

The School District of Osceola County, Florida

Office of Internal Audit

Report 2005-01

Observation of Computer Operations (IT) Disaster Recovery Exercise

November 1, 2005

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Internal Auditor's Report

November 8, 2005

Members of the School Board
The School District of Osceola County, Florida
Kissimmee, Florida

Dear Members:

On October 10, 2005, I had the opportunity to personally observe a limited scope test of the Osceola County School District's (the District) IT Disaster Recovery Plan.

This test was conducted at the Brevard County School District data center, and included certain aspects of Payroll, Purchase Orders and Accounts Payable.

Due to limited lead time, my involvement in this project was restricted to the on-site observation of the actual accounting application software tests and reasonable follow-up work after the date of the Disaster Recovery Exercise.

Follow-up work included brief interviews with District IT and Finance personnel to acquire additional understanding of the test objectives and results that were observed. It also included a brief review of the Disaster Recovery documents held in the District's Information Services Department.

The advance audit planning, on-site verification, and other formal procedures required by a full IT Audit were not performed, and I am therefore characterizing this document as an Observation Report, rather than an official Audit Report. It has not been reviewed and approved by the District's Audit Planning and Review Committee as would be the case for an official audit project by this office.

An IT Audit of this critical area should find its way into the Office of Internal Audit's Annual Work Plan in the next fiscal year or two, and continue to be a biennial audit project.

In any case, this was a valuable exercise for both the Information Services Department and the Office of Internal Audit, and I am pleased to share my independent observations and recommendations with the School Board in this report.

Sincerely,

George Prytula, III CPA, CISA, CGFM
Coordinator of Internal Audit Services

Executive Summary

Natural Disasters and Terrorist Attacks are becoming increasingly frequent in today's world. Each year, the previously unimaginable becomes the new standard that must be addressed in Disaster Recovery Planning by both organizations and individual citizens.

In recent years, The Osceola County School District (the District) has made a solid start in addressing Disaster Recovery Planning for IT Operations. However, there is much more planning and testing work that needs to be done in this area. When the District reaches the point of substantial completion of its Disaster Recovery planning work, a full IT Audit of this critical area should be performed by the Office of Internal Audit.

An on-site Disaster Recovery test in Brevard County, on October 10, 2005, successfully demonstrated the District's ability to process certain critical business applications at an alternate processing site on relatively short notice. The October 10th exercise was the second test in the District's history of Disaster Recovery Planning.

The most important auditor observation that came out of this recent exercise is the fact that all three of the Osceola County School District's current disaster recovery partners are located in a continuous, relatively short line along the Atlantic coast of Florida. The alternate data processing centers that Osceola County School District is currently relying on are all just a few miles inland in an area that was hard hit during the 2004 hurricane season. One of the 2004 hurricanes that impacted the East Coast of Florida was reported to be the size of the state of Texas. More recently, on October 24, 2005, Hurricane Wilma heavily damaged a School District administration building that has the same proximity to the Atlantic Ocean as the District's current disaster recovery partners.

Background

Disaster Recovery is the coordinated process of restoring systems, data and infrastructure required to support key ongoing business operations. Although the term is most often used to describe the recovery of computer operations (IT), it can also apply to the non-IT business functions of an organization. Disaster Recovery Planning should also be viewed as a multi-dimensional process (minor disaster vs. major disaster, short term recovery vs. long term recovery, etc.). A large part of the planning process involves simply defining the various types of potential disasters and their impact on business operations.

The Osceola County School District (the District) conducts business and IT operations at one central administration center in Kissimmee, Florida and to one extent or another, at all locations of its public schools and various support centers. The District does not currently possess any Alternate Processing Facilities for IT or business operations.

A brief history of the District's IT Disaster Planning efforts is shown below:

April 17, 1998	First Reciprocal Agreement with Brevard County
February 20, 2002	First formal Disaster Recovery Planning Meeting
April 24, 2002	First Disaster Recovery Test conducted at Brevard County
January 13, 2004	IT Audit of Disaster Recovery Plan by External CPA Auditors – Final Report Released
March 1, 2004	Second Reciprocal Agreement with Brevard County
November 21, 2004	Second Disaster Recovery Planning Meeting
May 19, 2005	Creation of Disaster Recovery Plan using Brevard County Plan as a Template
June 1, 2005	First Reciprocal Agreement with Martin County
October 10, 2005	Second Disaster Recovery Test conducted at Brevard County

The District maintains Reciprocal Disaster Recovery Agreements with Brevard, Indian River and Martin Counties. No testing has ever been performed at the Indian River County and Martin County facilities. There is no signed document supporting the District's agreement with Indian River County.

All reciprocal partners possess IBM AS/400 – OS/400 computer equipment that is compatible with the District's own computer equipment used for key business processes.

Observations

The District’s October 10, 2005 Disaster Recovery Test was held at the headquarters office of the Brevard County Public Schools in Viera, Florida. This reciprocal site is located approximately 60 miles from the District’s own Data Processing Center in Kissimmee. Driving time is approximately 1.50 hours. The Brevard computer facility is 4.5 miles inland from the Atlantic Ocean.

Osceola County School District personnel in attendance were:

Randy George – Information Services Director
Tony Costantini – Computer Operator
Cristina Reichard – Programmer Analyst/ HR System
Tim Smith – Systems Analyst

Bill Collins – Director of Finance
Alice Collins – Senior Payroll Clerk
Cindy Stevens – Accounts Payable Supervisor

George Prytula, III – Coordinator of Internal Audit Services

Brevard County School District personnel in attendance were:

Sandy Crews – Manager of Operations and User Services
Dan Cook – Systems Programmer

Randy George and his IT staff arrived at the Brevard County site at 9:45AM on the day of the test. In their possession was a collection of IBM backup tapes containing all of the application programs and related data files needed to execute the defined set of tests on Payroll, Purchasing and Accounts Payable.

