitate these verifications.

Analysis

BSU did not verify the propriety of changes to student residency status and did not generate a comprehensive report of such changes to facilitate their review. Student residency changes were made by admissions personnel based on supporting documentation submitted by students. BSU management advised us that no reviews of student residency changes have been conducted since August 2015 and that reviews conducted prior to this date were not documented. In addition, BSU did not generate an output report of changes to enable a comprehensive review, nor could the extent of such changes be determined.

The University System of Maryland's (USM) Board of Regents' *Policy on Student Classification for Admission and Tuition Purposes* requires that changes to a student's residency status be requested by submitting a USM *Petition for Change in Classification for Tuition* along with supporting evidence. Changes to student residency status are subject to the review and approval of BSU officials. Accurate student residency determinations are critical because of the significant differences between in-state and out-of-state student tuition rates. For example, the in-state undergraduate tuition was \$5,321 for the Fall 2016 semester, whereas the out-of-state undergraduate tuition rate was \$15,857.

Recommendation 3

We recommend that BSU generate comprehensive output reports of residency changes, review the changes for propriety, and document the review, at least on a test basis.

Information Systems Security and Control

Background

BSU's Division of Information Technology provides information technology support to BSU through the operation and maintenance of campus-wide applications, such as the student administration and human resources systems and the financial system. BSU also operates an integrated administrative and academic computer network, which provides connections to multiple servers used for administrative and academic purposes. The network also includes separate email and file servers, intrusion detection systems, and firewalls. BSU also connects to the Maryland Research and Education Network to send and receive data to and from other USM institutions and for Internet connectivity. Students are provided limited access to BSU's network from dormitories and computer labs.

Finding 4

Sensitive personally identifiable information (PII) maintained by BSU was stored without adequate safeguards.

Analysis

Sensitive PII maintained by BSU was stored in clear text. Specifically, we noted that a critical database associated with the student information system contained 152,806 unique social security numbers stored in clear text along with names, addresses, and dates of birth as of February 16, 2017. In addition, we were advised that this sensitive PII was not protected by other substantial mitigating controls. Furthermore, although BSU obtained software capable of scanning its servers to identify PII, BSU had not used this software and had not performed an inventory of its systems to identify all sensitive PII, determined if it was necessary to retain the PII, and deleted PII identified as unnecessary.

This sensitive PII is commonly associated with identity theft. Accordingly, appropriate information system security controls need to exist to ensure that this information is safeguarded and not improperly disclosed.

The USM *IT Security Standards* state that USM institutions must utilize encryption for confidential data while the data are in transit or at rest on any media or apply compensating controls that are equally secure.

Recommendation 4

We recommend that BSU

- a. use the aforementioned software on its systems and identify all sensitive PII,**

- b. determine if it is necessary to retain this PII and delete all unnecessary PII,
- c. determine if all necessary PII is properly protected by encryption or other substantial mitigating controls, and
- d. encrypt all sensitive PII not otherwise properly protected or implement other substantial mitigating controls to protect this PII.

Finding 5

Malware protection for BSU computers was not sufficient to provide BSU with adequate assurance that these computers were properly protected.

Analysis

Malware protection for BSU computers was not sufficient to provide BSU with adequate assurance that these computers were properly protected.

- BSU did not properly utilize its centralized management console's reports and dashboard to monitor and maintain the malware protection software and the malware protection signature files on its 2,208 computers. In this regard, BSU personnel advised that they reviewed various console reports and the related dashboard in an ongoing effort to ensure that all supported computers had the proper malware protection software installed, operational, and up-to-date including current malware protection signature files. However, these reviews were not documented and there was no evidence of any follow-up activities resulting from these reviews.
- The central management console's logged data (used to create the console reports) did not reflect that numerous local computers had operational and up-to-date malware protection software, as well as signature files, which are typically updated daily by software vendors. Consequently, these computers could be susceptible to malware attacks. As of February 27, 2017, the console's logged data:
 - did not reflect whether 507 computers had the necessary malware protection software installed, operational, and up-to-date;
 - did not reflect the version of the malware protection signature files for 495 of these computers;
 - identified 33 computers with an outdated malware protection version (with the oldest dated October 2011); and

- identified 49 computers with outdated malware protection signature files (with the oldest dated April 2014).
- Certain BSU workstations had not been updated with the latest releases for software products that are known to have significant security-related vulnerabilities. Although the vendors for these software products frequently provide software patches to address these vulnerabilities, BSU had not updated these workstations for these patches. For example, we identified 67 workstations with an outdated commonly vulnerable application with some of the installed software dating back to July 2015.

