



Commonwealth of Massachusetts
Office of the State Auditor
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Making government work better

Official Audit Report – Issued July 20, 2011

North Shore Community College

For the period July 1, 2007 through September 30, 2010



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North Shore Community College (NSCC) is a two-year Massachusetts institution of higher education offering associate degree and certificate programs. NSCC, which was established in 1965, is a member of the Massachusetts State College System and is regulated by Chapter 15A, Section 5, of the Massachusetts General Laws. In accordance with Chapter 11, Section 12, of the General Laws, we performed an information technology (IT) examination of controls over computer equipment at NSCC covering the period of July 1, 2007 through September 30, 2010. As part of our audit, we determined whether NSCC had appropriate management control practices in place regarding the protection of personal information and performed a review of the status of American Recovery and Reinvestment Act (ARRA) State Fiscal Stabilization Funding. In addition, we conducted a follow-up review of the conditions noted in our prior audit report (No. 2005-0202-4T).

Based on our audit testing, we concluded that, except as reported in the Audit Results section of this report, during the period July 1, 2007 through September 30, 2010, NSCC maintained adequate management controls regarding the protection of personal information and had sufficient controls in place and in effect to properly report on the accounting of federal stimulus expenditures.

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Our prior audit report No. 2005-0202-4T, covering the period ended December 21, 2004, indicated that NSCC needed to strengthen internal control policies, procedures, and practices regarding inventory control of computer equipment in the areas of receiving, recording, and inventory verification. Our follow-up review indicated that NSCC's senior management has strengthened NSCC's documented internal control policies, procedures, and practices regarding inventory control of computer equipment in the areas of receiving, and recording to help ensure that NSCC properly records, accounts for, and monitors its computer equipment. However, our review indicated that NSCC still could not verify the performance of an annual physical inventory or reconcile computer equipment (physical inventory) to NSCC's inventory system of record. The absence of documented policies and procedures regarding inventory verification hinders NSCC's ability to ensure the integrity of its inventory system of record as it pertains to computer assets.

INTRODUCTION

Background

North Shore Community College (NSCC) is a two-year Massachusetts institution of higher education offering associate degree and certificate programs. NSCC, which was established in 1965, is a member of the Massachusetts State College System and is regulated by Chapter 15A, Section 5, of the Massachusetts General Laws. NSCC is the fourth-largest community college in Massachusetts and enrolled more than 17,000 students on three campuses in Danvers, Lynn, and Beverly for the 2010 fall semester.

NSCC is organized into five major components, each led by a Vice President reporting directly to the President of NSCC. The five components are: Administration and Finance; Academic Affairs; Student and Enrollment Services; Institutional Advancement; and Human Resource Development. The Vice Presidents constitute the President's advisory staff and work as a leadership team within an environment of collaborative decision-making and a culture of inclusion and assessment.

NSCC is governed by an 11-member Board of Trustees, each of whom is appointed by the Governor. The board includes two alumni trustees, of whom one is elected by the Alumni Association and one is appointed, and a student trustee who is elected by the student body through the Student Government Association. Trustees serve for five-year terms, except the student trustee, who is elected annually. The Board of Higher Education provides additional oversight to NSCC and monitors each higher education institution to help ensure that state funds support measurable performance, productivity, and results.

The primary mission of NSCC 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. NSCC's main campus is located at One Ferncroft Road in Danvers, with a second campus located on Broad Street in Lynn and a satellite location on Elliot Street in Beverly. At the time of our audit, NSCC employed 400 full-time and part-time faculty, administrators, and staff members, and was supported by a budget of approximately \$20 million.

NSCC maintains its information technology (IT) facility in Danvers and computer labs at all three campus locations. NSCC's administrative and academic operations are supported by information technology services provided by the Information Services (IS) Department. The IS Department is

composed of 21 staff members and a Chief Information Officer, who reports directly to the Vice President of Finance and Administration. The IS Department provides a range of services to assist and guide administrative and academic staff in the use of administrative computer-based systems, the campus portal system, online programs and web services, telecommunications, print servers, copier management, IT security, and e-mail. The IS Department also supports a campus-wide network and client infrastructure consisting of over 70 network file servers that are configured on a Wide Area Network (WAN) for use throughout the 1,500 workstations of NSCC.

NSCC has access to the state Human Resources/Compensation Management System (HR/CMS) and the Massachusetts Management Accounting and Reporting System (MMARS). NSCC uses HR/CMS for all payroll purposes and to electronically update MMARS and the Banner finance subsystem with payroll expense information.

