



Audit of the SAP Solution Center

Report # 09-23

Prepared by
Office of Inspector General

John W. Williams, Esq., Inspector General
J. Timothy Beirnes, CPA, Director of Auditing
Kit Robbins, CISA, CISM, Lead Information Systems Auditor



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

September 29, 2010

Audit and Finance Committee Members:

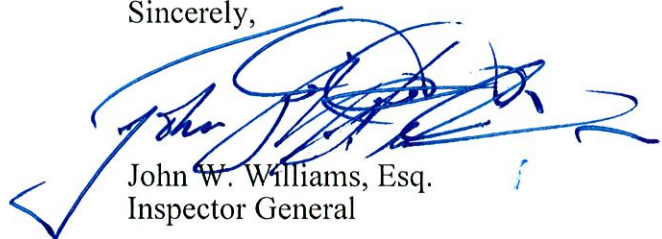
Mr. Charles J. Dauray, Chair
Eric Buermann, Esq., Member
Mr. Joe Collins, Member
Glenn J. Waldman, Esq., Member

Re: Audit of the SAP Solution
Center

Project No. 09-23

This audit was performed pursuant to the Inspector General's authority set forth in Chapter 20.055, F.S. The objectives focused on determining whether the SAP Solution Center is meeting its goals and is operating efficiently and effectively. In addition, we determined whether the SAP system capabilities could be enhanced to fully realize the District's investment. This report was prepared by Tim Beirnes and Kit Robbins.

Sincerely,

A handwritten signature in blue ink, which appears to read "John W. Williams", is written over a large, stylized blue checkmark. The signature is fluid and cursive.

John W. Williams, Esq.
Inspector General

TABLE OF CONTENTS

BACKGROUND	1
OBJECTIVE, SCOPE, AND METHODOLOGY	4
AUDIT RESULTS	5
Executive Summary	5
Activities Adequately Support the District.....	7
Extensive Use of Long Term Contracts Increases Overall Cost	7
Benchmarking Shows the SAP System Can Be Operated Effectively with Fewer Resources.....	9
Business Plan or Business Case Needed.....	12
SAP Steering Committee Has Not Met Timely	13
Purchasing Unused SAP Modules and License Fees	15
SAP Master Data Integrity Needs Improvement.....	16
Change Control and System Stability	17
Appendix A – Comparison of Contract Worker’s Cost and Employee’s Salary	19
Appendix B – Expenditures by Vendor and Fiscal Year	20

BACKGROUND

In accordance with the Office of Inspector General's Fiscal Year 2010 Audit Plan, we conducted an Audit of the SAP Solution Center. The SAP Solution Center provides support for the District's Enterprise Resource Planning (ERP) software, SAP. SAP (Systems, Applications, and Products) was started in 1972 in Germany and has grown to be the world's third largest independent software vendor and the world's largest business software company with 97,000 customers in 120 countries. Compared to implementations at other government organizations in South Florida, the District has had great success in implementing SAP modules over the past five years. The SAP Solution Center has put in many long hours and extra work effort to create this success. The first "go live" of SAP was June 1, 2006. To date, the SAP modules implemented include Finance, Project Systems, Procurement, Plant Maintenance, and Human Resources. In addition, Business Warehouse has been implemented for reporting. The software has a primary function of being a standard application with online, real-time business processing; however, the District has configured and customized the package for specific requirements. The District has not customized the source code.

Additional third party "add-on" software has also been implemented and interfaced to and from SAP. These interfaces are not automatically integrated; therefore, programming in SAP was used to customize the interface and the SAP Solution Center continues to support these systems. Support for the "add-on" software results in higher costs than using standard SAP. The District chose to go with these software packages because the corresponding functionality in SAP was non-existent or the SAP product was very limited in scope. The following is a list of some of these interfaced third party systems.

- Kenexa – instead of SAP eRecruiting
- Success Factor – Performance Management System
- dcLINK – Asset Management Barcodes/Inventory management
- IRIS (Integrated Real Estate Information System) – Oracle Business Warehouse
- Prometheus – Planning and scheduling for Plant Maintenance

- BSI – Payroll tax calculations
- Winshuttle – Interact with SAP from Excel
- EPI-USE – Landscape Management Products – Data Sync Manager
- Mercury Tools – Interactive Testing Tools
- LoadRunner – Architecture Performance and Volume Stress Testing

In September 2008, the District was the second public sector customer to begin a contract with SAP to implement the Public Budget Formulation (PBF) module. This is an SAP add-on component originally developed by the SAP development group and Budgetec LLC, a consulting firm based in Fort Lauderdale, Florida. On March 9, 2010, Optimal Solutions Integration Inc. acquired Budgetec, LLC. The new “go live” for this module is scheduled for late March 2011.

The additional modules that are planned to “go live” in the future are Governance, Risk, and Compliance (GRC), and Supplier Relationship Management (SRM). The District has purchased the software and is currently paying for maintenance on these modules; however, the implementation project for these modules has not commenced yet.

As of May 7, 2010, the SAP total costs are in excess of \$82.5 million. \$72.7 million is consulting costs, hardware, software, training, etc. and \$9.8 million is District salaries and benefits. Of the \$72.7 million, approximately \$69.3 million has been from FY05 to the present. This \$69.3 million over five and a half years averages over \$12.6 million a year. Deloitte was paid \$15.7 million for the initial SAP implementation. The SAP Solution Center budget for FY10 is estimated to be \$10 million for professional and external contract services. The following table displays the historical costs.

