



A. JOSEPH DeNUCCI
AUDITOR

The Commonwealth of Massachusetts

AUDITOR OF THE COMMONWEALTH

ONE ASHBURTON PLACE, ROOM 1819

BOSTON, MASSACHUSETTS 02108

TEL. (617) 727-6200

No. 2005-0199-4T

**OFFICE OF THE STATE AUDITOR'S
REPORT ON THE EXAMINATION OF CONTROLS OVER
INFORMATION TECHNOLOGY-RELATED ASSETS AT
MIDDLESEX COMMUNITY COLLEGE**

July 1, 2003 through June 20, 2005

**OFFICIAL AUDIT
REPORT
DECEMBER 27, 2005**

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
AUDIT SCOPE, OBJECTIVES, AND METHODOLOGY	3
AUDIT CONCLUSION	7
AUDIT RESULTS	10
Information Technology-Related Inventory Controls	10

INTRODUCTION

Middlesex Community College (MCC) is a two-year Massachusetts institution of higher education offering associate degree and certificate programs. The College, which was established in 1970, is a member of the Massachusetts State College System and is regulated by Chapter 15A, Section 5, of the Massachusetts General Laws. The College's primary mission is to provide academic preparation for transfer to four-year institutions, career preparation for entry into occupational fields, developmental courses to prepare students for college-level work, and job retraining.

Middlesex Community College is governed by a Board of Trustees and is under the direction of the College's President. The Board of Higher Education provides additional oversight to the College and monitors each Massachusetts higher educational institution to help ensure that state funds support measurable performance, productivity, and results.

The College is comprised of two campuses, one in Bedford located at 591 Springs Road, and one in Lowell located at 33 Kearney Square. The College maintains its information technology (IT) facility in Lowell and computer labs at both campuses. The College offers 79 degree and certificate programs, career training, online courses and programs, as well as degree programs in collaboration with Fitchburg State College and Salem State College. For the 2005 spring semester, the College had an enrollment of 2,826 full-time and 4,518 part-time students. At the time of our audit, the College employed 1,159 full-time and part-time faculty, administrators, and staff members, and was supported by a 2005 fiscal year budget of approximately \$57 million.

The College's administrative and academic IT services and operations are supported by the College's Information Technology Department. The IT Department is comprised of 23 staff members and a Chief Technology Officer, who reports directly to the President of the College. The IT Department provides a range of services to assist and guide administrative and academic staff in the use of administrative computer-based systems, college portal, online programs and web services, telecommunications, print servers, copier management, IT security, and e-mail. The IT Department also supports a campus-wide network and client infrastructure (MCC network) consisting of 26 network file servers that are configured on a Wide Area Network (WAN) for use throughout the College. At the time of our audit, the College stated that they had 1,653 computers, including 26 file servers and 167 notebook computers. The MCC network is connected throughout the campus by an Ethernet network gateway that uses a fiber optic backbone to allow connectivity to internal and external users. An independent fiber optic connection through a commercial firewall product provides full connectivity to the College's Internet provider, the University of Massachusetts

Information Technology Services. The campus portal was implemented in January of 2005, and according to College management, provides a secure, integrated environment for providing online services to members of the college community. MCC has also installed firewall protection to help secure the College's network from unauthorized access.

The College's WAN supports applications consisting of the Microsoft suite of software products and provides Internet and e-mail connectivity for use throughout the College. From an administrative perspective, IT systems are used to process the College's financial management, administrative, and student information activities. In this area, the primary mission-critical applications are the SCT Banner system (Banner), and the SCT FRS Finance product. The Banner system is a vendor-supplied software product that can be configured to consist of a suite of five integrated subsystems: advancement, finance, financial aid, human resources, and student. At the time of our audit, the College was in production with the financial aid, human resources, and student subsystems of Banner and the FRS Finance product. At the time of our audit, the College was in the process of implementing the Banner Finance module. Each of these integrated subsystems is comprised of an array of program modules. For example, the student system includes the admissions, registration, and academic history modules. The financial-aid subsystem enables the College to process student eligibility information for tuition assistance for qualified applicants. In addition, the administrative system integrated within the MCC campus portal, known as "mymcc," allows users to electronically view e-mail and information in their password-protected account, such as financial-aid status and final grades. At the time of our audit, the College had not yet implemented the fixed asset module in the Finance application and was using the Remedy database application to maintain its fixed-asset inventory.