Our audit was primarily limited to a review of the status of prior audit findings noted in Audit Report No. 2005-0202-4T regarding inventory control for computer equipment.

Audit Scope, Objectives, and Methodology

In accordance with Chapter 11, Section 12, of the Massachusetts General Laws, we performed an IT examination of controls over computer equipment at NSCC covering the period of July 1, 2007 through September 30, 2010. We conducted this performance audit 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.

Our audit was also conducted in accordance with 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 (CoBiT, version 4.1), as issued by the Information Systems Audit and Control Association and Office of the State Comptroller's "Internal Control Guide for Departments," promulgated under Chapter 647 of the Acts of 1989.

Our audit objectives were to assess the extent to which corrective action had been taken regarding the audit results identified in our prior IT Audit Report No. 2005-0202-4T, issued on June 9, 2005, to determine whether NSCC had adequate controls in place and in effect to appropriately account

for computer equipment in NSCC's formal inventory system of record. In conjunction with our audit objectives, we determined whether NSCC had implemented formal, approved policies and procedures regarding the proper recording, accounting for, and safeguarding of computer equipment. With respect to NSCC's adherence to applicable laws and regulations regarding fixed assets of the Commonwealth, we determined whether NSCC was in compliance with Chapter 647 of the Acts of 1989 regarding requirements for reporting lost or stolen equipment, and with the Operational Services Division's regulations regarding the disposition of surplus state equipment.

A further objective was to review NSCC's policies and procedures associated with the protection of personal information and the compliance requirements set forth through Chapter 93H of the General Laws. In addition, we determined the status and adequacy of controls at NSCC for the receipt and disbursement of funds received through the American Recovery and Reinvestment Act (ARRA) and compliance with ARRA reporting requirements as mandated in the Interdepartmental Service Agreement between NSCC and the Commonwealth of Massachusetts Department of Higher Education.

To gain and record an understanding of NSCC's mission and business activities, we reviewed information posted on NSCC's website, obtained and recorded an understanding of relevant business and IT-related operations, and reviewed documentation regarding NSCC's mission, operations, and IT-related organization and management. To review NSCC's business operations, specifically its IT-related inventory control environment, and to determine whether corrective action had been taken to address the recommendations presented in our prior audit report, we interviewed the Vice President of Administration and Finance, the Chief Information Officer, and the Comptroller. To further assess the appropriateness of NSCC's IT-related inventory controls, we reviewed all available documented internal control policies and procedures for receiving, recording, monitoring, and safeguarding computer equipment. We then determined whether the existing inventory control policies and procedures addressed the operational requirements of NSCC and the nature and extent of its IT environment.

With respect to NSCC's receiving and recording of purchased computer equipment, we reviewed the appropriateness of operational and management controls, including documentation of NSCC's segregation of duties and the extent of management supervision over the receiving and recording of new hardware items. Specifically, to determine whether NSCC's inventory records were current, accurate, and valid, we used audit software to select a statistical sample of 89 computer hardware

items valued at \$118,291 from all items appearing on the IS Department's listing of computer equipment to compare to the actual computer hardware on hand. We verified, by visual inspection, the existence and location of these 89 computer hardware items and determined whether the equipment was appropriately tagged, in good condition, and whether the serial numbers affixed to the equipment were accurately recorded on the inventory system of record. Furthermore, to verify the integrity and completeness of NSCC's system of record for computer equipment, while conducting our visual inspection of these 89 IT-related assets, we selected 58 additional computer hardware items in adjacent locations, valued at \$57,022, and determined whether they were properly recorded on NSCC's inventory records.

To determine whether NSCC's computer equipment was adequately safeguarded from damage or loss, we reviewed physical security and environmental controls over IT resources through a brief evaluation of NSCC's written policies and procedures in this area, as well as observations made during the actual physical testing of the inventory. To determine whether NSCC had appropriate control practices in place and in effect to account for and safeguard laptop computers, we interviewed senior management of the IS Department and the Fiscal Services Department and requested for review NSCC's documented policies and procedures to control the assignment and use of laptop computers. To evaluate whether NSCC was in compliance with state regulations for accounting for assets, we requested evidence supporting NSCC's performance of an annual physical inventory of computer equipment. Furthermore, to determine whether NSCC was in compliance with Commonwealth of Massachusetts regulations for disposal of surplus property, we reviewed records and supporting documentation for computer equipment that was disposed of during the audit period as well as IT-related equipment that NSCC plans to request Commonwealth approval to dispose of as surplus. Finally, to determine whether NSCC was in compliance with Chapter 647 of the Acts of 1989 regarding reporting requirements for missing or stolen assets, we interviewed NSCC's Vice President of Administration and Finance and Chief of Campus Police, reviewed incident reports for missing or stolen computer equipment for the audit period, and verified that these incidents were reported to the Office of the State Auditor.

