



STATE OF MISSISSIPPI
OFFICE OF THE STATE AUDITOR
STACEY E. PICKERING
STATE AUDITOR

April 2, 2015

Information Systems Management Report

Richard Berry, Executive Director
Mississippi Department of Human Services
P. O. Box 352
Jackson, Mississippi 39205

Dear Mr. Berry:

The Office of the State Auditor has completed its limited assessment of the Information Systems (IS) general controls and selected application controls of the Mississippi Department of Human Services (MDHS). This assessment focused on the adequacy of the MDHS information technology general controls (ITGC) which help to protect the integrity and security of its computer systems and was performed in conjunction with the audit of the State of Mississippi.

The following members of the Office of the State Auditor participated in this engagement: David Ashley, MBA, ME, CISA, CISM, CBCP, CRISC (IS Audit Director) and LaDonna Johnson, MBA, CISA (Senior IS Auditor).

Scope of Our Review

To support our general controls assessment, our procedures were performed through observations, discussions and testing of the information technology general controls (ITGC) of Mississippi Department of Human Services' Information Systems. The scope of our Information Systems review included information processing technology risks in the following categories: integrity, reliability, availability and access, managing problems and incidents.

Limitations

In planning and performing our limited assessment of Mississippi Department of Human Services' information systems, we considered Mississippi Department of Human Services' information technology general controls (ITGC) in order to determine our assessment procedures; however, this review was not for the purpose of expressing an opinion on the effectiveness of the internal control over information systems. Also, these procedures cannot and do not provide absolute assurance that all state legal requirements have been met. In accordance with Section 7-7-211, Miss. Code Ann. (1972), the Office of the State Auditor, when deemed necessary, may conduct additional procedures for this or other fiscal years to ensure compliance with legal requirements.

Internal Controls Over Information Systems

As stated previously, our review was intended to be in support of the federal audit of the Mississippi Department of Human Services. Therefore, any exceptions in ITGC are ultimately evaluated as to their impact on federal reporting by the entity.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct misstatements or noncompliance on a timely basis. A material weakness is a deficiency or combination of deficiencies in internal control such that there is a reasonable possibility, that a material misstatement of the entity's financial statements or material noncompliance with a type of compliance requirement of a federal program will not be prevented or detected and corrected on a timely basis. A significant deficiency is a deficiency or a combination of deficiencies in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance.

Our consideration of the internal controls over IS was for the limited purpose described in the fourth paragraph and was not designed to identify all deficiencies in internal control over information systems that might be material weaknesses or significant deficiencies and therefore material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our review we did not identify any deficiencies in internal control that we consider to be material weaknesses.

Compliance

As part of obtaining reasonable assurance about whether selected IS general controls of the Mississippi Department of Human Services are functioning as designed, we performed assessments of compliance with industry best practices. However, providing an opinion on compliance with these practices was not an objective of our assessment and accordingly, we do not express such an opinion.

Summary

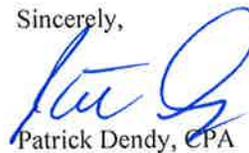
We identified deficiencies involving internal control over ITGC that we consider to be control deficiencies in internal control over IS. These matters are noted under the heading CONTROL DEFICIENCIES. Please review the recommendations included in this report and submit a plan to implement them by April 24, 2015. The enclosed findings contain more information about our recommendations. During future engagements, we may review the findings in this management report to ensure that procedures have been initiated to address these findings.

Purpose of this Report

The purpose of this report is solely to describe the scope of our general controls assessment of the Mississippi Department of Human Services' Information Systems and the results of that assessment. Accordingly, this communication is not suitable for any other purpose. However, this report is a matter of public record and its distribution is not limited.

We appreciate the cooperation and courtesy extended by the officials and employees of the Mississippi Department of Human Services throughout this review. If you have any questions or need more information, please contact me.

Sincerely,



Patrick Dendy, CPA
Director, Department of Audit

Enclosure

**OFFICE OF THE STATE AUDITOR
INFORMATION SYSTEMS MANAGEMENT REPORT
MISSISSIPPI DEPARTMENT OF HUMAN SERVICES
AS OF MARCH 9, 2015**

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I. ABBREVIATIONS USED IN THIS REPORT

IS	Information Systems
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITGC	Information Technology General Controls
ITS	Mississippi Department of Information Technology Services
MDHS	Mississippi Department of Human Services
MIS	Management Information Systems
OSA	Office of the State Auditor

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II. REVIEW OBJECTIVES AND APPROACH

Our review's overall objective was to perform an assessment of the general data processing controls established by management of the Mississippi Department of Human Services to support the integrity and security of the information processed by the computer systems of the Mississippi Department of Human Services at its main office in Jackson, Mississippi. To accomplish these objectives, the Information Systems Audit Section staff of the Office of the State Auditor (OSA):

- Met with Mississippi Department of Human Services management and the OSA auditors to gain an understanding of the critical Mississippi Department of Human Services processes and controls;
- Interviewed selected Mississippi Department of Human Services technology personnel;
- Reviewed available documentation of procedures, standards and other evidential matter;
- Identified any vulnerabilities associated with any weaknesses, if noted, in the control environment.

