



STATE OF NORTH CAROLINA

AUDIT OF THE INFORMATION SYSTEMS

GENERAL CONTROLS

ROBESON COMMUNITY COLLEGE

SEPTEMBER 2007

OFFICE OF THE STATE AUDITOR

LESLIE MERRITT, JR., CPA, CFP

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AUDITOR'S TRANSMITTAL

The Honorable Michael F. Easley, Governor
Members of the North Carolina General Assembly
The Board of Directors of Robeson Community College
Dr. Charles V. Chrestman, President

Ladies and Gentlemen:

We have completed our audit of Robeson Community College. This audit was conducted during the period from June 4, 2007, through June 29, 2007. The audit was conducted in accordance with *Government Auditing Standards* and *Information Systems Audit Standards*.

The primary objective of this audit was to evaluate information systems (IS) general controls at Robeson Community College. The scope of our IS general controls audit included general security, access controls, systems software, physical security, and disaster recovery. Other IS general control topics were reviewed as considered necessary.

This report contains an executive summary and audit results which detail the areas where Robeson Community College has performed satisfactorily relevant to our audit scope, where improvements should be made, and where further study is necessary.

We wish to express our appreciation to the staff of Robeson Community College for the courtesy, cooperation and assistance provided to us during this audit.

North Carolina General Statutes require the State Auditor to make audit reports available to the public. Copies of audit reports issued by the Office of the State Auditor may be obtained through one of the options listed in the back of this report.

Respectfully submitted,

A handwritten signature in cursive script that reads "Leslie W. Merritt, Jr.".

Leslie Merritt, Jr., CPA, CFP
State Auditor

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EXECUTIVE SUMMARY

We conducted an Information Systems (IS) audit at the Robeson Community College from June 4, 2007, through June 29, 2007. The primary objective of this audit was to evaluate the IS general controls in place during that period. Based on our objective, we report the following conclusions:

General security involves the establishment of a reasonable security program that addresses the general security of information resources. Robeson Community College has established a reasonable security program that addresses the general security of information resources. *We did not identify any significant weaknesses in general security during our audit.*

The **access control** environment consists of access control software and information security policies and procedures. We found several weaknesses in access controls. Due to the sensitive nature of the conditions found in these weaknesses, we have conveyed these findings to management in a separate letter pursuant to the provision of North Carolina G.S. 147-64.6(c)(18).

Systems software is the collection of programs that drive the computer. The selection of systems software should be properly approved and the software should be maintained by the computer center. *We did not identify any significant weaknesses in systems software during our audit.*

Physical security primarily involves the inspection of the agency's computer center for the controls that should reasonably secure the operations of the computer center from foreseeable and preventable threats from fire, water, electrical problems, and vandalism. *We did not identify any significant weaknesses in the physical security.*

A complete **disaster recovery** plan that is tested periodically is necessary to enable Robeson Community College to recover from an extended business interruption due to the destruction of the computer center or other Robeson Community College assets. We did identify a significant weakness in the Disaster Recovery. *See Audit Finding 1, Resumption of Computer Systems.*

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AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES

Under the *North Carolina General Statutes* 147-64.6, the State Auditor is responsible for examining and evaluating the adequacy of operating and administrative procedures and practices, systems of accounting, and other elements of State agencies. IS general control audits are examinations of controls which effect the overall organization and operation of the IS function. This IS audit was designed to ascertain the effectiveness of general controls at Robeson Community College.

SCOPE

General controls govern the operation and management of computer processing activities. The scope of our IS general controls audit was to review general security issues, access controls, systems software, physical security, and disaster recovery which directly affect Robeson Community College's computing operations. Other IS general control topics were reviewed as considered necessary.

METHODOLOGY

We audited policies and procedures, interviewed key administrators and other personnel, examined system configurations, toured the computer facility, tested on-line system controls, reviewed appropriate technical literature, reviewed computer generated reports, and used security evaluation software in our audit of general controls. We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States and *Information Systems Audit Standards* issued by the Information Systems Audit and Control Association.

