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Audit Report

**AUDIT OF
COMMUNICATION AND INFORMATION SERVICES
COST ALLOCATION**
(Report No. A09-016)

September 18, 2009

City Auditor

Craig D. Kinton

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Executive Summary

\$49.6 million of the \$64.2 million Communication and Information Services (CIS) Fiscal Year (FY) 2009 budget is recovered through the CIS chargeback model (the model). The model's primary objective, to recover the CIS Internal Service Fund (ISF) costs, will be met.

Currently, however, the model does not consider important customer service benefits, such as cost control, fairness, transparency, and sustainability. These customer service benefits are considered best practices and are the basis for concluding that the current model does not meet the criteria for reasonableness.

Customer Service Benefits

Cost control – Cost of IT services compared annually against pre-defined criteria or industry benchmarks

Fairness – Charges to user departments are based on the actual cost of providing the IT services

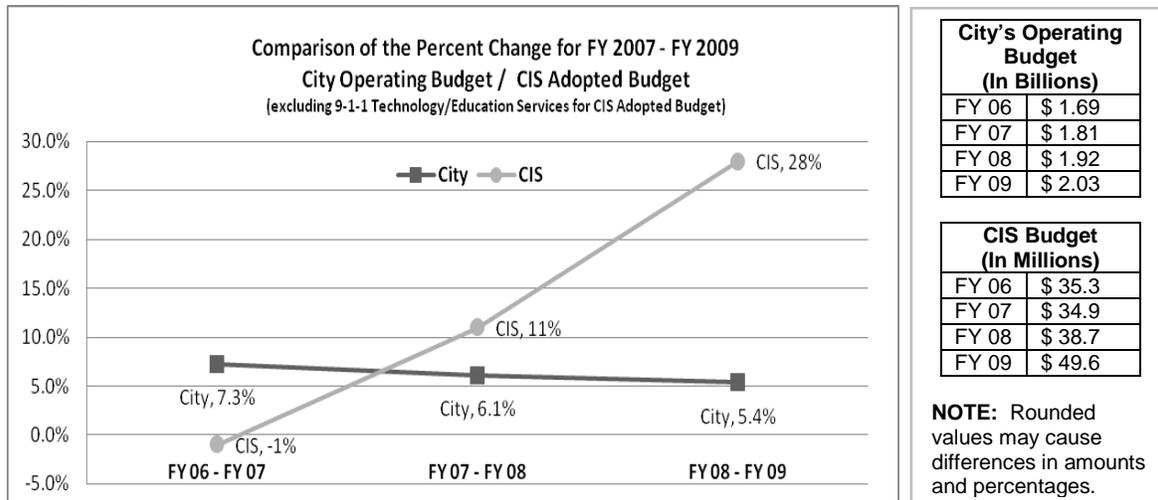
Transparency – Clarifies how the cost of services was derived and allocated

Sustainability – Determines viability of the current process for repeatability of execution

Source: White papers prepared by Deloitte and Touche and Accenture

Cost Control – The model does not encourage CIS or the user departments to control Information Technology (IT) costs. From FY 2007 through FY 2009, CIS budgeted costs increased from \$34.9 million to \$49.6 million, an average of \$4.7 million, or 13 percent, while the City's Operating Budget for the same period increased from \$1.81 billion to \$2.03 billion, an average of \$112.6 million, or 6.3 percent. The CIS rate structure is not benchmarked against industry rates or peer cities to compare and evaluate the reasonableness of IT service costs.

Chart I



Source: The City's Operating Budget was obtained from the FY 2007 – FY 2009 Annual Budgets. The CIS Adopted Budget was obtained from the FY 2007 – FY 2009 Annual budgets as presented on the Budget Management Services' website.

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In addition, because CIS has not established Service Level Agreements (SLAs) with all user departments, the information needed to evaluate whether the rates charged by CIS are the best value or whether comparable IT services could be provided at a lower cost, if outsourced to a third party, is not available.

CIS has over collected an average of \$3.7 million per year for at least three years (FY 2006 – FY 2008) without a formal documented approach to resolve over-collections when they occur. A formal approach might specify whether all over-collections should be returned to the originating funds, i.e. the General Fund, Enterprise Funds, or other funds, and the timing of those transfers. A formal approach might also specify whether CIS can retain a certain portion of the over-collections for contingencies or to plan for long-term capital expenses.

Fiscal Year	Budget	Actual	Dollar Variance
2006	\$ 35.3	\$ 32.5	\$ 2.8
2007	34.9	30.8	4.1
2008	38.7	34.6	4.1
3-Year Average			\$ 3.7

Source: CIS adopted budgets for Funds 0197 and 0198. Actual amounts were obtained from the AMS Advantage 3 system as of November 5, 2008. All values are rounded to the nearest dollar.

Fairness – CIS’s model is complex and the calculated rates do not appear to fairly represent the actual cost of IT services because the rates are a combination of several dissimilar IT activities and are not based upon actual CIS time spent per IT activity. The model’s complexity makes it difficult to manage, maintain, and communicate the CIS cost allocation methodology to the user departments.

Transparency – The model is not transparent because user departments do not appear to understand the basis of the CIS cost allocation model, how CIS determines each user department’s portion of the CIS costs, or whether those costs can be reduced. CIS is to be commended for recently taking steps to increase communication with user departments by providing an annual invoice to explain each user department’s portion of the CIS costs, conducting one-on-one meetings with certain user departments, and by developing a memo which addresses frequently asked questions. However, a sample of seven user departments indicated that the user departments still do not have a clear understanding of how CIS arrived at each user department’s portion of the CIS costs.

Sustainability – Budgeted costs of \$10.6 million for Internal Application Services (21.4 percent of budget) and \$4.6 million for Internal Desktop Support (9.2 percent of budget) could not be confirmed to the model’s cost recovery components of application support and desktop support to validate that CIS allocated costs appropriately. Since the model’s objective is to recover costs

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completely, at a minimum, the model's cost recovery components should be reconciled to the CIS budget cost components.