Phase	Years	Cost* (millions)
Initiation and Planning	FY01 to FY04	\$3.4
Implementation and Support	FY05 to May 7, 2010	\$69.3
District Salaries and Benefits	FY01 to May 7, 2010	\$9.8
	Total Costs	\$82.5

* As of May 7, 2010

In December, 2009, the SAP Solution Center had six full time employees. The SAP Solution Center underwent some reorganization, which included moving five full time equivalent employees from the IT Department to the SAP Solution Center. The changes were designed to build a better operational model, increase efficiency, and increase the quality of SAP service.

As of April 1, 2010, the SAP Solution Center consists of approximately 12 full time equivalent employees, along with 24 contract workers. The table below shows the number of employees and contract workers broken out between technical versus functional workers.

SAP Solution Center*	Full Time Equivalents	Contract Workers	Total
Technical (IT and BW*)	6	11	17
Functional (FI, PS, MM, PM, PBF*)	6	13	19
Totals	12	24	36

*Note that as of 7/20/10, the solution center has 13.5 employee FTEs and 19 full time contractors for a total of 32.5 total resources. Three full time employees that report to HR-related departments spend the majority of their time working with the SAP Solution Center but are not included in the above table; however, they are sometimes included within the SAP Solution Center Department Organizational Chart.

*IT = Information Technology, BW = Business Warehouse, FI = Finance, PS = Project Systems, MM = Materials Management, PM = Plant Maintenance, and PBF = Public Budget Formulation

The SAP Solution Center follows the Project Management Institute (PMI) standards, and the Capability Maturity Model Integration (CMMI) software development and application implementation standards. There have been multiple user requirements and additional scope and modules to satisfy the business expectations. Recommendations for additional modules and proposed actions have been created without a business case and more than half of the changes in SAP for the past year have been programming. The value of an integrated standard SAP system is choosing a package software product that is already programmed with standard best practice business processes.

OBJECTIVE, SCOPE, AND METHODOLOGY

The overall objective of our audit was to determine whether the SAP Solution Center is meeting its goals and is operating efficiently and effectively. Specifically, our objectives focused on determining the different specialty SAP skills versus routine maintenance skills and how the District's contractors and staff fill these roles. In addition, we determined whether the system capabilities could be enhanced to fully realize the District's investment. The District's business solutions and the costs were the main focus. Evidence was gathered through inspections, analyses, and observations to achieve our audit objectives. Recommendations were made where we identified areas for improvement, and cost savings.

To accomplish our objectives, we interviewed some contractors and other relevant District SAP Solution Center staff responsible for the support of SAP, reviewed project documentation, reviewed system documentation, reviewed organizational charts, and developed a cost benefit analysis based on the current SAP contracts for consulting services. The methodology included interviews with system administrators, system owners, SAP Solution Center staff, and District contractors to ascertain the status, maturity, and overall efficiency of the SAP Solution Center. The scope included the review of the current efficiency and effectiveness of the SAP Solution Center.

Our audit was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS). These 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.

AUDIT RESULTS

Executive Summary

Overall, our audit revealed that the SAP Solution Center has adequate planning, budgetary and project management control processes in place to ensure that the activities, projects, and applications support the District's business processes and meet the operational needs. A review of the business solutions that the SAP Solution Center staff intended to achieve disclosed that great progress has been made through the partnership with the Information Technology Department over the past years. The SAP system currently can sufficiently support the District's mission regarding water quality, flood control, natural systems, and water supply, by having the capability to report from one system and one set of data. However, following are some additional enhancements we recommend to fully realize the efficiency of the District's investment in SAP.

- Replace contract workers with full time employees, which would save approximately \$4.7 million annually. Consider hiring full time employees for SAP Solution Center positions considered permanent and ongoing and eliminate consultants from having Team Lead positions within the SAP Solution Center by creating a plan for knowledge transfer from the existing consultants.
- Develop a three year SAP Strategic Plan for maintenance that flows logically into the Information Technology Strategic Plan and ultimately into the District Business Strategic Plan. This should include partnering with Information Technology and the SAP Solution Center for knowledge transfer and additional FTE's after the Governing Board has approved all business projects that enhance the SAP system. Renegotiate current SAP consulting rates from implementation rates down to maintenance rates.
- Develop and keep a business case current since it is the key input to decisions made throughout the life of the project and to help the Project Sponsors assess whether project modifications and scope changes are adding business value.
- Consider delaying the Public Budget Formulation (PBF) Project until a greater number of SAP Public Sector customers have successfully implemented the product.

- Simplify the SAP Solution Center by using the value of an integrated standard SAP package software product that is already programmed with best practice business processes. Move back toward the original goal of redesigning District processes to fit SAP instead of customizing and programming SAP to fit District processes.
- Conduct the Internal Controls Committee meetings on a timelier basis in order to help prioritize Project Sponsor's business goals and scope definition with the SAP Solution Center.
- Review all contractors quarterly, for which annual charges exceed \$200,000. Plan for all contractors within the SAP Solution Center to have a shadow full time employee and to roll off after a maximum of two years of service.
- Roll the existing contractors off based on the current five year SAP contract and use the IT Department's Project Management Office (PMO) for project management instead of contractors. Bring the total resources down to between 5 to 9 consultants within a 9 month window.
- Develop clear business support and a plan prior to purchasing additional software products.
- Renegotiate maintenance fees back to 18% with SAP.
- Provide appropriate level of attention and detail to master data because poor master data negatively impacts the overall integrity of the system. The standardization of business processes is driven from the master data.

