



# **STATE OF NORTH CAROLINA**

**AUDIT OF THE INFORMATION SYSTEMS**

**GENERAL CONTROLS**

**WILSON TECHNICAL COMMUNITY COLLEGE**

**JULY 2007**

**OFFICE OF THE STATE AUDITOR**

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

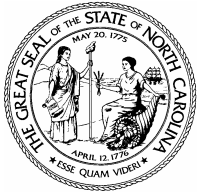
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Leslie Merritt, Jr.,  
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State Auditor

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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 Wilson Technical Community College  
Dr. Rusty Stephens, President

Ladies and Gentlemen:

We have completed our audit of Wilson Technical Community College (WTCC). This audit was conducted during the period from May 4, 2007, through June 8, 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 WTCC. 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 WTCC 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 WTCC 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 Wilson Technical Community College (WTCC) from May 4, 2007, through June 8, 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. WTCC 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 WTCC to recover from an extended business interruption due to the destruction of the computer center or other WTCC 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 WTCC.

### 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 WTCC'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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Wilson Technical Community College is a member of the North Carolina Community College System. Established in 1958 as Wilson Industrial Education Center, it is one of the system's oldest institutions. The first classes began September 9, 1958 in the Coon High School Annex. Construction began on the first building on the current site in 1958. In 1964, the State Board of Education granted authority to award the Associate in Applied Science Degree and the school name was changed to Wilson County Technical Institute.

Under the direction of the Vice President of Finance & Administrative Services, the Director of IT Administrative Systems is responsible for coordinating the operation of the administrative application computer systems and Web server operations and the Director of Network Systems is responsible for coordinating the operation of the Novell, GroupWise, Distance Learning and Infrastructure systems.

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## **AUDIT RESULTS AND AUDITEE RESPONSES**

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The following audit results reflect the areas where WTCC 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. WTCC 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 WTCC has is its access controls. The access controls environment consists of WTCC'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. WTCC'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)**

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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, WTCC 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 weakness in disaster recovery planning.

## **ORDERING INFORMATION**

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