The model is managed in a portable, easily modifiable 31-tabbed spreadsheet with insufficient spreadsheet controls. As a result, anyone with access to the spreadsheet with basic spreadsheet skills could inadvertently or maliciously introduce errors into the model.

Summary of Recommendations

We recommend the Director of the Department of Communication and Information Services:

- Benchmark CIS rates against industry rates to evaluate whether CIS is providing comparable IT services at a competitive cost; If CIS finds that it is not competitive, we recommend that CIS evaluate its operations and make the necessary adjustments to become competitive or consider outsourcing additional aspects of its operations
- Establish SLA's with user departments and develop a process to evaluate opportunities to lower costs for user departments that demonstrate CIS and user departments are managing IT resources in a more cost effective manner
- Analyze why actual CIS costs have been less than budget estimates for at least the past three fiscal years and determine if steps can be taken to minimize the budget to actual variance
- Institute a formal process to resolve over-collections when they occur
- Evaluate whether simplifying the model would better meet the user departments' needs for cost control, transparency, and fairness; We also recommend that CIS evaluate whether a simplified model is more sustainable
- Expand communication efforts by explaining the basis of the CIS Cost Allocation model to all user departments; We also recommend that CIS ensure that user departments receive a cost allocation estimate early in the budget process; This estimate should explain how CIS arrived at the cost estimate, what portion of the CIS costs are controllable by the user department, and what process the user department must follow to verify, discuss, or reduce the user department's portion of the IT service costs

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- Document the cost components in the FY 2009 and future models to show how the cost components match between the model and the Budget Bid Entry (Form As); If the cost components do not match, we recommend that CIS prepare a reconciliation between the model and the Form As to show that the CIS IT costs charged to the user departments align with the CIS budget and that they are reasonable
- Implement additional spreadsheet controls to ensure the integrity of the information used to determine the amounts charged to user departments

Summary of Management's Response

Management indicates partial agreement with five recommendations and disagreement with one recommendation contained within the report. For the complete management response, see Appendix III.

Auditor's Follow-Up Comment

Management's responses lack specific, timely corrective actions to address the concerns identified during this audit. Accountability for Information Technology (IT) costs and acceptable levels of service by CIS would be enhanced with the implementation of the recommendations made in this report.

This audit identified that:

- IT costs have risen on average at over twice the rate of the city's operating budget during the past three years
- CIS charges to departments exceeded the actual costs of providing IT services from a low of eight percent to a high of 12 percent for fiscal years 2006 through 2008
- The reasonableness of charges to departments for IT service is not benchmarked against industry rates or peer cities
- Expected levels of IT service have not been developed and communicated to departments
- The cost allocation model is unnecessarily complex, does not appear to fairly represent the costs of IT services, and cannot be readily agreed to the CIS department budget documents

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- Spreadsheet controls to protect the integrity of the data and calculations need improvement.

It appears that direction from the City Council will be required before any significant improvements will be made in these areas.

Summary of Objectives, Scope and Methodology

The objectives of the audit were to evaluate the CIS cost allocation methodology, the model, and determine if the model and the use of the model was reasonable. Reasonableness, for the purposes of this project, was determined to include the elements of cost control, fairness of cost of services, transparency of the process to City user departments, and sustainability of the model.

The audit scope included the CIS FY 2009 model and the CIS budgeting process as it relates to the model. However, certain other matters, procedures, and transactions occurring outside that period may have been reviewed to understand and verify information related to the audit period.

We interviewed CIS personnel who developed, implemented, and currently manage the model. We reviewed the CIS budget bid entry process to understand how the FY 2009 costs were accumulated and incorporated into the model. We obtained information from ten city governments considered comparable to the City of Dallas to evaluate the City's cost allocation approach and model. We gained an understanding of the industry's best practices on the use of, execution of, and maintenance of a chargeback model.

Audit Results

Overall Conclusion

\$49.6 million of the \$64.2 million Communication and Information Services (CIS) Fiscal Year (FY) 2009 budget is recovered through the CIS chargeback model (the model). The model's primary objective, to recover the CIS Internal Service Fund (ISF) costs, will be met. Currently, however, the model does not consider important customer service benefits such as cost control, fairness, transparency, and sustainability. These customer service benefits are considered best practices and are the basis for concluding that the current model does not meet the criteria for reasonableness.

CIS Model's Primary Objective

Recover the CIS annual adopted budget, excluding 9-1-1 Technology / Education Services, which represents the cost of the internal shared services.

Source: CIS management

Section 1: Cost Control

The Model Does Not Encourage CIS and User Departments to Control Costs

The model recovers CIS budgeted costs for all services excluding 9-1-1 Technology / Education Services, but does not encourage CIS or the user departments to control Information Technology (IT) costs. From FY 2007 through FY 2009, CIS budgeted costs increased by an average of \$4.7 million, or 13 percent, while the City's Operating Budget from FY 2007 through FY 2009 increased an average of \$112.6 million, or 6.3 percent (see Chart 1 in the Executive Summary).

Service Level Agreement

A service level agreement is a written contract between a provider of a service and the customer of the service.

Purpose

Establish measurable targets of performance with the objective of achieving a common understanding of the nature of and level of service required.

Source: Using COBIT and the Balanced Scorecard as Instruments for Service Level Management (Information Systems Control Journal, Volume 4, 2003)

The CIS rate structure is not benchmarked against industry rates or peer cities to compare and evaluate the reasonableness of IT service costs. In addition, CIS has not established Service Level Agreements (SLAs) with the user departments. As a result, neither CIS nor the user departments have the information needed to evaluate whether the rates charged by CIS are the best value. For example, the City Auditor's Office's portion of CIS's allocated costs for FY 2009 was \$173,331, which included \$24,774 in telecommunications and data circuits cost. This allocated cost is

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approximately six percent of the City Auditor's Office's total General Fund budget; however, the City Auditor's Office has no way to determine whether comparable IT services could be provided at a lower cost.