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BACKGROUND INFORMATION

Robeson Community College, located at the intersection of U.S. 301 and Interstate 95 in Lumberton, North Carolina, was founded in 1965 as Robeson Technical Institute. Robeson Community College is a tax-assisted, two-year public institution. It is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools

Robeson Community College is a comprehensive, open-door two year public institution of higher learning with a mission to enhance the lifelong educational opportunities for adults appropriate to their needs, interests, and abilities. The College seeks to strengthen the diverse social, economic, and cultural opportunities for the citizens of Robeson County and surrounding region. The College achieves its mission through a commitment to quality innovative programs and service that permit students to pursue their educational goals in a student-centered environment.

The purpose of the Computer Services department is to provide support for all academic and administrative computing resources of the institution.

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AUDIT RESULTS AND AUDITEE RESPONSES

The following audit results reflect the areas where Robeson Community College has performed satisfactorily and where recommendations have been made for improvement.

GENERAL SECURITY ISSUES

General security issues involve the maintenance of a sound security management structure. A sound security management structure should include a method of classifying and establishing ownership of resources, proper segregation of duties, a security organization and resources, policies regarding access to the computer systems and a security education program. Robeson Community College has established a reasonable security program that addresses the general security of information resources. *Our audit did not identify any significant weaknesses in general security.*

ACCESS CONTROLS

The most important information security safeguard that Robeson Community College has is its access controls. The access controls environment consists of Robeson Community College's access control software and information security policies and procedures. An individual or a group with responsibility for security administration should develop information security policies, perform account administration functions and establish procedures to monitor and report any security violations. We noted a number of weaknesses in access controls. Due to the sensitive nature of the conditions found in the weaknesses, we have conveyed these findings to management in a separate letter pursuant to the provision of North Carolina G.S. 147-64.6(c)(18).

SYSTEMS SOFTWARE

Systems software is the collection of programs that the computer center uses to run the computer and support the application systems. This software includes the operating system, utility programs, compilers, database management systems and other programs. The systems programmers have responsibility for the installation and testing of upgrades to the system software when received. Systems software changes should be properly documented and approved. *Our audit did not identify any significant weaknesses in system software.*

PHYSICAL SECURITY

Controls over physical security are designed to protect a computer center from service interruptions resulting from fire, water, electrical problems, vandalism, and other causes. Robeson Community College's physical security controls ensure that the computer service center is reasonably secure from foreseeable and preventable threats to its physical continuity. *Our audit did not identify any significant weaknesses in physical security.*

AUDIT RESULTS AND AUDITEE RESPONSES (CONCLUDED)

DISASTER RECOVERY

Disasters such as fire and flood can destroy a computer service center and leave its users without computer processing support. Without computer processing, Robeson Community College would grind to a halt. To reduce this risk, computer service centers develop business continuity plans. Business continuity procedures should be tested periodically to ensure the recoverability of the data center.

AUDIT FINDING 1: RESUMPTION OF COMPUTER SYSTEMS

Robeson Community College does have a disaster recovery plan to ensure the resumption of computer systems during adverse circumstances, but the plan does not include the following critical components:

- The maximum recovery period allowed for each major recovery area of the plan for catastrophic disasters.
- A test of Disaster Recovery Plan has not been performed yet.

In the event of a disaster, the aforementioned components are necessary to ensure the proper recovery of the computer resources. Also, a disaster recovery plan should be tested to ensure that the plan is effective. Management should ensure that a written plan is developed and maintained in accordance with the overall framework for restoring critical information services in the event of a major failure. The disaster recovery plan should minimize the effect of disruptions. Procedures should require that the plan be reviewed and revised annually or when significant changes to the College's operations occur.

Recommendation: Robeson Community College should include the aforementioned critical components in their plan and should test the plan at least on a yearly basis.

Auditee's Response: Robeson Community College is currently developing an annual schedule for the testing of each major component of the Disaster Recovery Plan, the schedule will be added to the Disaster Recovery Plan. The warm failover component is scheduled to be tested August 2007. Based upon the results of testing, the institution will add an estimated length of recovery to each major component of the Disaster Recovery Plan.

ORDERING INFORMATION

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