Activities Adequately Support the District

The SAP Solution Center has performed an adequate service when it comes to application functionality and user expectations. The testing of the evidence proves the business processes across the District have been accomplished based on their stated objectives. Most requirements have been met. This has been solidified through the users having the business requirements and specifications come together based on the business impact analysis. There has been a demonstration of the progress by customizing the application functionality of SAP from the standard software to the District's specialized software. We noted that the budget development process also helps to ensure that the SAP Solution Center's activities support District goals, since funding decisions are made according to the District's strategic priorities. However, we believe that the SAP Solution Center could achieve its objective more cost effectively as noted in other sections throughout this report.

Extensive Use of Long Term Contractors Increases Overall Cost

SAP outsourcing is common for an initial implementation partnership to improve service and efficiency levels, manage internal workload, provide specific expertise, and get the system up and running. Continued SAP outsourcing may be used to add business value, streamline processes, provide staffing augmentation for limited term projects, and provide specific, niche SAP skills.

On June 1, 2006, the SAP Solution Center Department employed approximately 7 full time equivalent (FTE) employees and used Deloitte at a budgeted cost of approximately \$15 million. Since the "go live", approximately 31 or more annual contract workers provided services, at a budgeted cost of approximately \$10 million annually. Some of the contract workers are used for project management and short term projects like Public Budget Formulation (January 2009 to the present); however, contract workers are also used for maintenance activities that are long term, recurring, and permanent in nature. While it may be cost effective to use contractors for short term projects, or projects requiring highly specialized SAP knowledge, the use of contractors may not be appropriate or cost effective in all cases. Positions which are of a long term or permanent nature may be more cost effective if filled by hiring full time employees.

For example, Project Management could be filled by certified Project Management Professionals (PMP's) within the IT Department Project Management Office (PMO).

Through discussions with SAP Solution Center personnel we identified 22 out of 24 outsourced positions that were considered to be of a necessary, ongoing, and permanent nature. The other two contractors perform administrative functions for the SAP Solution Center staff and are well below the SAP implementation rates. We analyzed the cost of these 22 positions by reviewing the outsourcing contracts for each of the 22 positions. We then reviewed the appropriate District job descriptions, salary grades and other employment expenses applicable to the outsourced positions assuming that the positions could be filled with internal District staff. The results of our analysis are shown in the following table:

Annual Cost Comparison*	
Staffing Method	Amount
Cost to Contract	\$ 7,108,254
In-House Staff Cost	<u>2,396,793</u>
Difference – Amount	\$ 4,711,461
Difference - Percent	197%

*Complete details are shown in Appendix A

As shown in the above table, the cost for a contract worker to perform SAP Solution Center functions was, on average, approximately 197% higher than hiring an employee to perform the same services. Our calculations revealed that approximately \$4.7 million could be saved annually if the services performed by these 22 contract workers were performed by District staff. Note that this assumes 40 hour work weeks for contractors, which is conservative based on the review of the 2010 current status reports and the possible six day work week for the Public Budget Formulation (PBF) project. Of the 22 contract workers, 5 charge between \$110 and \$150 per hour and the remaining 17 charge between \$150 and \$210 per hour. The results of our analysis show the annual breakdown by vendor in the following table:

Annual Total by Vendor*	
Staffing Firm	Amount
Meridian	\$ 3,192,800
Zenith / Intellisoft	\$ 2,106,021
AL Jackson	\$ 1,570,234
Others	\$ 239,200

*Not including >40 hours per week

Recommendations

- 1. Consider hiring full time employees for SAP Solution Center positions considered permanent and ongoing.**

Management Response: Management agrees.

Responsible Department: SAP Solution Center / Human Resources/Upper Management/Governing Board

Estimated Completion: Ongoing until all positions are filled (targeting 3 year process) – 9/30/13

- 2. Eliminate consultants from having Team Lead positions within the SAP Solution Center by creating a plan for knowledge transfer from the existing consultants.**

Management Response: By 8/6/10 District employees will lead all three critical areas of the project: technical, functional and overall project management.

Responsible Department: SAP Solutions Center / Various Business Units involved in projects / IT (PMs for projects)

Estimated Completion: 8/6/10

Benchmarking Shows the SAP System Can Be Operated Effectively with Fewer Resources

Gartner, Inc. is a neutral service group that delivers the world's leading insight and research in information technology. They help global technology leaders make strategic and informed decisions. After review of the IT Key Metrics data (ERP/SAP Performance Measures) for 2010, we examined the total number of resources within the SAP Solution Center and compared these to the best practices established by the Gartner research. Based on the 1,842 total District named users and the concurrent users of approximately 140, the total annual cost for SAP should be around \$2.5 million and the number of resources should be approximately 17 FTE's.

Another benchmarking SAP customer we used is Gwinnett County, Georgia. They are an SAP Public Sector customer that is twice the size of the District with 4,800 plus users and approximately 400 concurrent users. They have all the modules that the District has, with the exception of Public Budget Formulation (PBF), plus they have SRM (Supplier Relationship Management), CRM (Customer Relationship Management), and ISU (Industry Specific Solution for Utilities). They went from 28 consultants down to 4 in a 6 to 9 month timeframe. This was done based on a plan to hire some of the consultants as full time employees. They currently have 24 total resources supporting SAP, including the 4 consultants.

This county paid approximately \$4.8 million annually for 28 SAP consultants and the District currently pays approximately \$7.1 million annually for 22 consultants. This shows the District is still paying implementation rates 4 years after the “go live”. Typically, maintenance rates are lower than implementation rates.