The College also has access to the State Human Resource Compensation Management System and the Massachusetts Management Accounting and Reporting System.

AUDIT SCOPE, OBJECTIVES, AND METHODOLOGY

Audit Scope

In accordance with Chapter 11, Section 12, of the Massachusetts General Laws, we performed an information technology (IT) examination of controls over IT equipment at the Middlesex Community College (MCC) covering the period of July 1, 2003 through June 20, 2005. The audit, which was conducted from February 28, 2005 through June 20, 2005, included a general control examination of the College's internal controls regarding accounting for and safeguarding of IT equipment and the College's compliance with applicable laws and regulations regarding fixed assets of the Commonwealth. Specifically, we examined the College's documented policies and procedures regarding the receiving, recording, monitoring, and disposition of IT equipment. Furthermore, we examined the College's inventory system of record for IT equipment for accuracy, validity, completeness, and data relevance. We also reviewed controls related to physical security and environmental protection for areas housing IT resources that were included in our audit tests.

Audit Objectives

Our primary audit objective was to determine whether MCC had adequate controls in place and in effect to provide reasonable assurance that the College's IT equipment would be properly received, accounted for, and safeguarded. We sought to determine whether MCC's internal control processes, including policies, procedures, practices, and organizational structures, provided reasonable assurance that the College's business objectives in the area of inventory control would be achieved. We also evaluated whether undesired events, such as unauthorized use and loss or theft of IT resources, would be prevented or detected and, if detected, corrected. In conjunction with our primary audit objective, we sought to determine whether MCC had implemented documented and approved policies and procedures regarding the proper recording, accounting for, monitoring, and safeguarding of IT equipment. We also sought to determine whether adequate physical security controls were in place to safeguard IT equipment, including controls to restrict access to the College's data center and areas containing IT equipment visited during testing of the College's inventory. Further, we determined whether adequate environmental protection controls were in place to prevent damage to, or loss of, IT equipment in these areas.

With respect to the College's adherence to applicable laws and regulations regarding fixed assets of the Commonwealth, we sought to determine whether MCC complied with Chapter 647 of the Acts of 1989 regarding requirements for reporting lost or stolen equipment; Office of the State

Comptroller's (OSC) "Internal Control Guide for Departments" and policies pertaining to the accounting of assets, including OSC Memos 310 and 313A, and 802 CMR 3.00 of the Operational Services Division's regulations regarding the disposition of surplus state equipment.

Audit Methodology

To determine the audit scope and objectives, we obtained an understanding of MCC's mission, organizational structure, and primary business functions. We performed pre-audit steps, including reviewing MCC's enabling legislation, reviewing documentation of the College's business processes with respect to IT policies and procedures and inventory control, and identifying IT resources used to support the College's business operations. We reviewed information posted on the College's website, obtained and recorded an understanding of relevant business and IT operations, and reviewed documentation regarding MCC's mission, operations, and IT organization and management.

To obtain an understanding of the College's business operations and information technology control environment, we interviewed the College's Vice President of Finance and Administration, Chief Technology Officer (CTO), Director of Financial Services, Dean of Facilities Management, Campus Security, and other MCC personnel. To assess the appropriateness of the College's IT inventory controls, we first evaluated the degree to which MCC had documented, authorized, and approved control policies and procedures for purchasing, ordering, receiving, recording, monitoring, and safeguarding IT equipment. We assessed the degree to which the College's inventory system of record for IT equipment was readily available and contained data relevant to the accounting and management of IT resources. We also assessed the degree to which the inventory record of IT resources would assist IT strategic and tactical planning. We then assessed whether the existing inventory control policies and procedures addressed the requirements of the College and the nature and extent of the IT environment. We also obtained an understanding of computer operations at MCC and conducted site visits of the College's technology center, computer room, and selected computer labs.