Our approach was not designed to specifically detect illegalities, fraudulent acts, errors or other irregularities.

III. STANDARDS FOR BEST PRACTICES

In this report we will refer to best practices standards that should be achieved by all Information Technology (IT) departments, specifically we mention and utilize the methodology of CobiT 4.0 of the IT Governance Institute (www.itgi.org) as the industry standard we have selected for the evaluation of the IT control environment. Other similar methodology is the Information Technology Infrastructure Library (ITIL) which is a framework of best practice approaches intended to facilitate the delivery of high quality IT services. ITIL outlines an extensive set of management procedures that are intended to support businesses in achieving both quality and value for money in IT operations. These procedures are supplier independent and have been developed to provide guidance across the breadth of IT infrastructure, development, and operations.

Additional sources for Information Systems control criteria include *The State of Mississippi Department of Information Technology Services' Enterprise Security Policy* and the U. S. Government Accountability Office's Federal Information System Controls Audit Manual (FISCAM). This manual provides guidance for reviewing information system controls affecting integrity, confidentiality, and availability of computerized data. See <http://www.gao.gov/products/GAO-09-232G>.

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IV. FINDINGS AND RECOMMENDATIONS

CONTROL DEFICIENCIES

1. MDHS Should Store Backup Media for Server Data Offsite.

Finding:

The Mississippi Department of Human Services (MDHS) currently copies its server data to a disk storage system. This system is located in a computer room where many of the MDHS servers that are backed up to this disk storage system are also located.

Best business practices call for backups to be made and retained in a manner that will ensure the integrity, availability and confidentiality of the backups should they be needed to report on historical data or restore data as in a disaster scenario. These guidelines include storing backups in an environment that is conducive to the retention of data on that type medium as well as being located a safe distance from the original data. This distance requirement is to be made with the assumption that under normal circumstances, if a disaster scenario was experienced in the location of the original data, the same disaster scenario would most likely not affect the backup data location.

Under the present MDHS data storage configuration, if a disaster scenario occurs that involves servers in the computer room, there is the likelihood that the server used for server backups will also be damaged. The fact that the primary and backup copies of data are located in the same physical location increases the risk of not having access to data for an extended period of time or the loss of data.

Inability to access data or loss of data could result in financial loss to MDHS due to situations such as delay in payments, timeliness of reporting, and meeting regulatory requirements. Without proper offsite storage of backup files and applications, material damage could be realized by the agency. Risk and probabilities of material loss escalate in relationship to the longer an exposure goes unmitigated.

Recommendations:

MDHS should develop and implement a plan to ensure that all backup files are housed off-site in a safe and secure location. It is further recommended that sufficient backups be kept to assure that recovery point objectives desired by management can be realized. In addition, this off-site location should be sufficient enough distance from the primary computer room at MDHS to assure that a single disaster will not affect both primary and backup locations. This process should be documented in the MDHS disaster recovery plan.

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2. MDHS Utilizes a Water-Based Fire Suppression System in the Computer Room.

Finding:

MDHS utilizes a fire suppression system in its computer room called “wet pipe”. This means there is water in the overhead pipes at all times. The U.S. National Fire Protection Association, Standard 75 recommends, “Where there is a critical need to protect data in process, reduce equipment damage and facilitate return to service; consideration should be given to the use of a gaseous clean agent inside units or total flooding systems in sprinklered or nonsprinklered IT equipment areas.” The wet pipe fire suppression system was installed by MDHS’s landlord before MDHS moved into its present location. Any discharge of water by the system, whether accidental or due to a fire or smoke related event, could cause the water to disperse or leak onto the computer equipment possibly causing considerable damage to MDHS’s computer assets, as well as a subsequent disruption of access to MDHS’s computer assets. Such disruption could result in financial loss to the State of Mississippi due to situations such as delay in payments, timeliness of actions, and meeting regulatory requirements.

Recommendation:

MDHS should consider replacing the water-based fire suppression system in its computer room with a system that meets recommended guidelines for fire suppression in areas containing electronic equipment related to critical data systems. This should be done as soon as possible due to the danger of possible loss of data and access to systems that are critical for the day-to-day operation of the Mississippi Department of Human Services. In planning for this replacement, a risk analysis in relation to computer usage and operation at MDHS should be performed in order to assure that best business practices are used to protect the computer assets at MDHS. Until the water-based system is replaced, the results of this risk analysis process should also be used in a subsequent review and update of the MDHS disaster recovery plan in order to mitigate any added risk factors identified by the presence of the water-based fire suppression system.

End of Report