Some consultants still work “off site” on some days. Although it can be argued that SAP related work can be done remotely, little to no knowledge transfer can happen from the consultants if they do not work directly with District staff during District staff hours. Having a strategic plan to move toward full time employees and possibly hiring some existing consultants or qualified SAP experienced professionals should help the transition of the SAP Solution Center.

An additional benchmarking SAP customer is the Department of Revenue for the state of Florida. They are a SAP Public Sector customer that has one instance of SAP that is similar in size to the District. They have 2,000 plus users and approximately 200 concurrent users on their SAP instance for general tax administration. The Department of Revenue has most of the modules that the District has, with the exception of Public Budget Formulation (PBF). The Department of Revenue has the SAP Portal, CRM (Customer Relationship Management), FICO (Finance and Controlling), SD (Sales and Distribution), and BW (Business Warehouse). They went from 30 plus consultants down to 8 and are in the third year of maintenance. Their average SAP consultant rate is about \$100 per hour. This was accomplished based on a plan to train and transition IT resources as full time employees within the SAP application development division.

They currently have 30 to 35 total resources supporting SAP.

SAP Customer	Total Users	Concurrent Users	Number of consultants	Annual Spending	Current Consultants	Total Resources
Gartner	1842	140	NA	\$2.5 million total SAP spending	NA	17
Georgia County	4800	400	28	\$4.8 million	4	24
Florida State Department	2000	200	30	\$6.2 million	8	30 - 35
District	1842	140	22	\$7.1 million	24	39

Recommendation

- 3. Develop a three year SAP Strategic Plan for maintenance that flows logically into the District Business Strategic Plan.**

Management Response: Management agrees.

Responsible Department: SAP Solution Center / Executive Management / HR

Estimated Completion: 12/31/10

- 4. Use benchmarking and industry standards to determine appropriate staffing levels and expenditures. This should include partnering with Information Technology for knowledge transfer and additional FTE's.**

Management Response: Management agrees.

Responsible Department: SAP Solution Center

Estimated Completion: Ongoing (targeting 3 year process) – 9/30/13

- 5. Renegotiate current SAP consulting rates from implementation rates down to maintenance rates.**

Management Response: Management concurs and steps are being taken to gain rate reductions from existing vendors.

Responsible Department: SAP Solution Center / Procurement

Estimated Completion: Initial Phase by 12/31/10

Business Plan or Business Case Needed

As there is great value in having one quality ERP system and a business need for the SAP system, the business case used to support the procurement of consultants and installation of Public Budget Formulation (PBF) is nonexistent. It is unknown whether the implementation, use, and reconciliation of the information will be worth the prioritization of this business project.

In general, the Information Technology Strategic Plan and the District-wide governance vision delineate a standard for the creation of a business case for all major projects. This establishment by management allows the leadership team to make knowledgeable business decisions in regards to future SAP priorities for business projects. Portfolio management manages the business risk and the value to the business of these projects. The reason for “what is” not being equal to “what ought to be” can be a challenge to identify in some projects. District-wide governance best practices use the business case and portfolio management to prioritize business projects. Projects with extended timeframes and expanded needs of scope increase the degree of risk and cost for the District. The continued extension of contractors is just one example of this risk and cost. A project should not be recommended before reviewing an updated business case. Without an updated business case, the decision makers will have a more difficult time throughout the life of the project. The main benefit of addressing the management leadership with the challenge of having these business cases is that the District will show District-wide governance vision with prioritized business projects.

Recommendation

- 6. Develop and keep a business case current since it is the key input to decisions made throughout the life of the project and to help the Project Sponsors assess whether project modifications and scope changes are adding business value.**

Management Response: Management concurs and will track and communicate return on investment (ROI).

Responsible Department: SAP Solution Center / Business Areas

Estimated Completion: Mid-March 2011

- 7. Consider delaying the Public Budget Formulation (PBF) Project until a greater number of SAP Public Sector customers have successfully implemented the product.**

Management Response: Since over 85% of the budget for this project has already been invested in the project, management believes that continuing this project to completion is the right decision. Because this is a beta implementation, it is anticipated that additional training and support from SAP above what is afforded on a standard implementation will be made available.

Responsible Department: PBF Steering Committee

Estimated Completion: Mid-March 2011; issues and budget monitored on an ongoing basis going forward.

- 8. Simplify the SAP Solution Center by using the value of an integrated standard SAP package software product that is already programmed with best practice business processes. Move back toward the original goal of redesigning District processes to fit SAP instead of customizing and programming SAP to fit District processes.**

Management Response: Management agrees and the original goal of not altering SAP code has been met.

Responsible Department: SSC / Business Partners

Estimated Completion: Initial Phase by 12/31/10

SAP Steering Committee Has Not Met Timely

Although there is an Internal Controls Committee, a formal SAP Steering Committee has been lacking for the past year. The last Internal Controls Committee meeting was held in June, 2009. The District should hold an SAP Steering Committee Meeting on a monthly basis with minutes distributed to the team based on decisions.

After the Governing Board had approved the SAP contract with five sections and the winning staffing firms, there may have been an understanding that the Executive level updates were complete. The District is moving along with approximately a \$13 million

annual rate of SAP spending that has multiple sections of SAP scope and phases remaining without direct “steering” from upper management. As of April 1, 2010, 16 of the 22 SAP consultants have been here at the District for more than 3 years and 10 of these have been here at the District for more than 4 years.

Recommendation

- 9. Conduct the Internal Controls Committee meetings on a timelier basis in order to help prioritize Project Sponsor’s business goals and scope definition with the SAP Solution Center.**

Management Response: Management concurs.