Computer Processing Components provided by each School District were as follows:

Brevard County

Osceola County

Hardware – IBM AS/400 i Series

Application Software - TERMS

Operating System – IBM OS/400

Data Files – IBM DB2 Database

Approximately three hours were needed to load the District’s business application programs and related data onto the Brevard County computer system.

Bill Collins and his accounting staff arrived at the Brevard County site at 1:30 PM. They were well prepared to perform the defined tests on the Payroll, Purchasing and Accounts Payable modules that had been duplicated on the Brevard County’s AS/400 system.

Observations (continued)

The first business application tested by the Osceola team was Payroll. The Payroll calculation was completed at 1:45 PM, and individual paychecks were ready for viewing on the test lab computers at that time. Payroll calculation time was about 15 minutes.

The Payroll test used actual data from the pending October 20, 2005 paychecks and included approximately 5000 District employees in the test calculation. Payroll calculation control totals of \$8 million Gross Pay and \$6 million Net Pay were examined by the Osceola team and determined to be correct.

Initially, paycheck data was only viewable on the computer displays. Several individual paychecks from the test run were retrieved, reviewed and accepted as correct.

Two hours later, most of the problems with the form printing software were resolved and a few sample paychecks were printed and examined. The only remaining problem with paycheck printing was the MICR font accuracy.

The following additional information should be considered in evaluating the success and completeness of this Payroll test:

- The test did not include approximately 1000 District employees who are paid on an hourly basis.
- The regular data entry process for Hourly Employees is performed at many field locations and is considered to be a substantial semi-monthly effort.
- The payroll test did not include required data entry and related calculations for Overtime Pay and Leave Taken.
- The test did not include ACH processing with the District's bank, which would be the final step for direct deposit paychecks. The ACH process was subsequently observed at the District's computer processing center and determined to be possible from any standard internet connection.
- District paycheck stubs and standard paper paychecks must pass through a special adhesive sealing machine before they can be distributed. Brevard County does not possess such a machine and has no plans to acquire one in the future.

Testing of the Purchasing and Accounts Payable systems began at 3:45 PM. Several Purchase Requisitions were selected for approval and Purchase Order creation.

The Osceola test team was able to create actual Purchase Order records in the system, but could not print paper Purchase Orders. Accounts Payable Invoice computer records were successfully created from the Purchase Order records.

Observations (continued)

Several open Accounts Payable Invoices were selected for Payment processing. The test team was able to print a Check Register and Accounts Payable checks for the selected Invoices. Finally, the Accounts Payable payment records were successfully posted to the District's General Ledger.

Normal processing for Purchasing and Accounts Payable involves an average of 3000 Purchase Orders and 1650 Accounts Payable Checks per month.

The Accounts Payable test also suffered from unresolved MICR font problems.

Looking at the scope of the October 10, 2005 Disaster Recovery Exercise compared to the totality of District IT operations, it should be noted that the following IT areas remain untested, and in some cases, not even addressed at this time:

- TERMS Student Data Base
- Warehouse Management
- Property Records
- Budget Development
- Email
- Internet and Intranet Systems
- Local and Wide Area Networks
- Transportation – Edulog
- School Attendance – Pinnacle
- Application Data Base Servers

Recommendations

- **Additional Disaster Recovery Partner - Public School District**

Due to the large scale coastal destruction witnessed in recent domestic and foreign hurricanes, the District should locate and cooperatively test with at least one additional public school district that has a relatively safe inland location and geographical elevation. All current disaster partners are in the same region.

- **Follow-Up on All of the Prior IT Audit Findings**

An IT Audit Report on the District's Disaster Recovery Plan, dated January 13, 2004, contained a dozen audit findings. Some of these findings may have been already addressed by the District's Information Services Department. The Office of Internal Audit, in its 2005-2006 Annual Work Plan, should examine and report on the follow up of all of these IT Audit Findings.

- **Completion and Expansion of Disaster Recovery Plan and Plan Testing**

Incomplete areas of the current Disaster Recovery Plan should be filled in as soon as possible. The District's Disaster Recovery Planning efforts should be expanded to cover other IT functions and operations outside of the IT area. A Business Impact Analysis should be prepared. All plan sections must be tested.

- **Permanent Effort with Regular Progress Reporting**

Disaster Recovery Planning should become a permanent and continuous effort in the District, rather than an issue that is addressed once or twice per year as time permits. A permanent internal work group, representing all relevant IT and business functions, should be charged with this responsibility. The Office of Internal Audit can monitor this effort and present periodic progress reports to the School Board.

- **Mandatory Direct Deposit Policy for District Payroll**

Payroll processing under both disaster and routine circumstances could be greatly facilitated by a policy that required all net paycheck disbursements to be paid electronically. Paycheck stub printing could also be eliminated by making such information available to District employees through an intranet site.

- **District IT Tech Conferences**

During the course of the Disaster Recovery Observation follow-up, the Office of Internal Audit became aware of monthly IT conferences that are held at a local District facility. Internal Audit will attend as many of these IT conferences as possible to become more knowledgeable of current District IT issues.

Final Report Distribution

- The Osceola County School Board
- The Osceola County Audit Planning and Review Committee
- The Osceola County School District Superintendent – Blaine Muse
- Assistant Superintendent for Business Services – Richard L. Collins
- Director of Finance – William C. Collins
- Assistant Superintendent for School Support Services – Dr. John Beall
- Information Services Director – Randy George
- Technology Services Director – Roberto Rodriguez