With respect to the College's receiving and recording of purchased IT equipment, we reviewed the adequacy of management controls, including documentation of the College's segregation of duties and the extent of management supervision over the receiving and recording of new computer hardware. Furthermore, we assessed the strengths and weaknesses of MCC's internal control system regarding inventory control activities.

To identify the College's system of record for IT equipment, we initially interviewed the Vice President of Finance and Administration and the Chief Technology Officer. We then obtained and

reviewed the IT Department's listing of IT equipment, which is the College's only system of record for IT resources. We reviewed the IT Department's listing of the College's 3,896 computer equipment items categorized by central processing units, monitors, and other specific pieces of hardware with an estimated value of over \$2.5 million. We also examined the listing to ensure that it contained adequate fields of information for financial and IT configuration management.

To assess the degree of the integrity of the information on the IT Department's inventory record of computer hardware, we determined whether data regarding purchase order number, purchase date, description (item and type), tag number, location (room/office), serial number, and user name was accurate and valid based on a sample of items drawn from the inventory system of record. We assessed the degree of completeness for these data elements based on a 100% review of the inventory system of record. Additional fields contained in the inventory record included installation date, date last modified, equipment status, history status, missing/stolen, ordered user, ordered time, connected to network, and equipment category. Finally, to determine whether computer hardware purchases in fiscal years 2004 and 2005 were accurately listed on the College's system of record for IT equipment, we examined the data recorded on the College's purchase orders and invoices and compared that to the data on the inventory system of record. To accomplish this, we selected a judgmental sample of 397 items purchased, valued at \$507,168, from MCC's list of invoices totaling \$921,228 for computer equipment purchased in fiscal years 2004 and 2005 and compared information on each item to data contained in the inventory system of record.

To determine whether the College's inventory system of record for IT equipment was current, accurate, and valid, we used audit software to select a statistical sample with a 95% confidence level and 5% tolerable error rate. Our sample of 82 computer hardware items, having an estimated value of over \$90,000, was drawn from all items appearing on the College's inventory listing of computer equipment. From the assets listed, we compared the information on the inventory record for the 82 sample items to information pertaining to the actual computer hardware on hand. We verified, by visual inspection, the existence and location of these 82 IT-related items and determined whether they were properly tagged, if they appeared in good condition, and whether the equipment's serial numbers were accurately recorded on the system of record. Furthermore, to verify the integrity and completeness of MCC's system of record for IT equipment, while conducting our visual inspection of these 82 IT equipment items, we selected 60 additional computer hardware items in adjacent locations and determined whether information regarding the items on hand was properly recorded on the system of record.

To determine whether the College's IT equipment was safeguarded from damage or loss, we reviewed, on a limited basis, physical security and environmental controls over IT resources through a review of written policies and procedures in this area, observations during the walkthrough of the College, and during the physical testing of the inventory. To determine whether MCC had appropriate control practices in place and in effect to account for and safeguard notebook computers, we interviewed the CTO to verify that 22 notebook computers selected in our audit testing of invoice to list were located on the inventory listing and on floor locations.

To determine whether MCC had appropriate control practices in place and in effect to account for and safeguard notebook computers, we interviewed the Vice President of Finance and Administration and the CTO and requested for review, the College's documented policies and procedures to control the assignment and use of notebook computers.

To determine whether MCC complied with Commonwealth of Massachusetts regulations for accounting for assets, we determined whether adequate evidence existed to demonstrate that the College had performed an annual physical inventory and reconciliation of the inventory system of record of IT equipment and was maintaining the IT inventory on a perpetual basis. Furthermore, to determine whether MCC was in compliance with Commonwealth of Massachusetts regulations for disposal of surplus property, we reviewed records and supporting documentation for IT equipment that had been disposed of during the audit period. To determine whether the College was in compliance with Chapter 647 of the Acts of 1989 regarding reporting requirements for missing or stolen assets, we interviewed the College's Vice President of Finance and Administration, the CTO, and Campus Security. We also reviewed incident reports for missing or stolen IT equipment for the audit period and verified whether incidents were properly reported to the Office of the State Auditor.