Responsible Department: CFO Office / SAP Solution Center / Business Areas

Estimated Completion: 8/30/10

- 10. Review all contractors quarterly, for which annual charges exceed \$200,000.**

Management Response: Management concurs.

Responsible Department: SAP Solution Center / Procurement

Estimated Completion: Initial Phase by 12/31/10

- 11. Plan for all contractors within the SAP Solution Center to shadow a full time employee and to roll off after a maximum of two years of service.**

Management Response: Management concurs with the spirit of this recommendation. Converting contract support to FTEs where appropriate and cost effective will be pursued. For certain specialized functions, or short term needs contractual support will likely continue to be needed into the future.

Responsible Department: SAP Solution Center / Upper Management

Estimated Completion: Ongoing until all positions are filled (targeting 3 year process) – 9/30/13

12. Roll the existing contractors off based on the current five year SAP contract and use the IT Department's Project Management Office (PMO) for project management instead of contractors. Bring the total resources down to between 5 to 9 consultants within a 9 month window.

Management Response: Management again concurs with the spirit of this recommendation. Converting contract support to FTEs where appropriate and cost effective will be pursued. For certain specialized functions, or short term needs contractual support will likely continue to be needed into the future.

Responsible Department: SAP Solution Center / Business in General

Estimated Completion: (targeting 3 year process) – 9/30/13

Purchasing Unused SAP Modules and License Fees

The District purchased additional SAP modules for Governance, Risk, and Compliance (GRC) and Supplier Relationship Management (SRM) in August, 2009 for a total of \$684,000. Governance, Risk, and Compliance module was purchased for \$420,000 for 2000 users and Supplier Relationship Management module was purchased for \$264,000 for 492 users. The District has started the installation of Governance, Risk, and Compliance in a development/sandbox environment on May 18, 2010. The District has not installed Supplier Relationship Management. Duet is another software product that was purchased and not yet installed. This Duet software is intended to join Microsoft Outlook (email) with SAP. The Analysis phase of a project will deliver a workplan and resource estimations in order to begin the Design phase. This seems to be lacking for both Governance, Risk, and Compliance (GRC) and Supplier Relationship Management (SRM) due to the lack of business support and a Project Sponsor. The maintenance cost annually for most SAP modules is approximately 22%. Gartner has a benchmark of fair SAP license fees to be between \$1400 and \$2000 per user. With the District's 1842 employees, and using the \$2000 per user, the SAP license fees should be around \$3.68 million. Consequently, the District is paying approximately \$150,000 annually in software maintenance cost for software for which an implementation plan has not been initiated.

In mid April, 2010, two purchase orders that totaled over \$1 million were created for additional SAP licenses as well as Business Object licenses for the PBF product. The total one time SAP license fees are in excess of \$4.5 million and the annual maintenance fees of 22% are in excess of \$800,000.

13. Develop clear business support and a plan prior to purchasing additional software products.

Management Response: Management concurs.

Responsible Department: SAP Solution Center / Procurement

Estimated Completion: Immediately; if suggested process change is appealing, this process could be implemented by end of calendar year. – 12/31/10

14. Renegotiate maintenance fees back to 18% with SAP.

Management Response: Management has already scheduled meetings with the vendor to discuss license and maintenance fees.

Responsible Department: SAP Solution Center / Procurement / Legal / Upper Management

Estimated Completion: First round By End of October, 2010 (may or may not be able to renegotiate fees)

SAP Master Data Integrity Needs Improvement

The SAP interfaces raise some questions regarding quality of information based on different department's inputs and level of detail within their respective business processes. Partly due to these questions, the SAP Solution Center has separated the cleanup effort. The scope for data cleanup in SAP is for changes to be made to the master data if it is missing or inaccurate. There may be a separate project with a new business case and cost benefit analysis. In order to achieve uniform data alignment and quality of data, an increase of resources devoted to the cleanup project will decrease the risk of errors. The District should have standardized data definitions and there should be less than five detail oriented staff that have this "create and change" access to master

data. The usage of nonstandard data definitions would lower the efficiency of the new development of reports in Business Warehouse, and increase the risk of errors in critical business decisions. Data quality is one of the greatest risks to the implementation of a data warehouse (SAP Business Warehouse). In order to achieve uniform data alignment and quality of data, an increase of resources devoted to the cleanup project will decrease the risk of errors. Fixing the source of the data instead of manipulation within SAP Business Warehouse is the best practice.

Recommendation

15. Partner with the data owners of the business departments to help change business processes to ensure quality of the master data. This drives the integration within SAP and poor master data negatively impacts the overall integrity of the system.

Management Response: Management concurs with the fact that Master Data integrity is important. Management will work with various business units to provide guidance and supply business with tools for any mass master data changes. Since business units own master data, the initiative must start with them.

Responsible Department: Various Business Units (Primary); SAP Solution Center (Secondary). Since business units own master data, the initiative must start with them.

Estimated Completion: Completed

Change Control and System Stability

Overall, the Change Control process for the SAP environment is being handled by the SAP Solution Center using the Information Technology Infrastructure Library (ITIL) methodology of Change Control. There are regular Change Control meetings and normal approved changes are being implemented twice a week. For normal development and changes, the users are required to document and signoff on the developers changes prior to these being moved into the production environment.

The System Stability for SAP has increased to a relatively stable environment since the June 1, 2006 “go live”. The Information Technology Department has partnered with the SAP Solution Center to mitigate the risk of the system being down and the results have been improving. Downtime has been minimal and the software upgrades have been communicated well in advance with the District being able to adequately test in the Quality environment prior to the upgrade moving into the Production systems.

