STATE OF NORTH CAROLINA

AUDIT OF THE INFORMATION SYSTEMS

GENERAL CONTROLS

JAMES SPRUNT COMMUNITY COLLEGE

OCTOBER 2007

OFFICE OF THE STATE AUDITOR
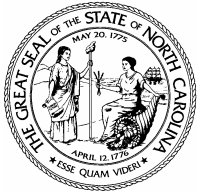
LESLIE MERRITT, JR., CPA, CFP

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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 James Sprunt Community College
Dr. Lawrence Rouse, President

Ladies and Gentlemen:

We have completed our audit of James Sprunt Community College. This audit was conducted during the period from August 29, 2007, through September 19, 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 James Sprunt 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 James Sprunt 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 James Sprunt 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,

Leslie W. Merritt, Jr.

Leslie Merritt, Jr., CPA, CFP
State Auditor

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We conducted an Information Systems (IS) audit at the James Sprunt Community College from August 29, 2007, through September 19, 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. James Sprunt 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 James Sprunt Community College to recover from an extended business interruption due to the destruction of the computer center or other James Sprunt Community College assets. *We did not identify any significant weaknesses in the disaster recovery.*

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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 James Sprunt 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 James Sprunt 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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James Sprunt Community College became an independent institution separate from Wayne Technical Institute on September 7, 1967 and is in Kenansville, North Carolina. The Southern Association of Colleges and Schools accredits James Sprunt Community College to award associate degrees, diplomas, and certificates. The curricula include degree, diploma, and certificate programs in a wide variety of occupational fields including vocational and technical programs, general education, and college transfer and health education. Continuing education and special programs and courses include occupational skills, training and retraining, training for new and expanding businesses and industries, basic skills programs, high school diploma program, employability skills training, leadership development and community service courses and activities to enrich the quality of community life.

The IT division at James Sprunt Community College is referred to as the Management Information Systems division of the College. The Management Information Systems division consists of a coordinator, a network administrator, and two computer systems assistants. The MIS Coordinator manages the division as well as being the systems administrator for the UNIX system. The Network Administrator manages the network and, under the supervision of the coordinator, manages the security on the network. The Coordinator reports to the Dean of Administrative and Fiscal Services. The mission of the Management Information System division is to support data processing, provide network/communication services, and provide technical expertise in the purchase/upgrading of hardware and software for all areas of the College. The function of the Management Information Systems division is to provide support for the computer operations at James Sprunt Community College, including maintaining the e-mail system for the College, maintaining the administrative computer systems, maintaining the computer network, managing all PCs on campus and assisting with all software used on campus, as well as advising on the purchase of computer equipment and software.

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AUDIT RESULTS

The following audit results reflect the areas where James Sprunt 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. James Sprunt 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 James Sprunt Community College has is its access controls. The access controls environment consists of James Sprunt 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. James Sprunt 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.*

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, James Sprunt 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. *Our audit did not identify any significant weakness in disaster recovery planning.*

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