Our review was conducted in accordance with Generally Accepted Government Auditing Standards and industry auditing practices. The audit criteria used for our control examination were based on applicable legal requirements, control objectives, generally accepted IT control practices found in Control Objectives for Information and Related Technology, and OSC's "Internal Control Guide for Departments" promulgated under Chapter 647 of the Acts of 1989.

AUDIT CONCLUSION

Although Middlesex Community College (MCC) had taken steps to implement an inventory system of record for IT resources, we found that controls needed to be strengthened to provide reasonable assurance that IT resources would be properly recorded and accounted for. We found that the College had improved its inventory controls from prior audits by establishing a system of record for computer equipment that contained several fields of information relevant to the accounting and management of IT resources. However, we found that the required data field for historical cost was not included and complete data was not provided for other required fields, such as acquisition date and purchase order number. Our audit tests confirmed that equipment listed on the inventory could be located, and that equipment descriptions and tag numbers were accurate. However, there was limited documented evidence that the College's inventory system for IT resources was being maintained on a perpetual basis and that end-of-year reconciliations were being performed on either a cyclical or end-of-year basis. Our audit determined that the College needed to enhance its inventory control policies, procedures, and control practices to ensure complete and accurate recording of computer equipment.

Our review indicated that the MCC had appropriate policies and procedures for ordering, purchasing, and receiving IT equipment. However, we found that MCC did not have adequate inventory control policies and procedures regarding the initial recording of IT equipment on the College's system of record for monitoring inventory records of IT equipment and for the completion of an annual physical inventory and reconciliation to the system of record for IT equipment.

With respect to the integrity of MCC's system of record for IT equipment, our audit disclosed that, although certain data fields contained accurate and complete information, the integrity of other fields needed to be improved. Furthermore, although we found that MCC's inventory system of record contained many appropriate data fields, including description, identification tag, serial number, user name, and location, the listing lacked a data field for historical cost. The recording of historical cost is required by Commonwealth of Massachusetts regulations to provide a comprehensive inventory record of fixed assets. Regarding access to the complete system of record for IT equipment, a full view of the inventory system of record was not readily available.

With respect to the recording of asset information, we found that management oversight and instruction needed to be strengthened to ensure that appropriate data would be fully recorded for newly received computer equipment. We found that the responsibility for recording received computer equipment and a description of information to record these items was not clearly

documented. We found that information on serial numbers, purchase dates, and purchase order numbers was not complete and accurate. Verification that complete and accurate information is recorded upon the receipt of IT resources, or upon changes to their assignment, condition or location, will help ensure that the College's IT-related assets are properly accounted for on a perpetual basis.

Our review of the completeness and accuracy of information in MCC's system of record for IT equipment revealed errors and inconsistent data in the recording of identifying information for received computer items for fiscal years 2004 and 2005. Our audit test of 397 computer hardware items valued at \$507,168, selected from invoices and traced to the inventory record through the purchase order numbers for the audit period, revealed that all sample items selected were included in the College's system of record for IT equipment. However, due to recording errors in data input, MCC senior management took six weeks to identify and locate 92 of the purchased hardware items in our audit test. Although our attribute test of the accuracy of information contained in the data fields for computer hardware items indicated that the system of record contained proper information for location, tag number, and description, we found that serial number information was incorrectly recorded for 88 items, or 22.2% of our sample. In addition, a significant number of purchase order numbers and purchase dates were not recorded on the inventory system of record for IT equipment. In order to maintain an auditable system of record, the Office of the State Comptroller's fixed assets regulations require that purchase dates be recorded.