APPENDIX A
COMPARISON OF ANNUAL CONTRACT WORKER'S COST AND EMPLOYEE'S SALARY

	Annualized Contract Rate	SFWMD Salary Grade Equivalent	Salary Grade Midpoint	Average Benefits	Total Salary Plus Benefits	Difference Between Contract Rate and FTE Rate	Percent Difference	Factor
Technical - BW and SAP IT								
BW Query	\$254,508.80	20	\$75,025.60	28,890.48	\$103,916.08	\$150,592.72	144.92%	2.45
SAP BI/BW Consultant	\$343,200.00	20	\$75,025.60	28,890.48	\$103,916.08	\$239,283.92	230.27%	3.30
SAP BI Query Designer	\$239,200.00	18	\$68,036.80	27,667.44	\$95,704.24	\$143,495.76	149.94%	2.50
BOBJ - SAP PS/PBF Service	\$343,200.00	22	\$82,700.80	30,233.64	\$112,934.44	\$230,265.56	203.89%	3.04
Visual Composer	\$328,640.00	22	\$82,700.80	30,233.64	\$112,934.44	\$215,705.56	191.00%	2.91
Security/BASIS	\$338,083.20	22	\$82,700.80	30,233.64	\$112,934.44	\$225,148.76	199.36%	2.99
ABAP	\$338,083.20	22	\$82,700.80	30,233.64	\$112,934.44	\$225,148.76	199.36%	2.99
Workflow	\$332,800.00	22	\$82,700.80	30,233.64	\$112,934.44	\$219,865.56	194.68%	2.95
ABAP	\$320,715.20	22	\$82,700.80	30,233.64	\$112,934.44	\$207,780.76	183.98%	2.84
Portal	\$332,800.00	22	\$82,700.80	30,233.64	\$112,934.44	\$219,865.56	194.68%	2.95
Portal	\$239,200.00	18	\$68,036.80	27,667.44	\$95,704.24	\$143,495.76	149.94%	2.50
Subtotal for Technical	\$3,410,430.40				\$1,189,781.72	\$2,220,648.68	186.64%	2.87
Functional - FM, FI, AM, PS, MM, PM, HR, PBF								
FI/FM Specialist	\$378,560.00	22	\$82,700.80	30,233.64	\$112,934.44	\$265,625.56	235.20%	3.35
CO Specialist	\$287,040.00	20	\$75,025.60	28,890.48	\$103,916.08	\$183,123.92	176.22%	2.76
Support Manager	\$343,200.00	22	\$82,700.80	30,233.64	\$112,934.44	\$230,265.56	203.89%	3.04
FI ABAP	\$229,507.20	18	\$68,036.80	27,667.44	\$95,704.24	\$133,802.96	139.81%	2.40
PS Specialist	\$343,200.00	22	\$82,700.80	30,233.64	\$112,934.44	\$230,265.56	203.89%	3.04
MM Lead	\$332,800.00	22	\$82,700.80	30,233.64	\$112,934.44	\$219,865.56	194.68%	2.95
HR Payroll	\$318,240.00	20	\$75,025.60	28,890.48	\$103,916.08	\$214,323.92	206.25%	3.06
HR Time/Travel	\$338,083.20	22	\$82,700.80	30,233.64	\$112,934.44	\$225,148.76	199.36%	2.99
Project Manager	\$343,200.00	22	\$82,700.80	30,233.64	\$112,934.44	\$230,265.56	203.89%	3.04
SAP PS Specialist - Lead and Change Management	\$436,800.00	22	\$82,700.80	30,233.64	\$112,934.44	\$323,865.56	286.77%	3.87
Netweaver Lead/PBF Testing	\$347,193.60	22	\$82,700.80	30,233.64	\$112,934.44	\$234,259.16	207.43%	3.07
Subtotal for Functional	\$3,697,824.00				\$1,207,011.92	\$2,490,812.08	206.36%	3.06
Total	\$7,108,254.40				\$2,396,793.64	\$4,711,460.76	196.57%	2.97
Total								
FY 09-10 Budget Total for External Services	\$9,869,572.00							