At the request of City of Dallas management, the accounting firm Arthur Andersen (LLP surrendered its licenses to practice as Certified Public Accountants in the United States in 2002) completed the CIS Rate Study (Study) in October of 2001. The Study noted:

“Annually, CIS should compare its rates to those in the market place in order to determine the cost effectiveness of its operations. This, of course, must include an analysis of comparable measures of quality and similar service levels. Without this annual comparison, CIS will be unable to represent to customer departments that it provides the best available services at the price for which the City is prepared to pay.”

Furthermore, the user departments do not incur lower annual costs even if the user departments:

- Improve internal IT related processes
- Use CIS resources more efficiently
- Use IT equipment beyond their planned useful life

For example, a majority of the user departments are allocated desktop support which includes the services of a third party vendor. The user departments are allocated a lump-sum cost based on the number of work stations (laptop, desktop, terminal, etc.) instead of the actual usage of the third party's services (e.g. number of help desk tickets initiated by the user department).

Similarly, a user department is allocated telephone monthly service charges for telephone sets that are not in use by the user department or have been purchased for back-up inventory. Because the rates of services (desktop support and telecommunications) are not focused towards cost-control, when user departments improve their internal processes by reducing the number of telephones in use or calling the help desk less frequently, the user departments do not see a corresponding reduction in their annual allocation of CIS costs.

Recommendation I

We recommend the Director of the Department of CIS:

- Benchmark CIS rates annually against industry rates and/or peer cities to evaluate whether CIS is providing comparable IT services at a competitive cost; If CIS finds that it is not competitive, CIS should evaluate its operations and make the necessary adjustments to become competitive or consider outsourcing additional aspects of its operations
- Establish SLAs with user departments
- Develop a process to evaluate opportunities to lower user departments' costs when the departments demonstrate that they are managing IT resources in a more cost effective manner

Management's Response

Partially Agree.

- CIS participates in the ICMA Benchmarking Project, which annually compares fiscal and service-related information to peer cities. CIS continues to look for cost saving and outsourcing opportunities throughout the year. City department and technology needs are never static, and it is increasingly difficult to predict all the future needs. Outsource service providers can only pass along cost savings if they achieve economies of scale through increasing volumes of work or via standardized functions and technology. This typically limits the outsource provider from accommodating changes, or they demand premium prices to achieve that flexibility. Therefore, expected cost savings and service improvements are difficult to obtain. CIS, like many other organizations, is focusing less on outsourcing for cost savings and service improvements and more on leveraging external technology providers to access the right skills at a reasonable price, whenever they are needed.
- CIS established Service Level Agreements (SLAs) with City departments for Desktop Support and Voice/Data Services through the CompuCom and AT&T outsource contracts. CIS is committed to delivering cost effective IT services. CIS recognizes the need and has taken action to operate on a common Support Services Model. CIS completed a Support Readiness Assessment and began in early 2009 the development of building standard Service Functions and Service Processes, based on the Information Technology Infrastructure Library (ITIL). ITIL is a widely accepted and practiced industry standard set of concepts and practices for how information technology infrastructure, development,

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and operations are managed. It is important to note that implementing 'how' the service is delivered is the first step toward executing SLAs, as the service level agreement relates to the “what” services the customer receives.

- CIS has not been presented how a department is delivering and managing IT resources in a more cost effective manner by any City department. CIS has instituted and continues to develop methods to work with user departments to manage resources with the intent to make IT functionality more cost effective. Several existing methods that CIS uses include the assignment of Portfolio Managers to work closely with departments on their IT needs and services. This staff also relays critical service delivery information and performance to IT personnel to improve service quality. When requested, the CIS finance division meets individually with user department staff to further improve knowledge and understanding of the chargeback methodology and services. CIS continues to strategize ways of assisting departments in making IT services more cost effective.

Implementation Date

The full implementation of SLAs throughout the City is dependent on the completion of the IT Support Services Model. CIS anticipates 18 to 24 months to complete and implement a standard IT Support Services Model.

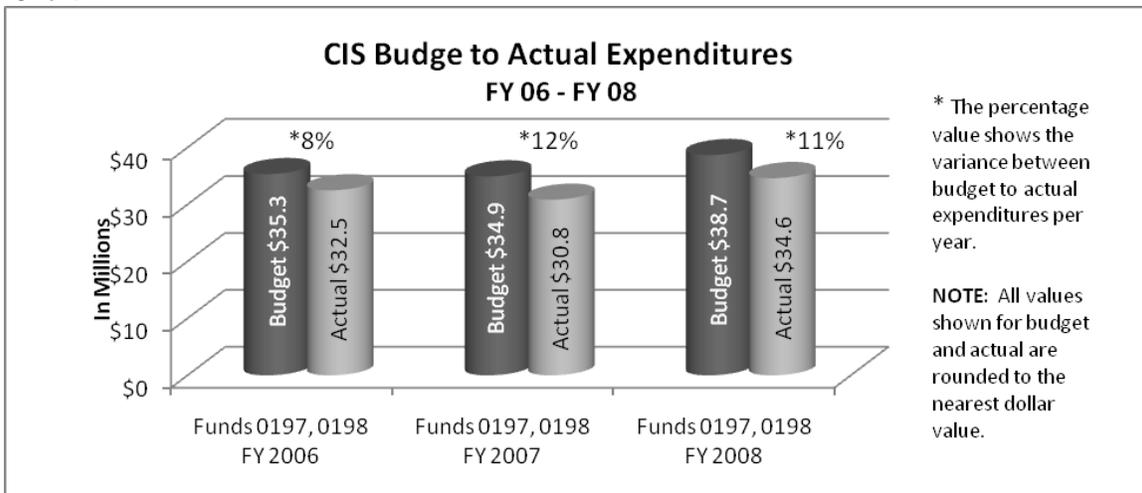
Responsible Managers

Donald K. Bailey, Assistant Director, CIS
Charles Burki, Assistant Director, CIS

CIS Over-Collected an Average of Approximately \$3.7 Million per Year from City Departments

CIS over-collected an average of approximately \$3.7 million per year from the user departments, as indicated in Chart II below. However, CIS has not developed or documented an approach to resolve over-collections when they occur. A formal approach might specify whether all over-collections should be returned to the originating funds, i.e. the General Fund, Enterprise Funds, or other funds, and the timing of those transfers. A formal approach might also specify whether CIS can retain a certain portion of the over-collections for contingencies or to plan for long-term capital expenses.