As of March 22, 2005, MCC's system of record for computer equipment consisted of 3,896 computer hardware items, with an estimated value of \$2.5 million. We selected a statistical sample of 82 IT-related assets from the inventory record, with an estimated value of \$90,000, and compared information from the record to information on the actual items of equipment. We found that 81 of these items were in correct designated locations. Only one item, a computer printer, could not be located within the College. MCC senior management stated that this item had been disposed of but had not been removed from the inventory record. Our judgmental test of 60 additional computer hardware items going from floor locations to the inventory system of record indicated that information was verifiable regarding 58 items. The designated location on the inventory record for two equipment items was incorrect and may not have been updated.

Our review of MCC's monitoring of IT resources disclosed that although the College's senior management stated that they perform an annual physical inventory of all computer equipment, the College could not provide any documentation supporting a physical inventory. Furthermore, MCC could not provide documented evidence that IT resources are reconciled to the system of record on a periodic, cyclical, or annual basis.

With respect to the College's compliance with Massachusetts laws and regulations regarding assets of the Commonwealth, our review of MCC's records and supporting documentation for computer equipment that was disposed of during the audit period disclosed that the College failed to comply with Commonwealth of Massachusetts regulations for disposal of surplus property. Operational Service Division regulations, 802 CMR 3.00, require that departments file a request listing all Commonwealth assets that they intend to dispose. Furthermore, our audit disclosed that MCC failed to comply with Chapter 647, of the Acts of 1989, that requires all state agencies to file a report with the Office of the State Auditor documenting missing or stolen state assets.

Our audit also disclosed that adequate controls were not in place and in effect to separately record and monitor the assignment and use of MCC's notebook computers. Our audit revealed that MCC assigned notebook computers for use by faculty and staff. The College's system of record identified the notebook computers and to whom it was assigned. However, the College did not maintain a separate control register of assigned notebook computers and did not require signed user responsibility agreements from the individuals who were assigned the notebook computers. By improving controls over notebook computers, the College could reduce the risk of loss or theft of notebook computers.

At the time of our audit, we observed that adequate physical security and environmental protection controls were in place to provide reasonable assurance that MCC's IT equipment was safeguarded from damage or loss. No deficiencies came to our attention during our on-site observations of areas housing IT resources, or resulting from our review of written policies and procedures in this area, to indicate that the College was not providing adequate physical security and environmental protection to safeguard its IT equipment.

AUDIT RESULTS

Information Technology-Related Inventory Control

Our audit disclosed that Middlesex Community College (MCC) needed to strengthen inventory controls over IT resources to provide reasonable assurance that the College's computer equipment would be properly recorded, accounted for, and monitored. We found that MCC had appropriate policies and procedures for ordering and purchasing. However, MCC lacked formalized inventory control policies and procedures to ensure proper initial recording of computer equipment, signed user responsibility agreements for personally assigned notebook computers, and adequate maintenance, monitoring, and reconciliation of inventory records.

Our review of MCC's policies and procedures regarding inventory control over computer equipment disclosed that the policies as provided by the Chief Technology Officer (CTO) were essentially lists of general departmental duties that lacked specific procedural detail and guidance, as well as formal approval by the College. Furthermore, the College could not provide records to verify a fiscal year 2004 annual physical inventory or a reconciliation of its asset records. Although the College was able to provide a system of record, we found that the College did not maintain a perpetual inventory system of record with all appropriate fields of information, including asset costs, purchase order numbers and dates of acquisition. As a result of these inadequate inventory control policies, procedures, and practices, MCC needs to strengthen inventory controls to provide reasonable assurance that the College's computer equipment would be adequately accounted for.

With respect to the availability and integrity of MCC's system of record for IT equipment, our audit disclosed that certain data fields were not complete or accurate with respect to recorded information and that a full view of the inventory system of record was not readily available. MCC was unable to provide, in a timely manner, access to, or a copy of, its complete inventory listing. On February 10, 2005, before the start of our audit fieldwork, we made an initial request for a complete inventory listing of MCC's IT-related assets. On February 28, 2005, the College provided us with a partial view of its inventory listing containing limited columns of information, including asset tag numbers, descriptions, and locations. However, the listing lacked a data field for historical cost and had incomplete information necessary for our audit testing regarding serial numbers and purchase dates. When we requested a complete inventory listing showing all fields of information used by the College, MCC senior management stated that they had given us sufficient data for our audit. Only after several additional requests were made for MCC's complete inventory listing, did the College

finally provide us with what was stated to be the official system of record for IT equipment, dated March 22, 2005.