APPENDIX B - EQuest Expenditures				Non-Vendors								
May 17, 2001 - May 7, 2010				District Employees								
										Grand TOTAL	\$82,510,480	
										District FTE Salaries/Benefits	\$9,824,044	
Contract & Operating Total	\$57,025	\$350,226	\$1,867,273	\$1,118,437	\$8,195,324	\$15,976,717	\$16,110,545	\$11,536,220	\$10,130,656	\$7,344,014	\$72,686,436	
Vendor Name	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	TOTAL	
Meridian Partners Llc						\$221,613	\$6,100,196	\$6,609,666	\$3,404,169	\$2,491,521	\$18,827,165	
Deloitte Consulting Llp					\$4,502,350	\$8,146,488	\$3,107,820				\$15,756,658	
SAP Public Svcs Inc			\$1,087,889	\$172,677	\$671,566	\$312,298	\$908,877	\$938,366	\$1,619,281	\$1,050,198	\$6,761,151	
Zenith Infoway Inc						\$705,940	\$1,252,165	\$1,673,240	\$1,481,709	\$802,177	\$5,915,231	
Bank Loan						\$155,867	\$311,733	\$264,000	\$216,000	\$96,000	\$1,043,600	
Intellisoft Techlgys Inc							\$288,828	\$807,944	\$1,180,126	\$867,801	\$3,144,698	
Radiant Sysys Inc					\$104,880	\$971,035	\$705,149	\$361,968			\$2,143,032	
A L Jackson & Co PA						\$109,920	\$33,110	\$149,280	\$615,040	\$781,907	\$1,689,257	
Staffing Providers Inc	\$42,510	\$190,742	\$310,600	\$446,564	\$111,715	\$21,024	\$415,746	\$100,112			\$1,639,012	
Roi Consulting Grp Inc			\$31,680	\$7,520	\$257,445	\$885,592	\$207,746				\$1,389,983	
Budgetec Llc									\$395,500	\$580,578	\$976,078	
Threshold Consulting Svc					\$87,600	\$552,922	\$305,173	\$21,000			\$966,695	
Vcarve Inc									\$672,875	\$277,873	\$950,748	
SAP America Inc			\$1,650	\$62,813	\$267,982	\$168,839	\$323,391	\$47,038			\$871,712	
Ntier Solutions Inc					\$141,270	\$628,544	\$61,732				\$831,546	
Systemlink Enterprise Solutions Inc						\$431,450	\$365,850				\$797,300	
Sys Tec Corp							\$722,420	\$26,541			\$748,961	
Paul Consulting Inc					\$80,250	\$300,150	\$301,750				\$682,150	
All Points Logis					\$549,466						\$549,466	
Mercury					\$157,050	\$230,315	\$67,689				\$455,053	
Drexel Technical Assocs Inc					\$65,320	\$255,920	\$101,850	\$21,600			\$444,690	
Assima							\$72,927	\$365,458			\$438,384	
Nu Info Sysys Inc				\$12,144	\$150,224	\$183,038	\$77,700				\$423,106	
Accris Corp						\$297,248	\$77,503				\$374,751	
Teksystems Inc			\$49,991	\$97,565	\$185,897	\$17,136					\$350,589	
Sapphire Technologies					\$102,376	\$222,301	\$1,576				\$326,252	
Concept One Llc			\$66,024	\$147,898	\$86,688						\$300,610	
Cognix Techlgys Llc									\$261,301	\$18,305	\$279,606	
Mascon Global Consulting						\$246,450					\$246,450	
Dua Computer Res		\$49,758	\$21,964	\$82,744	\$55,138	\$28,994	\$0				\$238,598	
Quasius Investment Corp										\$228,102	\$228,102	
Anthem Technolo					\$216,150	\$11,400					\$227,550	
Staffconnections Llc					\$99,963	\$69,683	\$49,105				\$218,751	
Mythics Inc						\$136,289				\$44,436	\$180,725	
Dell Mktg Lp			\$39,202	\$3,238	\$84,920	\$19,016	\$15,961				\$162,337	
Appleone Employment Svcs					\$6,818	\$51,722	\$44,167	\$54,878			\$157,584	

APPENDIX B - EQuest Expenditures				Non-Vendors							
May 17, 2001 - May 7, 2010				District Employees							
										Grand TOTAL	\$82,510,480
										District FTE Salaries/Benefits	\$9,824,044
Contract & Operating Total	\$57,025	\$350,226	\$1,867,273	\$1,118,437	\$8,195,324	\$15,976,717	\$16,110,545	\$11,536,220	\$10,130,656	\$7,344,014	\$72,686,436
Vendor Name	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	TOTAL
Manpower Temporary Svcs						\$7,734	\$46,193	\$50,329	\$52,109		\$156,364
Dolphin Software Solutions Llc						\$35,700	\$105,000				\$140,700
Gr/Ir Clearing						\$138,060					\$138,060
EPI Use Labs Llc									\$112,358	\$18,586	\$130,944
Prometheus Grp Inc									\$96,000	\$16,200	\$112,200
KPMG, Llp			\$85,340								\$85,340
Officeteam		\$40,608	\$29,067			\$6,588					\$76,263
ICC Enterprises Inc						\$43,930	\$18,860	\$9,718	(\$1,955)	(\$747)	\$69,806
Momentum Consulti					\$36,000	\$33,300					\$69,300
Shirley Hollywood & Assoc Inc						\$64,000					\$64,000
Veritas Software					\$59,367						\$59,367
Express Services			\$42,314						\$8,511	\$6,843	\$57,668
Acsys Inc						\$56,448					\$56,448
Enterprise Techn				\$49,956							\$49,956
Cma Enterprise I			\$49,680								\$49,680
Bearingpoint						\$48,000					\$48,000
Carahsoft Technology Corp										\$45,974	\$45,974
Presidio Corpora					\$24,210	\$20,950					\$45,161
Ledoux It Lp						\$36,500					\$36,500
Training & Travel						\$1,702	\$12,494	\$14,544	\$1,674		\$30,413
Yu, Xing Zhong					\$14,035	\$10,923					\$24,957
Gartner Group In		\$24,310									\$24,310
Tidal Software						\$23,400					\$23,400
Computer Express		\$23,370									\$23,370
Chitty, Leon N C			\$9,945			\$13,008					\$22,953
Bullock, Steve E					\$22,500						\$22,500
Blankenship, Eddy			\$13,959	\$6,461	\$659						\$21,079
CDW Government In		\$4,554			\$7,740	\$5,415					\$17,709
Software House I			\$2,271	\$12,836		\$1,416					\$16,523
Corporate Express				\$708	\$7,503	\$3,760		\$1,223	\$1,633		\$14,827
E & A Informati						\$13,825					\$13,825
Mattino, Debbie			\$4,371	\$2,309	\$4,901						\$11,581
Smartsources Rentals								\$7,475	\$2,990		\$10,465
MTI Technology						\$9,873					\$9,873
Amers SAP Users Grp			\$1,000		\$2,800		\$1,500	\$1,500	\$1,500	\$1,500	\$9,800
Wellesley Information Svcs							\$1,595	\$8,185			\$9,780