Chart II



Source: Adopted budgets for the Communication and Information Services for Funds 0197 and 0198. Actual values are reflective of the AMS General Ledger application as of November 2008. The budget and actual expenditures values do not include Fund 0191 for 9-1-1 Technology/Education Services.

A detailed analysis of how these over-collections occurred was not performed. However, it appears that the following may have been contributing factors:

- Cost allocations included CIS salary costs for some positions that were never filled or where hiring was delayed
- CIS budgeted services and the model are not aligned; For example, the CIS FY 2009 budget states that Internal Application Services supports 325 applications, and 1,250 interfaces and the Internal Computer Support supports 550 hardware servers; However, the FY 2009 model accounts for a total of 124 applications for both enterprise and city-specific applications, and an unidentified number of interfaces and servers

Because the budget is based upon estimates, it is not unusual to find that actual hiring results differ from what was originally planned. In addition, there may be

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reasons why the budget and the model document information differently. However, CIS should reconcile those differences to show user departments that charges for IT services are documented, substantiated, and reasonable. In addition, when over-collections occur, CIS should have a formal, documented approach to ensure that over-collections are returned to the originating fund or that amounts retained are authorized for contingencies or to plan for long-term capital expenses.

Recommendation II

We recommend the Director of the Department of CIS analyze why actual CIS costs have been lower than budget estimates for at least the past three fiscal years (FY 2006 - FY 2008) to determine if steps can be taken to improve the accuracy of the budget estimates. We also recommend that CIS develop and institute a formal process to resolve over-collections when they occur.

Management's Response

Partially Agree.

The year-end variance between CIS' actual costs and the allocated budget stems partly to delays in filling staff vacancies as well as concerted efforts to reduce expenditures. CIS continues to consult with Budget Management Services to monitor the fund balance in CIS' internal service funds. This process occurs throughout the fiscal year on a monthly basis as a part of the Financial Target Analysis as well as during a fiscal year's budget development.

The budget development process is designed to estimate what funds are needed to continue current levels of service along with potential reductions or enhancements to service delivery. The budget development process also determines appropriate rates and charges. Strategic direction or focus has and will change during the fiscal year, which typically results in variances seen from budget to actual in the years noted above.

In FY 2008-2009, CIS will issue a substantial rebate to the originating general, enterprise, and internal service funds. CIS will continue discussions with Budget Management Services each year to evaluate budget allocation versus actual expenditures to determine when and if a CIS rebate is necessary.

Implementation Date

FY 2008-2009 12th Period

Responsible Managers

Erin Schwie Langston, Assistant Director, CIS
Shelia Robinson, Assistant Director, BMS

Section 2: Fairness

The Model is Complex and Does Not Appear to Fairly Represent the Cost of IT Services

CIS's model is complex and the calculated rates per unit do not appear to fairly represent the actual cost of IT services. The model's complexity makes it difficult to manage, maintain, and communicate the CIS cost allocation to the user departments. The following are some examples of why the rates do not appear to fairly represent the cost of IT services:

- The rates are a combination of several dissimilar IT activities. As a result, the actual cost of an IT activity is not clear. For example, the rate for application support identified by Object Code 3434 in the model as Internal Application Services included unrelated activities such as network operations, computer operations, and administrative overhead for CIS executive personnel.
- The rates are not based upon actual CIS time spent per IT activity. CIS does not track and report time by activity. Instead, CIS personnel estimate the time spent per IT activity without any pre-defined criteria to ensure that the estimation process and results are uniform among the estimators. An inconsistent method of estimation may result in rates that are more or less than the actual IT cost.

Research completed by Deloitte & Touche, Accenture, Educause for Center of Applied Research, and other entities shows that both public and private sector entities experience difficulties in determining the most effective way to price or chargeback for shared services. IT is a dynamic environment that requires flexibility to respond to technology advances and user needs. As a result, designing, maintaining, and communicating a chargeback model that is fair and accurately reflects actual IT costs is challenging.

In addition, the chargeback model is generally expected to align with the entity's budget philosophy. This alignment is particularly important in the public sector where Internal Service Funds are expected to fully recover costs through fees or charges to other agencies or user departments. As a result of these difficulties, some entities are considering chargeback models that are based on a more simplified approach. Table I on the next page defines three simplified chargeback models.

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Table I

Simplified Chargeback Models	
Access	Charges are based on the ability to access certain functions. Usually a flat fee is associated with this type of service.
Subscription	Charges are based on flat fees for various components that may be independently priced (service menu). The subscription fee is usually based on a contracted period of time. The fee is not based on usage, but rather on access, functionality, and service levels.
Tiered Usage	This usage component is often part of a subscription-based model and is used to recognize costs associated with usage. Charges are based on pre-established ranges of use.