Recommendation 5

We recommend that BSU

- a. continually review the malware protection console reports and dashboard to ensure that all listed active computers have current signature files and operational and up-to-date malware protection software installed and if necessary create custom reports that provide this information,**
- b. document these reviews and any follow-up efforts and retain the documentation for future reference, and**
- c. ensure that all workstations are kept up-to-date for critical security related updates for commonly vulnerable applications.**

Audit Scope, Objectives, and Methodology

We have conducted a fiscal compliance audit of the University System of Maryland (USM) – Bowie State University (BSU) for the period beginning July 1, 2013 and ending August 28, 2016. 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 BSU's financial transactions, records, and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of significance and risk. The areas addressed by the audit included purchases and disbursements, student accounts receivable, cash receipts, information systems security and control, payroll, student financial aid, and corporate purchasing cards. We also determined the status of the findings contained in our preceding audit report.

Our audit did not include certain support services provided to BSU by the USM Office, such as bond financing, or by the University of Maryland, College Park (UMCP), which provided capital project management. These support services are included within the scope of our audits of the USM Office and UMCP, respectively. In addition, our audit did not include an evaluation of internal controls over compliance with federal laws and regulations for federal financial assistance programs and an assessment of BSU's compliance with those laws and regulations 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.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, observations of BSU's operations, and tests of transactions. Generally, transactions were selected for testing based on auditor judgment, which primarily considers risk. Unless otherwise specifically indicated, neither statistical nor non-statistical audit sampling was used to select the transactions tested. Therefore, the results of the tests cannot be used to project those results to the entire population from which the test items were selected.

We also performed various data extracts of pertinent information from the State's Financial Management Information System (such as revenue and expenditure data) and the State's Central Payroll Bureau (payroll data), as well as from the contractor administering the State's Corporate Purchasing Card Program (credit card activity). The extracts are performed as part of ongoing internal processes established by the Office of Legislative Audits and were subject to various tests to determine data reliability. We determined that the data extracted from these sources were sufficiently reliable for the purposes the data were used during the audit. We also extracted data from BSU's financial systems for the purpose of testing certain areas, such as financial aid and student accounts receivable. We performed various tests of the relevant data and determined that the data were sufficiently reliable for the purposes the data were used during the audit. Finally, we performed other auditing procedures that we considered necessary to achieve our audit objectives. The reliability of data used in this report for background or informational purposes was not assessed.

BSU'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 relating to conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect BSU'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 BSU that did not warrant inclusion in this report.

The response from the USM Office, on behalf of BSU, 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



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OFFICE OF THE CHANCELLOR

Mr. Thomas J. Barnickel III, CPA
Legislative Auditor
Office of Legislative Audits
State Office Building, Room 1202
301 West Preston Street
Baltimore, MD 21201

October 24, 2017

Re: University System of Maryland – Bowie State University
Period of Audit: July 1, 2013 through August 28, 2016

Dear Mr. Barnickel:

I have enclosed the University System of Maryland's responses to your draft report covering the examination of the accounts and records of the University System of Maryland – Bowie State University. Our comments refer to the individual items in the report.

Sincerely Yours,

A handwritten signature in black ink, appearing to read 'R. Caret', with a long horizontal flourish extending to the right.

Robert L. Caret
Chancellor

Enclosures

cc:

Dr. Aminta Hawkins Breaux, Ph.D., President, BSU
Dr. Karl B. Brockenbrough, Ph.D., Vice President for Administration and Finance, BSU
Mr. James T. Brady, Chair, University System of Maryland Board of Regents
Mr. Robert L. Page, Associate Vice Chancellor for Financial Affairs, USM Office
Mr. David Mosca, Director of Internal Audit, USM Office

**RESPONSE TO LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND
BOWIE STATE UNIVERSITY
JULY 1, 2013 TO AUGUST 28, 2016**

Student Financial Aid

Finding 1

Bowie State University (BSU) lacked an independent verification of the propriety of certain financial aid awards and adjustments, resulting in improper awards totaling \$54,000 going undetected.

Recommendation 1

We recommend that BSU

- a. independently verify the propriety of grant awards and manual adjustments to financial aid awards; and**
- b. take appropriate corrective action for any errors identified, including those noted above.**

University response

BSU agrees with the recommendations.