APPENDIX B - EQuest Expenditures				Non-Vendors							
May 17, 2001 - May 7, 2010				District Employees							
										Grand TOTAL	\$82,510,480
										District FTE Salaries/Benefits	\$9,824,044
Contract & Operating Total	\$57,025	\$350,226	\$1,867,273	\$1,118,437	\$8,195,324	\$15,976,717	\$16,110,545	\$11,536,220	\$10,130,656	\$7,344,014	\$72,686,436
Vendor Name	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	TOTAL
Snaps					\$11,234	(\$1,800)					\$9,434
Evans Technology	\$9,225										\$9,225
NRJ Systems		\$8,680									\$8,680
Winshuttle									\$8,000		\$8,000
David Wood Temporaries Inc										\$7,456	\$7,456
Advanced Info Sy			\$5,816	\$1,290							\$7,106
Universal Cabling					\$6,087						\$6,087
Famoso Inc										\$5,892	\$5,892
Aquire						\$5,733					\$5,733
Feeman, Richard			\$5,693								\$5,693
Camarena, Bernard			\$747	\$3,515	\$612						\$4,874
A & Associates		\$4,290									\$4,290
Millenniumsoft Inc						\$4,263	\$0				\$4,263
Brannock, Betty					\$3,899						\$3,899
King, Tammie			\$3,864								\$3,864
Florida Business				\$3,824							\$3,824
Staples Contract & Commercial Inc									\$1,413	\$2,342	\$3,755
Cheetah Learning Llc									\$3,450		\$3,450
Gurevich, Jaime				\$2,104	\$1,300						\$3,404
Parris Steven D	\$875	\$1,205	\$829	\$59							\$2,968
Lackmann Culinary Svcs						\$805	\$1,722				\$2,527
McNeer, Roxanne						\$2,506					\$2,506
Bowman, Mary					\$2,309	\$180					\$2,489
Kelly, Lucy H.					\$2,172						\$2,172
Compuquip Techlgys Inc							\$2,133				\$2,133
Simmons, Mary					\$1,499	\$583					\$2,082
Data Syst Intrntl								\$2,000			\$2,000
Cornwell, Robert					\$1,539	\$264					\$1,803
McCracken, Thomas				\$1,742							\$1,742
Wright, John					\$355				\$1,144	\$169	\$1,668
Capozziello, Lenny					\$1,615						\$1,615
Global Associate			\$1,560								\$1,560
Websurveyor Corp		\$1,500									\$1,500
Tice, Paul F					\$1,059	\$434					\$1,493
Anixter Inc						\$1,407					\$1,407
Flierl, Christian					\$1,360						\$1,360

APPENDIX B - EQuest Expenditures				Non-Vendors								
May 17, 2001 - May 7, 2010				District Employees								
										Grand TOTAL	\$82,510,480	
										District FTE Salaries/Benefits	\$9,824,044	
Contract & Operating Total	\$57,025	\$350,226	\$1,867,273	\$1,118,437	\$8,195,324	\$15,976,717	\$16,110,545	\$11,536,220	\$10,130,656	\$7,344,014	\$72,686,436	
Vendor Name	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	TOTAL	
Munro, Mark					\$1,279						\$1,279	
Careers USA					\$1,255						\$1,255	
Ratnakaram, Kavita					\$395	\$692					\$1,087	
GFOA		\$905							\$125		\$1,030	
Vaughn-Patterson			\$826								\$826	
Petty Cash Fund		\$235		\$92	\$435						\$762	
Rryson Corp							\$725				\$725	
Project Mgmt Institute		\$70				\$154	\$159	\$159	\$129		\$671	
Tanguturi, Venkata R									\$634		\$634	
Freilich, Stephen					\$562						\$562	
Lopez, Raul			\$344	\$210							\$554	
Whitaker, Wally										\$510	\$510	
Lennon, Berenice					\$465						\$465	
Cautreels, Marcy					\$440						\$440	
Langford, William					\$417						\$417	
Verner, Kenneth						\$96				\$290	\$386	
Faraone, Vincent					\$299						\$299	
Houston,Cynthia			\$295								\$295	
Kota, Pam					\$288						\$288	
Puckett, Raylene					\$274						\$274	
Eileens Travel	\$252										\$252	
Roth, Pam				\$170							\$170	
Martin Associate			\$159								\$159	
Cariello, Mary Lou										\$101	\$101	
Journal Voucher	\$4,163		\$195	\$0	(\$10,605)	\$5,677	\$0	(\$2)	(\$5,060)		(\$5,633)	
Operating Total	\$57,025	\$350,226	\$1,867,273	\$1,118,437	\$8,195,324	\$15,976,717	\$16,110,545	\$11,536,220	\$10,130,656	\$7,344,014	\$72,686,436	
District FTE Salaries & Benefits	\$50,126	\$201,724	\$216,293	\$245,824	\$812,189	\$1,617,219	\$1,486,122	\$1,904,449	\$2,046,735	\$1,243,363	\$9,824,044	
GRAND TOTAL	\$107,151	\$551,950	\$2,083,566	\$1,364,261	\$9,007,513	\$17,593,936	\$17,596,666	\$13,440,669	\$12,177,391	\$8,587,377	\$82,510,480	