Source: Chargebacks and Information Technology Funding Volume 2005 Issue 23, November 8, 2005, Educause Center for Applied Research

CIS may also find that simplifying the chargeback model allows CIS to more fairly represent the actual cost of IT services. In addition, a more simplified chargeback model may make the model easier for CIS to manage, maintain, and communicate the CIS cost allocation methodology to the user departments. Finally, CIS would need to evaluate whether one or a combination of these models meets the customer's needs for cost control, transparency, and fairness. In addition, CIS would need to evaluate whether a simplified model is more sustainable.

Recommendation III

We recommend the Director of the Department of CIS evaluate whether simplifying the model would better meet the customer's needs for cost control, transparency, and fairness. We also recommend that CIS evaluate whether a simplified model is more sustainable.

Management's Response

Partially Agree.

CIS continues to look for ways to streamline and improve its cost allocation model. This process occurs on an annual basis concurrent with the budget development process. For FY 2009-2010, several improvements have been implemented that simplify cost allocation.

Implementation Date

October 2009

Responsible Managers

Erin Schwie Langston, Assistant Director, CIS
Janice Peters, Business Manager III, CIS

Section 3: Transparency

The Model is Not Transparent

The model is not transparent because user departments do not appear to understand the basis of the CIS cost allocation model, how CIS determines each user department's portion of the CIS costs, or whether those costs can be reduced. According to CIS, it has increased its level of communication with each user department by providing a more detailed annual invoice to explain each department's portion of the CIS costs, conducting one-on-one meetings with certain user departments, and by developing a memo of frequently asked questions.

CIS is to be commended for taking these steps to increase communication. However, a sample of seven user departments indicated that the user departments still do not have a clear understanding of how CIS arrived at each user department's portion of the CIS costs. The following are some examples:

- Five out of the seven user departments sampled, or 71 percent, indicated that they did not receive an invoice
- Two of the seven user departments, or 29 percent, that did receive an invoice, did not receive the invoice in sufficient time to verify, discuss, or question the cost allocation; The invoices were received after the FY 2009 budget was completed and adopted
- Seven of seven user departments, or 100 percent, stated that comparative analyses or cost trends were not provided; As a result, the user departments did not have the information needed to understand how CIS costs were allocated among the user departments or how their department's costs compared to costs allocated to other user departments
- One-on-one discussions between CIS and user departments appeared to occur only when CIS was implementing a significant price increase for those user departments

Additionally, the user departments were unaware that CIS had over-collected on the amounts allocated to the departments for the past three fiscal years. The user departments could not have known about the over-collection because user departments do not receive an analysis of CIS budget to actual costs for each fiscal year.

When user departments do not receive sufficient information regarding the allocation of CIS costs, the user departments do not have the ability to verify, discuss, or question whether their portion of the CIS IT service costs can be reduced prior to budget finalization.

Recommendation IV

We recommend the Director of the Department of CIS expand its communication efforts by providing documentation which explains the basis of the CIS cost allocation model to all user departments. We also recommend that CIS ensure that each user department receive the department's cost allocation estimate early in the budget process. This estimate should document and explain CIS's basis for the department's cost estimate, what portion of costs are controllable by the user department, and what process the user department must follow to verify, discuss, or reduce their portion of the IT service costs.

Management's Response

Partially Agree.

CIS conducted one-on-one meetings by request with several user departments to further explain their IT charges and answer any questions or concerns regarding their IT costs.

CIS will continue to conduct these one-on-one meetings and hope to expand them to include more user departments. In these communications, CIS has and will continue to relay those areas in which the user departments can control their costs.

For FY 2008-2009, each department was sent an invoice of CIS charges as well as information related to the cost allocation model in September 2008. Due to the nature of the budget development process, CIS is unable to finalize charges to user departments until the City Manager has finalized the proposed budget to be presented to City Council. Preemptively releasing these numbers could cause more confusion and work if adjustments are needed post release. Also, an early release of these numbers would hinder the sustainability of the cost allocation model as viewed by our user departments.

Implementation Date

September 2009

Responsible Managers

Erin Schwie Langston, Assistant Director, CIS
Janice Peters, Business Manager III, CIS

Section 4: Sustainability

Certain Model Amounts Could Not Be Confirmed Against the CIS Budget

\$10.6 million for Internal Application Services (21 percent of budget) and \$4.6 million of the Internal Desktop Support (9.2 percent of budget) budgeted costs per the budget bid entry could not be confirmed to the model's cost recovery components for application support and desktop support. As a result, the model's completeness could not be validated and a confirmation that CIS allocated costs appropriately could not be made.

The CIS Budget Bid Entry Form (Form A) uses certain object codes (e.g., 1000's, 2000's, etc.) which are summarized in the model into a few internal CIS object codes (e.g., 3434, 3430, etc.). CIS internal object code 3434 is used for all application support cost and CIS internal object code 3430 is used for all desktop support cost. However, a reconciliation between the Form As for Internal Application Support and Internal Desktop Support to the model's dollar values for object codes 3434 and 3430 could not confirm the allocated costs.

For example, within the Internal Application Services Form A, object code 1000's capture personnel compensation of \$7.6 million for application support. Within the model, under object code 3434 the personnel compensation cost was not delineated and could not be confirmed.

The model's objective is to recover CIS's budgeted cost. Therefore, it seems reasonable that the model's cost components either match or reconcile between the model and the relevant Form As to ensure that CIS costs are appropriately accounted for and allocated.

Recommendation V

We recommend the Director of the Department of CIS implement mechanisms to ensure that the cost components in the FY 2009 model and future models are adequately documented and matched between the adopted budget and the Form As. If the cost components between the adopted budget and the Form As do not match, we recommend that CIS prepare a reconciliation between the model and the Form As to show that the CIS IT costs charged to the user departments align with the CIS budget.

Budget Bid Entry Form

Document used by City departments, including CIS, to list all budgeted expenditures by object code and provide supporting documentation.