Effective November 2017, all grants awards and manual adjustments will be reviewed by the Program Supervisor and/or the Financial Aid Specialist for accuracy to ensure no improper awards have occurred. Also on a bi-weekly basis, the Assistant Director of Financial Aid will generate a report of transactions posted by item type to verify no improprieties have occurred. The Financial Aid Coordinator will promptly correct any errors identified. We will investigate the errors noted in the audit to determine the appropriate action.

Contract Monitoring

Finding 2

BSU paid its building system maintenance and housekeeping services vendors without ensuring that the required level of services were received.

Recommendation 2

We recommend that BSU obtain the monthly reports of services performed as required by the respective contracts and compare to vendor invoices prior to payment.

University response

BSU agrees with this recommendation.

Effective immediately, the Facilities Coordinator will obtain monthly reports of services as required by the respective contracts and compare them to the vendor

**RESPONSE TO LEGISLATIVE AUDIT REPORT
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BOWIE STATE UNIVERSITY
JULY 1, 2013 TO AUGUST 28, 2016**

invoices prior to payment. In addition, the Facilities Coordinator will provide documented evidence of the reviews to the Vice President for Administration and Finance, the Director of Facilities and the Director of Procurement.

Student Residency

Finding 3

BSU did not verify the propriety of changes to student residency status and did not generate a comprehensive report of such changes to facilitate these verifications.

Recommendation 3

We recommend that BSU generate comprehensive output reports of residency changes, review the changes for propriety, and document the review, at least on a test basis.

University response

BSU agrees with this recommendation.

A residency review report has been created to capture all residency changes occurring after acceptance but prior to enrolling. The report includes the name of the staff member who made the change in residency status, date and time of the change, and residency status before and after the change. The report is submitted to the Assistant Vice President of Enrollment Management for review on a monthly basis. As a part of the review process, a random selection of 10% of the students in the report are selected for further review. Any questions are submitted to the staff member who made the change, and documentation is presented to the AVP of Enrollment Management as justification. Once the review is completed, the AVP of Enrollment Management will sign and date the report.

For residency petitions occurring after enrolling, a residency status committee will convene (regularly or as needed) to review supporting documents and make status change recommendations. The recommendations will be reviewed and approved by the AVP of Enrollment Management. Representatives from the following offices are included on the committee: Admissions, Financial Aid, Student Accounts, Registrar, and Student Affairs.

**RESPONSE TO LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND
BOWIE STATE UNIVERSITY
JULY 1, 2013 TO AUGUST 28, 2016**

Information Systems Security and Control

Finding 4

Sensitive personally identifiable information (PII) maintained by BSU was stored without adequate safeguards.

Recommendation 4

We recommend that BSU

- a. use the aforementioned software on its systems and identify all sensitive PII,**
- b. determine if it is necessary to retain this PII and delete all unnecessary PII,**
- c. determine if all necessary PII is properly protected by encryption or other substantial mitigating controls, and**
- d. encrypt all sensitive PII not otherwise properly protected or implement other substantial mitigating controls to protect this PII.**

University response

BSU agrees with the recommendations.

- a. BSU will implement procedures to use our software to identify all sensitive PII, on a monthly basis by March 30, 2018.
- b. BSU will determine if it is necessary to retain identified PII and delete all unnecessary PII by March 30, 2018.
- c. BSU will determine if all necessary PII is properly protected by encryption or other substantial mitigating controls by August 31, 2018.
- d. BSU will encrypt all sensitive PII not otherwise properly protected or implement other substantial mitigating controls to protect this PII by August 31, 2018.

Finding 5

Malware protection for BSU computers was not sufficient to provide BSU with adequate assurance that these computers were properly protected.

Recommendation 5

We recommend that BSU

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BOWIE STATE UNIVERSITY
JULY 1, 2013 TO AUGUST 28, 2016**

- a. continually review the malware protection console reports and dashboard to ensure that all listed active computers have current signature files and operational and up-to-date malware protection software installed and if necessary create custom reports that provide this information,**
- b. document these reviews and any follow-up efforts and retain the documentation for future reference, and**
- c. ensure that all workstations are kept up-to-date for critical security related updates for commonly vulnerable applications.**

University response

BSU agrees with the recommendations.

- a. BSU will create and deliver monthly reports to ensure all listed computers have current signature files by December 15, 2017.
- b. Reports will be generated by the University's software patching system and will be reviewed by DIT Information Security team and follow-up efforts required will be logged in the University's trouble ticketing system, by February 15, 2018.
- c. Any issues found in these reports of all listed computers will be documented and the appropriate group will take corrective action, by February 15, 2018.

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