Our analysis of MCC's inventory system of record indicated that most of the appropriate data fields, including description, identification tag, purchase date, purchase order number, user name, serial number, and location were present. However, the listing lacked a data field for historical cost that is required by Commonwealth of Massachusetts regulations for all departments to provide a comprehensive, auditable inventory record of fixed assets. By failing to record the historical cost of purchased computer hardware items and their purchase dates on the College's inventory system of record, MCC was not in compliance with the Office of the State Comptroller's 2005 fiscal year fixed-asset requirements and OSC Memo 313A.

With respect to the recording of IT-related assets on MCC's system of record, our audit disclosed that the College needed to strengthen its controls regarding timely and complete recording of information to identify received computer equipment. We found that MCC's documented policies and procedures did not describe the staff responsibilities for recording received computer equipment, the specific information that should be entered into certain data fields, nor the timeframe required for recording acquired IT equipment on the College's inventory system of record. As a result, essential identifying information such as serial number needed for proper inventory controls and to uniquely identify IT equipment was not accurately and consistently entered into the College's inventory system of record.

With respect to the recording of IT-related assets, we found that MCC lacked appropriate and adequate management oversight to prevent and detect errors in the recording of identifying data for received computer equipment into the College's inventory system of record for IT equipment. Our tests indicated a significant error rate and inconsistencies in identifying data recorded by IT Department staff on the College's computer hardware inventory listing. Specifically, our audit tests comparing data recorded on invoices for purchased computer equipment to the MCC inventory listing detected 88 errors in recorded identifying data for our sample, or an error rate of 22.2% in the recording of serial numbers for the 397 tested hardware items purchased in fiscal years 2004 and 2005. Because of the rate of data input errors, the failure to record asset costs and acquisition dates, and inadequate management of the system of record, an acceptable level of data integrity did not exist for the College's inventory system of record for IT equipment at the time of our audit. The College needs to ensure that appropriate controls are in place for data entry and improve its monitoring and validating of information contained in the system of record to ensure the accuracy and completeness of the information contained in the inventory database. MCC senior management took over six

weeks to locate 92 computer hardware items that had been selected in our audit testing that compared data on invoices to the inventory listing and to actual floor locations for the hardware items.

Accurate and complete recording of this information will help ensure that the College's IT resources are properly accounted for on a perpetual basis. Further, an appropriate level of management oversight would help decrease the risk of undetected data entry errors, unrecorded items, and loss or theft of IT equipment.

With respect to data completeness, our data analysis of the population of 3,896 hardware items disclosed that MCC failed to record required information on its inventory system of record for IT resources. As indicated in the table below, we found that MCC failed to record purchase dates for 96.8% of the assets listed on its inventory system of record for IT resources, purchase order numbers for 67.0% of the assets listed, and user names for 24.7% of the assets listed. We did find information pertaining to location, tag number, and description to be adequate. However, by failing to record the purchase dates of received computer equipment on the College's inventory system of record, MCC was not in compliance with OSC's 2005 fiscal year fixed assets requirements and Comptroller's Memo 313A.

Inventory Data Fields	Number of Items Missing Information in Data Field	Percent of Missing Information
Purchase Date	3,771	96.8%
Purchase Order Number	2,611	67.0%
User Name	962	24.7%
Serial Number	96	2.46%
Room/Location	0	0.0%
Asset Tag Number	0	0.0%
Description	0	0.0%

Our audit further disclosed that MCC did not have adequate controls in place and in effect to monitor its inventory of computer equipment. This area of weakness had been noted in our two previous IT-related audit reports on MCC, audit number 2002-0199-4C, issued on April 12, 2002 and audit number 96-0199-4C, issued on May 29, 1997. However, we found that the College had improved its inventory controls from prior audits by developing a system of record. During our current audit, MCC was unable to provide documentation supporting a physical inventory of IT-related assets and performing a reconciliation of the physical inventory to the College's inventory records. MCC's failure to document the maintenance, monitoring, and reconciliation of its inventory added to the risk of unauthorized use, loss or theft of the College's IT equipment or the risk that inventory-related data may become unreliable.

