

STATE OF NORTH CAROLINA

OFFICE OF THE STATE AUDITOR

BETH A. WOOD, CPA



NORTH CAROLINA CENTRAL UNIVERSITY

INFORMATION TECHNOLOGY GENERAL CONTROLS

INFORMATION SYSTEMS AUDIT

JANUARY 2016



NC\$OSA
The Taxpayers' Watchdog

EXECUTIVE SUMMARY

PURPOSE

This information technology general controls audit was conducted to determine whether information technology controls at North Carolina Central University (NCCU) are adequate pursuant to the common information security framework adopted by the University of North Carolina system campuses.

BACKGROUND

NCCU formally adopted the ISO 27002 security framework on March 29, 2012. The University of North Carolina Information Technology Security Council recommended the adoption of *ISO 27002 Information Technology – Security Techniques – Code of Practice for Information Security Management (ISO27002)* as the common security framework baseline for University of North Carolina system campuses.

KEY FINDINGS

The results of our audit disclosed deficiencies considered reportable under generally accepted government auditing standards. These items regard security which, due to their sensitivity, were reported to NCCU by separate letter in accordance with these standards. These items should be kept confidential as provided in *North Carolina General Statute 132-6.1(c)*.

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Office of the State Auditor



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AUDITOR'S TRANSMITTAL

January 20, 2016

The Honorable Pat McCrory, Governor
Members of the North Carolina General Assembly
Board of Trustees, North Carolina Central University
Dr. Debra Saunders-White, Chancellor, North Carolina Central University

Ladies and Gentlemen:

This report presents the results of our information technology (IT) general controls audit at North Carolina Central State University (NCCU). Our work was performed by authority of *North Carolina General Statute 147-5A* and was conducted in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States.

The objective of this audit was to determine whether IT controls are adequate pursuant to the common information security framework adopted by the University of North Carolina system campuses.

The results of our audit disclosed deficiencies considered reportable under generally accepted government auditing standards. These items regard security, which due to their sensitivity, were reported to NCCU by separate letter in accordance with these standards. These items should be kept confidential as provided in *North Carolina General Statute 132-6.1(c)*.

We wish to express our appreciation to the North Carolina Central University staff for the courtesy, cooperation, and assistance provided us during the audit.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Beth A. Wood'.

Beth A. Wood, CPA
State Auditor



**Beth A. Wood, CPA
State Auditor**

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Article 5A, Chapter 147 of the North Carolina General Statutes, gives the Auditor broad powers to examine all books, records, files, papers, documents, and financial affairs of every state agency and any organization that receives public funding. The Auditor also has the power to summon people to produce records and to answer questions under oath.



BACKGROUND, OBJECTIVES, SCOPE, AND METHODOLOGY

North Carolina Central University

North Carolina Central University (NCCU) is one of 17 constituent institutions that make up the University of North Carolina System.

NCCU's Information Technology Services (ITS) provides information technology services to administrators, staff, and students of the university and is responsible for centralized information technology management. ITS is headed by the Chief Information Officer (CIO), who reports directly to the Chancellor. ITS is comprised of five areas: Audit & Business Continuity; Network Services & Telecommunications; Web Support Services; Client Services; and Enterprise Information Systems.

NCCU formally adopted the ISO 27002 security framework on March 20, 2012. The University of North Carolina Information Technology Security Council recommended the adoption of ISO 27002 Information Technology - Security Techniques - Code of Practice for Information Security Management (ISO 27002) as the common security framework baseline for University of North Carolina system campuses.

The objective of this audit was to determine whether information technology (IT) controls at North Carolina central University (NCCU) are adequate pursuant to the common information security framework adopted by the University of North Carolina system campuses.

The scope of our audit included the following IT general controls categories: IT governance; access controls, physical security, change management, configuration management, network administration, and disaster recovery. These controls directly affect NCCU's computing operations.

To accomplish our audit objectives, we gained an understanding of NCCU's policies and procedures, interviewed key NCCU administrators and other personnel, examined system configurations, examined system controls, reviewed appropriate technical literature, and reviewed computer-generated reports. The audit was conducted between January and May 2015.

As a basis for evaluating IT general controls, guidance contained in the International Organization for Standardization (ISO) 27002 Information Technology - Security Techniques: Code of Practice for Information Security Management was applied. ISO 27002 provides guidelines for organizational information security standards and information security management practices including the selection, implementation and management of controls taking into consideration an organization's information security risk environment. The University of North Carolina and its constituent institutions have adopted ISO 27002 as the framework for information technology security standards to maximize the functionality, security, and interoperability of the University's distributed information technology assets.

Additionally, guidance contained in the COBIT framework issued by ISACA¹ was applied. COBIT 5 is a comprehensive framework that helps enterprises achieve their objectives for the governance and management of enterprise information and technology assets.

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.

This audit was conducted under the authority vested in the State Auditor of North Carolina by *North Carolina General Statute 147.64*.

¹ ISACA is an independent, nonprofit, global association engaged in the development, adoption, and use of globally accepted, industry-leading knowledge and practices for information systems.



FINDINGS

The results of our audit disclosed deficiencies considered reportable under generally accepted government auditing standards. These items regard security, which due to their sensitivity, were reported to North Carolina Central University by separate letter in accordance with these standards. These items should be kept confidential as provided in *North Carolina General Statute 132-6.1(c)*.

During the course of an audit, Office of the State Auditor staff may uncover potential issues that are outside of the audit objectives. Although the issues may not have been part of the planned objectives, the issues need to be presented to those charged with governance of the organization under audit. Below is such an issue.

THE BOARD OF GOVERNORS SHOULD ASSESS THE AUTHORITY GIVEN TO UNC-GA FOR OVERSIGHT OF INFORMATION TECHNOLOGY SECURITY AT MEMBER INSTITUTIONS

As of August 2015, four of the 17 system campuses had failed to provide the University of North Carolina General Administration (UNC-GA) with information technology (IT) security evaluations due in July 2012.

Gap analyses and risk assessments² were requested from each campus as part of the university's implementation in 2012 of a new IT security framework adopted by the member campuses in partnership with UNC-GA.

Delays in approving and implementing the IT security policies consistent with the IT security framework puts the security of personal information of students, staff and faculty at these universities at risk and the universities at risk for failure to prevent, detect, and respond to IT data breaches.

Under State law,³ UNC-GA derives its authority over member campuses solely through direction from the UNC Board of Governors (Board). UNC-GA officials represent that the Board has not provided them authority to hold campuses accountable for complying with the IT security framework adopted by the member campuses.

The Board should assess whether the authority currently given to UNC-GA related to the oversight of IT adequately protects data throughout the university system.

² A gap analysis would identify the differences between the new IT security framework and existing campus policies. A risk assessment would describe plans for compliance with the new framework, mitigation of risks identified by the gap analysis, or the use of alternative controls to address security gaps.

³ North Carolina General Statutes 116-11 and 116-14.

ORDERING INFORMATION

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This audit was conducted in 885 hours at an approximate cost of \$87,615.