Object Codes

An object code is a pre-defined number sequence that represents the financial activity of a specific transaction. Revenue object codes refer to the source and type of specific revenues. Expenditure object codes describe the service or commodity obtained as a result of a specific expenditure. Balance sheet object codes refer to the asset acquired, liabilities incurred, or balance in a specific fund.

Source: City of Dallas

Management's Response

Partially Agree.

The CIS budget is comprised of eight services of which seven are recovered in the cost allocation model. Each service has a corresponding Form A associated with it.

The cost allocation model is allocated into nine categories to which the seven budgeted services must be recovered. The only directly correlating service to model category is for Radio communications. The other six budgeted services actually interconnect through the remaining eight model categories, so a direct relationship from the service Form A to the model category is not feasible. The cost allocation model does include several checks and balances to ensure that costs are appropriately recovered.

As mentioned above in response to Recommendation III, CIS continues to improve and simplify the cost allocation model, which includes an easier connection, where possible, between the costs recovered in the allocation model and the department's Form As.

Implementation Date

September 2010

Responsible Managers

Erin Schwie Langston, Assistant Director, CIS

Janice Peters, Business Manager III, CIS

\$49.6 Million (77 Percent) of CIS IT Service Costs Are Managed Using Spreadsheet Software with Insufficient Controls

The model is managed in a portable, easily modifiable, 31-tabbed spreadsheet with insufficient spreadsheet controls. As a result, anyone with access to the spreadsheet who has basic spreadsheet skills could inadvertently or maliciously introduce errors into the model. Although CIS stated that the spreadsheet was protected by restricting access to the network shared drive and by using version control procedures, these controls alone are not sufficient to ensure the integrity of the information used to determine the amounts charged to user departments.

The following are some examples of the spreadsheet errors noted in version *CIS FY 08-09 Proposed Cost Allocation – AUD.xls*:

- \$21,911 was overallocated to user departments for an application that was decommissioned and no longer in use
- \$19,875 of unexplained and unsupported Public Safety related costs were included in the model for recovery resulting in excess collection
- \$17,993 of excess CIS administrative overhead was included in the the model and charged to the departments when an incorrect spreadsheet cell reference was used in a calculation
- \$45,660 was collected from user departments for applications for which no support was available to confirm that the applications were still in use

Impact of Spreadsheet Errors

PricewaterhouseCoopers research showed that 91 percent of spreadsheets have at least a five percent error margin.

A spreadsheet error at a major financial institution was deemed a significant factor in a \$1 billion financial statement error in the classification of securities. The error resulted from a flawed change control process—an unapproved change to a formula within the spreadsheet—and other control deficiencies, including lack of technical and user documentation, insufficient testing, and inadequate backup and recovery procedures.

Source: Whitepaper *The Use of Spreadsheets: Considerations for Section 404 of the Sarbanes-Oxley Act, July 2004* by PricewaterhouseCoopers. Whitepaper *Spreadsheets and Sarbanes-Oxley: Regulations, Risks, and Control Frameworks, 2006*, xactly Corporation.

Spreadsheet software provides user flexibility; however, the most commonly used software does not provide adequate controls, such as input, access, change controls, and audit trails. In addition, macros and formulas embedded in spreadsheets can also affect spreadsheet performance. According to Ed Hill, Managing Director for Protiviti: “Spreadsheets are prone to errors and aren’t like other computer applications that are designed with controls in mind.” In order to improve spreadsheet controls, many companies are now using spreadsheet management software.

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This software generally includes the following features that:

- Document the spreadsheets' objectives and functions
- Track changes to spreadsheets, including changes that affect and link across several workbooks
- Establish and maintain access and segregation of duties
- Establish and maintain version and change controls and audit trails

Recommendation VI

We recommend the Director of the Department of CIS implement additional spreadsheet controls to ensure the integrity of the information used in the model to determine the amounts charged to user departments for IT services.

Management's Response

Disagree.

The cost allocation model has sufficient spreadsheet controls to ensure data integrity while providing the department the ability to maintain a transparent and accessible file. Additionally, the cost allocation model and support files are stored in a secured folder on the City's network which has limited user access. The audit states that a 0.2 percent degree of error was identified. The statistics referenced from PricewaterhouseCoopers indicate a five percent margin of error is typical. It would appear that the access / change control and oversight of the spreadsheet tool CIS is using is well below the average.

Appendix I

Background, Objectives, Scope and Methodology

Background

The Department of Communication Information Services (CIS) is responsible for providing telecommunication and information technology support to City departments. To execute these services for Fiscal Year (FY) 2009, CIS relies on \$64.2 million budget, \$49.6 million of which is funded by the City departments. The remaining \$14.5 million budget is directly supported by the 9-1-1 Technology / Education revenue source.

The CIS budget portion used for chargeback model (the model) is distributed between two funds (Funds 0197 and 0198) and among seven services identified in the budget as Strategic Technology Management, Internal Telephone and Data Communication, Internal Application Services, Internal Computer Support, Internal Desktop Support, Internal Radio Communication, and Public Safety Technology Support.

CIS has three operating funds, of which the two funds considered in this audit are Internal Service Funds (ISF). To recover costs, CIS uses the model. The model is a chargeback approach which is a method of allocating the fixed (indirect) costs and the variable (direct) costs of the ISF department to the user departments that benefit from its service. Chargeback, by industry practices, is considered the most equitable, transparent, and measureable approach for shared services. The chargeback method can be applied using various processes which are dependent on the services that are being charged back to the user department.

Internal Service Fund

An ISF is expressly designed to function as a *cost-reimbursement* device by imposing fees or charges to other funds, departments, or agencies of the primary government and its component units, or to other governments who use their services.

Source: 2005 Governmental Accounting, Auditing and Financial Reporting, Government Finance Officers Association

CIS underwent several changes in the past few years to establish a chargeback model for its services. Circa 2000, CIS employed Arthur Andersen (LLP surrendered its licenses to practice as Certified Public Accountants in the United States in 2002) to develop a rate matrix, which was subsequently changed by the Department of Budget Management Services (BMS). BMS, upon reviewing the rate matrix, recommended a process for CIS which was based on an estimated percentage allocation to each user department.