In our audit testing based on a statistical sample of 82 IT-related assets, randomly selected from the inventory record that were compared to actual items of equipment on location, we found that 81 out of 82 of these items, or 98.8%, could be located within the College. MCC senior management stated that the missing item, a computer printer, had been disposed of but had not been removed from the College's inventory listing. Data integrity tests for description, tag number, serial number, and vendor/manufacturer for the 82-item sample drawn revealed that accuracy levels for data elements ranged from 95% to 100%.

Our audit also disclosed that the College had not complied with Chapter 647, of the Acts of 1989, that requires all departments to submit reports to the Office of the State Auditor (OSA) regarding lost or stolen Commonwealth assets. During our audit, MCC senior management stated that the College had not experienced any "reportable incidents" under Chapter 647. However, in an interview with MCC Campus Security personnel and in our subsequent review of Campus Security incident reports, we found evidence indicating that 25 of the College's IT-related assets had been stolen between July 1, 2003 and February 22, 2005. When we attempted to discuss the theft of computer equipment, MCC management interrupted the interview with Campus Security. The College finally provided a listing of 25 items that it acknowledged had been stolen, including seven central processing units, three notebook computers, and nine monitors. The internal records provided to us by MCC regarding these stolen items were incomplete and lacked detail. The reports also did not document the cost of any of the items nor explanations of the circumstances of the thefts, including user names and locations. When we asked senior management of the College why they did not report the thefts to the Office of the State Auditor, as is required by Chapter 647, of the Acts of 1989, they stated that MCC's "position" was that once the College makes the determination that missing assets were, in fact, stolen, they are no longer "unaccountable variances" and, therefore, need not be reported to the OSA. We told MCC that we refuted this questionable "interpretation" of the statute, and we sought the opinion of OSA's legal counsel on this issue. The position of the State Auditor, as expressed by OSA's legal counsel, is that MCC's "position" is clearly wrong and circumvents the Legislature's intent under Chapter 647 that all thefts of Commonwealth assets are, by nature, "unaccountable" assets that require reporting to the Office of the State Auditor.

Our audit disclosed that MCC recorded notebook computers in the same manner they recorded other IT equipment items, but did not separately monitor the assignment of these assets. When we interviewed the CTO and requested MCC's documented policies and procedures for notebook computers, he stated, "We follow the same procedures for notebooks as with desktops." When we asked whether the College requires assigned users to complete and sign user-responsibility

agreements for any of their computers, the CTO told us that none were required. We determined that MCC assigned notebook computers for use by faculty and staff without maintaining a control register of assigned notebook computers and without requiring signed user responsibility agreements from the individuals assigned the notebook computers. By improving controls over notebook computers, the College could reduce the risk of loss, theft, or misuse of these assets.

Recommendation

We recommend that MCC's senior management strengthen the College's documented internal control policies, procedures, and practices regarding inventory control of IT equipment in the areas of recording and inventory verification to help ensure that the College properly records, accounts for, and monitors its computer equipment.

With respect to the College's maintenance of an inventory system of record for IT equipment, the College needs to develop formalized policies and procedures so that the College can produce a complete record of all IT equipment on a perpetual basis as required by Commonwealth of Massachusetts regulations, including Office of the Comptroller's Fixed Asset Guidelines. These procedures should include, at a minimum, that a perpetual inventory record of computer hardware items be maintained and periodically verified through reconciliation to computer equipment acquisition and disposal records. MCC should also include on its inventory system of record, the required data field "asset cost" to record the costs of all purchased computer equipment. The College should also record purchase dates and purchase order numbers for each item.