To determine whether NSCC was in compliance with the requirements associated with the protection of personal information and those set forth through Chapter 93H of the General Laws, we obtained and reviewed all pertinent documented policies and procedures, determined whether

they were in place regarding the protection of sensitive data, and determined whether relevant hardcopy files were safeguarded.

We reviewed the nature and extent of ARRA funding received by NSCC, and obtained and reviewed the Interdepartmental Service Agreements (ISA) between the Massachusetts Department of Higher Education and NSCC to determine the specific areas that the ARRA funds were to be expended. We examined appropriation codes in the MMARS reports to verify that the ARRA expenditures were properly accounted for, and obtained and reviewed employment reports verifying the number of positions retained at NSCC as a result of ARRA funding. To determine whether NSCC was complying with reporting requirements, we verified that quarterly reports were submitted by the Massachusetts Department of Higher Education on behalf of NSCC detailing the amount of funds expended and the number of positions retained through June 30, 2010. Furthermore, we determined whether there were any funds appropriated and expended for non-payroll purposes, and to what extent and purpose those funds were expended; requested and reviewed a sample of purchase orders, purchase requisitions, and invoices where ARRA funds were used for the purchase of computer equipment and installation of a telecommunications network; verified that the appropriate MMARS accounting codes were used, that the appropriated funds were paid, and that the proper signatures for approval were in place; and tracked these expenses to the ARRA reporting documents issued by the Department of Higher Education

Based on our audit testing, we concluded that, except as reported in the Audit Results section of this report, during the period July 1, 2007 through September 30, 2010, NSCC maintained adequate management controls regarding the protection of personal information and had sufficient controls in place and in effect to properly report on the accounting of federal stimulus expenditures.

AUDIT RESULTS

STATUS OF PRIOR AUDIT RESULTS - CONTROLS OVER COMPUTER EQUIPMENT AND PHYSICAL INVENTORY

Our prior audit No. 2005-0202-4T indicated that NSCC needed to strengthen its internal control policies, procedures, and practices regarding inventory control of computer equipment in the areas of receiving, recording, and inventory verification. Our follow-up review indicated that NSCC's senior management has strengthened NSCC's documented internal control policies, procedures, and practices regarding inventory control of computer equipment in the areas of receiving and recording to help ensure that NSCC properly records, accounts for, and monitors its computer equipment. However, our review indicated that NSCC still could not verify the performance of an annual physical inventory or reconcile computer equipment (physical inventory) to NSCC's inventory system of record. The absence of documented policies and procedures regarding inventory verification hinders NSCC's ability to ensure the integrity of its inventory system of record as it pertains to computer assets.

Our prior audit determined that the receiving, tagging, recording, and distribution duties at NSCC were often performed by one employee, without an adequate level of supervision or oversight. We recommended a separation of duties in this area to minimize the possibility of malfeasance. With respect to NSCC's receiving function, our follow-up review of NSCC's documented policies and procedures, and our observation of the workflow in the receiving area revealed that the duties in this area are now assigned to separate staff members. As a result, receiving, tagging, recording, and distribution duties are now performed by more than one employee, with an adequate level of supervision or oversight. An appropriate level of segregation of duties now exists, which decreases the risk of undetected data entry errors, unrecorded items, and loss or theft of computer equipment.

Our prior audit determined that NSCC's inventory record would be strengthened by including a data field for "condition of item" to support asset or IT configuration management by noting the asset's status, such as being repaired, obsolete, or designated for surplus. Our follow-up audit revealed that the inventory system of record for computer equipment now includes the data field "condition of item" and notes an asset's status (e.g., not functional, being repaired, obsolete, or designated for surplus) necessary for IT configuration management.