In 2005, CIS adjusted the process again to include a combination of the percentage allocation with a limited rate model. In 2008, this approach was further refined and evolved into a rate model for complex services and simple chargeback for the remaining services.

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The model attempts to recover annual adopted budget costs and since the amount of costs being recovered from user departments is based upon the CIS adopted budget, there is a direct correlation between the budget process and the model’s cost allocation completeness.

The Chargeback Model

For the purpose of the model, CIS has identified nine categories of services that it provides to the City of Dallas. The categories of services do not mirror the budget process services, which number seven in total for chargeback. Table II below provides a summary of the chargeback services and the cost allocation approach that is applied.

Table II

Category	Identified Service	Cost Basis
One	Telecom – VoIP Phone Sets	Unit Based Pricing + Administrative Overhead
Two	Transport	Unit Based Pricing
Three	Client’s Circuits	Unit Based Pricing
Four	CITY Circuits	Unit Based Pricing
Five	Interactive Voice Response / Automatic Call Distribution	Unit Based Pricing + Administrative Overhead
Six	Audio/ Visual	Unit Based Pricing + Administrative Overhead
Seven	Communication Equipment	Unit Based Pricing + Administrative Overhead
Eight	Application	Activity Based Rate Model + Administrative Overhead
Nine	Personal Computer/Laptop and email	Unit Based Pricing + Administrative Overhead

Source: CIS management

For FY 2009, CIS provided each user department with a cover memo that describes the cost allocation process at a high-level, an invoice with a summary level break-down of cost for each of the services noted in Table 2, a list of applications that are supported for the user department including city-wide and department specific, and Frequently Asked Questions (FAQs) list. The budget amounts are incorporated into the AMS Advantage 3 (financial application) and the applicable accounts are debited each month for one-twelfth the basis for each of the services.

Objectives, Scope and Methodology

The objectives of the audit were to evaluate the CIS cost allocation methodology, the model, and determine if the model and the use of the model was reasonable. Reasonableness, for the purposes of this project, was determined to include the elements of cost control, fairness of cost of services, transparency of the process to city user departments, and sustainability of the model.

The audit scope included the CIS FY 2009 model and the CIS budgeting process as it relates to the model. However, certain other matters, procedures, and transactions occurring outside that period may have been reviewed to understand and verify information related to the audit period.

We interviewed CIS personnel who developed, implemented, and currently manage the model. We reviewed the CIS budget bid entry process to understand how the FY 2009 costs were accumulated and incorporated into the model. We obtained information from ten city governments considered comparable to the City of Dallas to evaluate the City's cost allocation approach and model. We gained an understanding of the industry's best practices on the use of, execution of, and maintenance of a chargeback model.

We conducted this audit under the authority of the City Charter, Chapter IX, Section 3 and 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.

Appendix II

Major Contributors to this Report

Carol Smith, CPA, CIA, CFE, Assistant City Auditor
Theresa Hampden, CPA, Assistant City Auditor
Mamatha Sparks, CISA, Project Manager

Management's Response

Memorandum

RECEIVED

JUL 31 2009



DATE: July 31, 2009

TO: Craig D. Kinton, City Auditor

CITY AUDITOR'S OFFICE

SUBJECT: Response to Audit Report: Communication and Information Services Cost Allocation

Our responses to the audit report recommendations are as follows:

Recommendation I:

We recommend the Director of the Department of CIS:

- Benchmark CIS rates annually against industry rates and/or peer cities to evaluate whether CIS is providing comparable IT services at a competitive cost; If CIS finds that it is not competitive, CIS should evaluate its operations and make the necessary adjustments to become competitive or consider outsourcing additional aspects of its operations
- Establish SLAs with user departments
- Develop a process to evaluate opportunities to lower user departments' costs when the departments demonstrate that they are managing IT resources in a more cost effective manner

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

- CIS participates in the ICMA Benchmarking Project, which annually compares fiscal and service-related information to peer cities. CIS continues to look for cost saving and outsourcing opportunities throughout the year. City department and technology needs are never static, and it is increasingly difficult to predict all the future needs. Outsource service providers can only pass along cost savings if they achieve economies of scale through increasing volumes of work or via standardized functions and technology. This typically limits the outsource provider from accommodating changes, or they demand premium prices to achieve that flexibility. Therefore, expected cost savings and service improvements are difficult to obtain. CIS, like many other organizations, is focusing less on outsourcing for cost savings and service improvements, and more on leveraging external technology providers to access the right skills at a reasonable price, whenever they are needed.
- CIS established Service Level Agreements (SLAs) with city departments for Desktop Support and Voice/Data Services through the CompuCom and AT&T outsource contracts. CIS is committed to delivering cost effective IT services. CIS recognizes the need and has taken action to operate on a common Support Services Model. CIS

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completed a Support Readiness Assessment and began in early 2009 the development of building standard Service Functions and Service Processes, based on the Information Technology Infrastructure Library (ITIL). ITIL is a widely accepted and practiced industry standard set of concepts and practices for how information technology infrastructure, development and operations are managed. It is important to note that implementing 'how' the service is delivered is the first step toward executing SLAs, as the service level agreement relates to the 'what' services the customer receives.

- CIS has not been presented how a department is delivering and managing IT resources in a more cost effective manner by any City department. CIS has instituted and continues to develop methods to work with user departments to manage resources with the intent to make IT functionality more cost effective. Several existing methods that CIS uses include the assignment of Portfolio Managers to work closely with departments on their IT needs and services. This staff also relays critical service delivery information and performance to IT personnel to improve service quality. When requested, the CIS finance division meets individually with user department staff to further improve knowledge and understanding of the chargeback methodology and services. CIS continues to strategize ways of assisting departments in making IT services more cost effective.

