



**STATE OF MISSISSIPPI**  
Phil Bryant, Governor  
**DEPARTMENT OF HUMAN SERVICES**  
Richard A. Berry, Executive Director

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April 23, 2015

Stacy E. Pickering, State Auditor  
Office of the State Auditor  
State of Mississippi  
Post Office Box 956  
Jackson, Mississippi 39205-0956

**RE: Information Systems Management Report**

Dear Mr. Pickering:

The Mississippi Department of Human Services appreciates the support for the general controls assessment for the MDHS Agency. The Office of the State Auditor supporting staff David Ashley and LaDonna Johnson completed the general controls assessment on April 2, 2015.

**FINDINGS AND RECOMMENDATIONS**

**CONTROL DEFICIENCY**

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.

*MDHS Agency Response:*

The MDHS Agency will have the redundant backup device installed and operational at the ITS Data Center on, or before, August 31, 2015.

*MDHS Corrective Action Plan:*

MDHS will prepare the Procurement request to have the vendor on site to facilitate the move of the backup storage device to ITS. A Purchase Order will be created for vendor support. A definitive schedule will be created for the migration. The migration of the backup storage device to ITS will be implemented. The backup storage device will be tested and certified by the vendor.

**Note:** As OSA requested, MDHS has reviewed options for conducting interim backups until the backup storage device is successfully moved to ITS. Due to the large volume of data involved and the data all currently being disk based, there are no reasonable alternatives for interim off-site backups at this time. MDHS will focus its efforts on ensuring that the backup storage device migration is done in a quality manner and completed on, or before, the August 31, 2015 time frame.

**CONTROL DEFICIENCY**

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.

*MDHS Agency Response:*

The MDHS Agency will work with Vendors that have expertise in fire suppression to obtain recommendations and pricing for a gaseous clean agent solution that can replace the water-based system for the MDHS Data Center. The MDHS Agency will have a plan for replacement Fire Suppression in place on, or before, December 31, 2015. Furthermore, MDHS is seeking to move the datacenter to a smaller location that will allow for a more controlled Fire Suppression should such a disaster occur. It is the understanding of the MDHS MIS Team that the current Fire Suppression implemented for the MDHS Data Center is based on a “Dry Pipe” system. With a Dry-Pipe system there is no water in the pipes in the Data Center. Only if a Fire is detected would a release valve be triggered to open and release water to the Sprinklers in the Data Center. While this may provide some degree of benefit, we understand the overall issue here is to migrate from a water-based system to a gas-based system for the Data Center.


*MDHS Corrective Action Plan:*

MDHS will prepare any required Procurement requests to have Vendors come on site to review the MDHS Data Center and make recommendations for a non-water-based Fire Suppression system. The recommendation that is most suitable and cost effective for MDHS will be presented to MDHS management for review and approval. The required Procurement process, and/or Purchase Order, will be implemented so that the new Fire Suppression system can be acquired and installed in the MDHS Data Center.

**Note:** As OSA requested, MDHS will have the Vendors determine if the existing water-based system can be de-activated as part of the Fire Suppression System replacement.

Once you have reviewed the MDHS Agency responses to the Office of State Auditor Findings, if you have questions or need additional information please contact our Chief Information Officer, Mark Allen at 601-359-4566 or [mark.allen@mdhs.ms.gov](mailto:mark.allen@mdhs.ms.gov).

Sincerely,



Richard A. Berry  
Executive Director

cc: Mark Smith  
John Davis  
Will Simpson  
Mark Allen  
Earl Walker  
Mike Bullard  
Chuck Francis  
Michael Wise