Our prior audit disclosed that NSCC did not record purchased computer hardware items on its perpetual inventory when received. Instead, NSCC recorded these items on the inventory only after

they were taken out of storage and deployed. Office of the State Comptroller guidelines and prudent business practices advocate that NSCC record received assets in a timely manner in order to reduce the risk of loss or misuse. The delay in the recording of new IT hardware results in an understatement of NSCC's inventory system of record. Our follow-up review indicates that NSCC now enters all computer equipment on the inventory system of record when received, rather than waiting until the items are deployed, which could be months later. NSCC implemented these control procedures to help ensure that all computer equipment is recorded on the inventory record in a timely manner so that NSCC can produce a complete record of all computer equipment on a perpetual basis.

Our prior audit also revealed that NSCC did not have adequate controls in place and in effect to monitor the assignment and use of laptop computers. Our follow-up audit revealed that NSCC now has centralized, documented policies and procedures in place and in effect to control the assignment and use of NSCC's laptop computers. We determined that NSCC assigns laptop computers to department heads to distribute for use by NSCC staff and requires signed responsibility and usage sheets from staff members using the computers, thereby significantly reducing the risk of loss or theft of these IT fixed assets.

Our prior audit disclosed that NSCC needed to strengthen controls over the monitoring of its inventory system of record to provide reasonable assurance that all computer equipment would be appropriately accounted for and that an accurate and complete listing would be maintained. Specifically, NSCC did not provide a complete set of records supporting the performance of a physical inventory or a reconciliation of its physical inventory and acquisition and disposition records to its system of record for computer equipment. As a result, NSCC's lack of documentation pertaining to the performance of a periodic physical inventory may add to the risk of the unauthorized use or undetected loss or theft of NSCC's computer equipment, or the unreliability of inventory-related data.

Our follow-up audit indicated that NSCC still could not provide verification records supporting the performance of an annual physical inventory and a reconciliation of computer equipment (physical inventory) to NSCC's inventory system of record. It would be difficult for NSCC to ensure proper integrity of its inventory system of record as it pertains to computer equipment. Also, it would be difficult for NSCC to provide reasonable assurance that all computer equipment is appropriately accounted for. In addition, the risk of unauthorized use and the undetected loss or theft of NSCC's

computer equipment is greatly increased. However, our audit did confirm, that all of the 2,157 computer hardware items valued at \$3.3 million on the IS Department's inventory listing were among items listed on the Fiscal Services Department's official inventory system of record, which contains all of NSCC's fixed assets. Moreover, all of the computer items tested were properly listed on the IS Department's inventory system of record, and the cost amounts recorded on the inventory record accurately reflected the amounts on NSCC's purchase orders and invoices. In addition, all of the purchase orders and associated invoices reviewed contained appropriate signed approvals. We also determined that NSCC had appropriate control practices in place and in effect to account for and safeguard laptop computers, specifically in their assignment (as in sign-out forms) and use, thereby decreasing the risk that equipment may not be recovered from an assigned user or that equipment losses may go undetected.

While our audit was in progress, we presented our recommendations to the attention of NSCC officials, who began the process of rectifying the weaknesses noted in the monitoring of NSCC's inventory system of record.

Recommendation

NSCC should strengthen and fully document its policies and procedures supporting the performance of an annual physical inventory to include the maintenance of evidence supporting the reconciliation to the computer inventory system of record and the physical inventory. This improved documentation will help ensure the integrity of NSCC's perpetual inventory system of record for computer equipment and provide reasonable assurance that NSCC's inventory records can be effectively used to support IT configuration management and help safeguard its computer equipment. To maintain proper internal control, staff that are not responsible for maintaining NSCC's system of record for fixed assets should perform the periodic reconciliation.

Auditee's Response

North Shore Community College management agrees with the Auditor's recommendation to strengthen controls over the monitoring of its inventory system of record, specifically to ensure adequate verification records supporting the performance of a physical inventory and reconciliation annually. We have already put additional processes and procedures in place, including enhancements to systems that will more readily support annual physical inventory and reconciliation of records. In addition, we have established timelines to ensure completion of tasks annually. We plan to complete our next physical inventory of information technology assets and enhanced reconciliation process with the College's inventory of record in the Spring 2011, and annually thereafter.

We also appreciate that the auditors acknowledged the corrective actions taken by the College since the previous audit relating to information technology inventory, and also commented regarding their review of the College's compliance with Chapter 647 reporting requirements, policies and procedures regarding protection of personally identifiable information, and selected controls of the administration of American Recovery and Reinvestment Act (ARRA) funds.