



# **STATE OF NORTH CAROLINA**

**AUDIT OF THE INFORMATION SYSTEMS**

**GENERAL CONTROLS**

**BEAUFORT COUNTY COMMUNITY COLLEGE**

**JUNE 2007**

**OFFICE OF THE STATE AUDITOR**

**LESLIE MERRITT, JR., CPA, CFP**

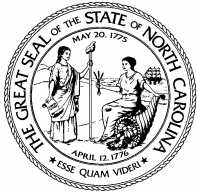
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Leslie Merritt, Jr.,  
CPA, CFP  
State Auditor

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**AUDITOR'S TRANSMITTAL**

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The Honorable Michael F. Easley, Governor  
Members of the North Carolina General Assembly  
The Board of Directors of Beaufort County Community College  
Dr. David McLawhorn, President

Ladies and Gentlemen:

We have completed our audit of Beaufort County Community College (BCCC). This audit was conducted during the period from May 4, 2007, through May 31, 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 BCCC. 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 BCCC 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 BCCC 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

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We conducted an Information Systems (IS) audit at the Beaufort County Community College (BCCC) from May 4, 2007, through May 31, 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. BCCC 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 BCCC to recover from an extended business interruption due to the destruction of the computer center or other BCCC assets. Our audit did not note any significant weaknesses in disaster recovery.

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## AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

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### 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 BCCC.

### 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 BCCC'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**

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Beaufort County Community College is a comprehensive community college that offers continuing education and awards associate degrees, diplomas, and certificates. Beaufort County Community College, located in Washington, North Carolina, was founded in December 1967 as Beaufort County Technical Institute and later became Beaufort County Community College in 1979. Accredited by Southern Association of Colleges and Schools, it received its last accreditation in 1998. The College grants Associate in Arts, Associate in Science, Associate in General Education, Associate in Applied Science degrees, and various certificates and diplomas. The mission of Beaufort County Community College is to provide accessible and affordable quality education, relevant training, and lifelong learning opportunities for the people served by the college.

The IT division at Beaufort County Community College is referred to as the Computer Services division of the college. The Computer Services division consists of a Dean of Administrative Services, who reports to the President. The mission of Computer Services is to provide technical support for the faculty and staff of the college to enable them to achieve the institution's goals. The function of the Computer Services division is to administer the overall operation of all computer systems and networks, including administrative computers, instructional computer labs, the library local area network (LAN), and the fiber-optic campus network.

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## **AUDIT RESULTS AND AUDITEE RESPONSES**

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The following audit results reflect the areas where BCCC 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. BCCC 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 BCCC has is its access controls. The access controls environment consists of BCCC'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. BCCC's physical security controls ensure that the computer service center is reasonably secure from foreseeable and preventable threats to its physical continuity.

## **AUDIT RESULTS AND AUDITEE RESPONSES (CONCLUDED)**

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### **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, BCCC 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. Our audit did not identify any significant weaknesses in disaster recovery planning.

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## **ORDERING INFORMATION**

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