MCC also needs to develop formalized policies and procedures for recording asset information in its inventory system of record for IT equipment and increase management supervision and oversight of the recording of computer hardware items. These steps will help reduce the risk of undetected data entry errors, unrecorded items, and loss, theft, or misuse of IT equipment. These policies and procedures will also help ensure that MCC maintains an accurate and complete perpetual inventory that can be accessed daily and used to effectively support IT configuration management and to help safeguard the College's computer equipment. Furthermore, once MCC has completed the annual physical inventory of its computer equipment, we recommend that the College maintain supporting documentation of the physical inventory performed and its reconciliation to the perpetual inventory system of record. To maintain proper internal control, staff not responsible for maintaining the College's system of record for fixed assets should perform the periodic reconciliation.

With respect to the College's compliance with Massachusetts laws and regulations regarding assets of the Commonwealth, our review of MCC's records and supporting documentation for

computer equipment that was disposed of during the audit period disclosed that the College failed to comply with Commonwealth of Massachusetts regulations for disposal of surplus property. Specifically, Operational Service Division regulations, 802 CMR 3.00, require that departments file a request listing all Commonwealth assets that they intend to dispose. Furthermore, our audit disclosed that MCC failed to comply with Chapter 647, of the Acts of 1989 that requires all state agencies to file a report with the Office of the State Auditor documenting missing or stolen state assets.

Finally, with respect to notebook computers, we recommend that MCC develop a centralized policy requiring users who are assigned notebook computers or other IT resources to sign a user responsibility agreement. Procedures to support the policy should be documented and implemented to help ensure that the equipment is used for approved purposes and that appropriate security measures are taken to reduce the risk of loss, theft, or misuse of the equipment.

Subsequent to the completion of our audit, senior management at the College indicated remedial action would be taken to alleviate inventory control weaknesses discussed at the time of our informal exit conference.

Auditee's Response:

Middlesex Community College agrees with the audit recommendation to strengthen the College's documented internal control policies, procedures, and practices regarding inventory control of IT equipment in the areas of recording and inventory verification.

The College has comprehensively reviewed the business process for recording of identifying information of received computer items and has updated policy and procedure material so that the system of record contains all information necessary to comply fully with Commonwealth of Massachusetts regulations. The College now uses an Inventory Bar Code book as part of standard business process for recording inventory information. The system of record provides the recommended data fields including acquisition date, purchase order number, and cost.

The college maintains an electronic inventory system for IT resources that is reconciled annually and operated on an on-going basis. However, because it is maintained electronically, there is limited hardcopy evidence as noted by the auditor. Consequently, the college has formalized policy and procedure to retain the necessary documentation of annual physical inventory.

The college agrees with the audit recommendation regarding conformance with Operational Service Division surplus equipment regulation and will file the appropriate documentation regarding the disposition of obsolete computer equipment. The college also agrees with the audit recommendation regarding

Chapter 647, of the Acts of 1989 and will file the appropriate reports for missing or stolen property with the Office of the State Auditor.

Although the College maintains significant control over the assignment and distribution of IT equipment, and specifically notebook computers, the college agrees with the audit recommendation to develop a centralized policy requiring users who are assigned notebook computers or other IT resources to execute a user responsibility agreement.

The College wishes to thank the Office of the State Auditor for their review and recommendations. The process has enhanced the business practices of MCC.

Auditor's Reply:

We are pleased that the College is taking steps to strengthen the integrity of the fixed-asset inventory system of record for IT resources and improve inventory control policies and procedures. Strengthening inventory control procedures will enhance resource knowledge for IT infrastructure management decisions. We believe that controls to ensure adequate accounting of IT resources, including laptop computers, will be strengthened by updating the inventory record when changes in status or location occur and then routinely, or on a cyclical basis, reconciling the physical inventory and records of acquisitions and deletions (trade-in, loss, etc.) to the system of record. Maintenance of a perpetual inventory, coupled with routine reconciliation, should also improve the detection and subsequent accounting for any lost, stolen, or surplus equipment.