Implementation Date

The full implementation of SLAs throughout the City is dependent on the completion of the IT Support Services Model. CIS anticipates 18 to 24 months to complete and implement a standard IT Support Services Model.

Responsible Manager

Donald K. Bailey, Assistant Director, CIS
Charles Burki, Assistant Director, CIS

Recommendation II:

We recommend the Director of the Department of CIS analyze why actual CIS costs have been lower than budget estimates for at least the past three fiscal years (FY 2006 - FY 2008) to determine if steps can be taken to improve the accuracy of the budget estimates. We also recommend that CIS develop and institute a formal process to resolve over-collections when they occur.

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

The year-end variance between CIS actual costs and the allocated budget stems partly to delays in filling staff vacancies as well as concerted efforts to reduce expenditures. CIS continues to consult with Budget Management Services to monitor the fund balance in CIS' internal service funds. This process occurs throughout the fiscal year on a monthly basis as a part of the Financial Target Analysis as well as during a fiscal year's budget development.

The budget development process is designed to estimate what funds are needed to continue current levels of service along with potential reductions or enhancements to service delivery. The budget development process also determines appropriate rates and

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charges. Strategic direction or focus has and will change during the fiscal year, which typically results in variances seen from budget to actual in the years noted above.

In FY 2008-2009, CIS will issue a substantial rebate to the originating general, enterprise, and internal service funds. CIS will continue discussions with Budget Management Services each year to evaluate budget allocation versus actual expenditures to determine when and if a CIS rebate is necessary.

Implementation Date

FY 2008-2009 12th Period

Responsible Manager

Erin Schwie Langston, Assistant Director, CIS
Shelia Robinson, Assistant Director, BMS

Recommendation III:

We recommend the Director of the Department of CIS evaluate whether simplifying the model would better meet the customer's needs for cost control, transparency, and fairness. We also recommend that CIS evaluate whether a simplified model is more sustainable.

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

CIS continues to look for ways to streamline and improve its cost allocation model. This process occurs on an annual basis concurrent with the budget development process. For FY 2009-2010, several improvements have been implemented that simplify cost allocation.

Implementation Date

October 2009

Responsible Manager

Erin Schwie Langston, Assistant Director, CIS
Janice Peters, Business Manager III, CIS

Recommendation IV:

We recommend the Director of the Department of CIS expand its communication efforts by providing documentation which explains the basis of the CIS cost allocation model to all user departments. We also recommend that CIS ensure that each user department receives the department's cost allocation estimate early in the budget process. This estimate should document and explain CIS's basis for the department's cost estimate, what portion of costs are controllable by the user department, and what process the user department must follow to verify, discuss, or reduce their portion of the IT service costs.

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

CIS conducted one-on-one meetings by request with several user departments to further explain their IT charges and answer any questions or concerns regarding their IT costs.

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CIS will continue to conduct these one-on-one meetings and hope to expand them to include more user departments. In these communications, CIS has and will continue to relay those areas in which the user departments can control their costs.

For FY 2008-2009, each department was sent an invoice of CIS charges as well as information related to the cost allocation model in September 2008. Due to the nature of the budget development process, CIS is unable to finalize charges to user departments until the City Manager has finalized the proposed budget to be presented to City Council. Preemptively releasing these numbers could cause more confusion and work if adjustments are needed post release. Also, an early release of these numbers would hinder the sustainability of the cost allocation model as viewed by our user departments.

Implementation Date

September 2009

Responsible Manager

Erin Schwie Langston, Assistant Director, CIS
Janice Peters, Business Manager III, CIS

Recommendation V:

We recommend the Director of the Department of CIS implement mechanisms to ensure that the cost components in the FY 2009 model and future models are adequately documented and matched between the adopted budget and the Form As. If the cost components between the adopted budget and the Form As do not match, we recommend that CIS prepare a reconciliation between the model and the Form As to show that the CIS IT costs charged to the user departments align with the CIS budget.

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

The CIS budget is comprised of eight (8) services of which seven (7) are recovered in the cost allocation model. Each service has a corresponding Form A associated with it.

The cost allocation model is allocated into nine (9) categories to which the seven (7) budgeted services must be recovered. The only directly correlating service to model category is for Radio communications. The other six (6) budgeted services actually interconnect through the remaining eight (8) model categories, so a direct relationship from the service Form A to the model category is not feasible. The cost allocation model does include several checks and balances to ensure that costs are appropriately recovered.

As mentioned above in response to Recommendation III, CIS continues to improve and simplify the cost allocation model, which includes an easier connection, where possible, between the costs recovered in the allocation model and the department's Form As.

Implementation Date

September 2010

Responsible Manager

Erin Schwie Langston, Assistant Director, CIS
Janice Peters, Business Manager III, CIS

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Recommendation VI:

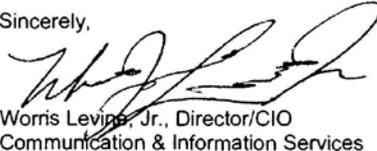
We recommend the Director of the Department of CIS implement additional spreadsheet controls to ensure the integrity of the information used in the model to determine the amounts charged to user departments for IT services.

Management Response / Corrective Action Plan

Agree Disagree Partially Agree

The cost allocation model has sufficient spreadsheet controls to ensure data integrity while providing the department the ability maintain a transparent and accessible file. Additionally, the cost allocation model and support files are stored in a secured folder on the City's network which has limited user access. The audit states that a 0.2% degree of error was identified. The statistics referenced from PricewaterhouseCoopers indicate a 5% margin of error is typical. It would appear that the access / change control and oversight of the spreadsheet tool CIS is using is well below the average.

Sincerely,



Morris Levine, Jr., Director/CIO
Communication & Information Services

C: Dave K. Cook, Chief Financial Officer