



United States
General Accounting Office
Washington, D.C. 20548

Accounting and Information
Management Division

B-277023

July 9, 1997

The Honorable Lauch Faircloth
Chairman, Subcommittee on the
District of Columbia
Committee on Appropriations
United States Senate

The Honorable Charles H. Taylor
Chairman, Subcommittee on the
District of Columbia
Committee on Appropriations
House of Representatives

Subject: District of Columbia: Status of Efforts to Develop a New Financial Management System

The Conference Report for the 1996 District of Columbia Appropriations Act (Public Law 104-134) stated that GAO was to monitor District government efforts to acquire a new financial management system. Consequently, we have been providing comments and periodic briefings to congressional and District officials on the acquisition effort. This letter responds to your request that we provide a status report summarizing our views on the District's progress to date.

BACKGROUND

In 1976, the Congress created the Temporary Commission on Financial Oversight of the District (Commission) to develop and implement a core financial management system. This system, put in place in October 1979, was designed to perform primarily budget and accounting functions.

According to its own report, the District has made limited modifications to its core financial management system and has provided little training to the employees who use the system.¹ Also, since the current system cannot perform all functions necessary for related programmatic objectives, the District has created additional systems to meet its needs. These are commonly referred to

¹Capabilities Assessment of the Financial Management System, December 1996.

as "feeder systems." For example, the Business Tax Information System was created to capture and monitor the payments associated with business taxes. These feeder systems contain information needed for financial management, but operate outside of the current core financial management system. Accordingly, an interface (either manual or automated) is required for the core financial management system.

Given the long-standing problems with the District's financial management, we recommended in June 1995 that the District of Columbia Financial Responsibility and Management Assistance Authority (Authority) study the accounting and financial management information needs of the District.² Subsequently, the Authority and the District requested, and the Congress approved using, funds to assess the need for, and necessity of, implementing a new financial management system. In the 1996 District of Columbia Appropriations Act (Public Law 104-134), the District was authorized to spend \$28 million of its revenues to implement a replacement for its current financial management system. Of the \$28 million, \$2 million was provided for a needs analysis and assessment of the existing financial management environment. In addition, Public Law 104-134 made the remaining \$26 million available to procure the necessary hardware and installation of new software, system conversion and testing, and training after the needs analysis and the assessment was received by the Congress.

A DISCIPLINED APPROACH IS ESSENTIAL FOR SUCCESSFUL SYSTEMS ACQUISITION

Acquiring a major new information system is an inherently risky undertaking, not just for the District, but for any organization. Valuable lessons have been learned by successful public and private sector organizations that should guide the District's efforts to design and put in place a new financial management system.

According to a study by The Standish Group International,³ most new systems in the private sector fail to meet expectations. In the federal government, we have also seen many failures involving multimillion-dollar cost overruns, schedule slippages measured in years, and dismal mission-related results. For

²District of Columbia: Improved Financial Information and Controls Are Essential to Address the Financial Crisis (GAO/T-AIMD-95-176, June 21, 1995).

³Charting the Seas of Information Technology Chaos, 1994. This study is discussed in more detail in Managing Technology: Best Practices Can Improve Performance and Produce Results (GAO/T-AIMD-97-38, January 31, 1997).

example, Senator William S. Cohen's 1994 report, Computer Chaos,⁴ highlighted how billions of dollars have been wasted on federal computer systems that did not meet the government's needs. We still find computer modernizations at great risk because agencies have failed to take basic steps in planning their projects and controlling risks.⁵

These failures are not due primarily to faulty technology. They are the result of poor management, poor planning, and poor project execution. Leading public and private sector organizations have recognized the importance of a disciplined approach to information management. They have developed and follow an integrated set of practices to reduce the risks related to system acquisition and development and dramatically increase their rate of success.⁶ After reviewing scores of systems over the last 15 years, we have found that these principles are consistently applicable to government systems. Accordingly, the Congress incorporated these proven best practices into the Clinger-Cohen Act of 1996 in order to reform federal information management.

Given the criticality of effective financial management to the District, as well as its limited capacity and resources, it is important that the District adopt and follow best practices in information management in order to avoid costly failure and acquire a new financial management system that successfully meets its needs.

Building Blocks for Systems Acquisition

Acquiring a new information system requires following a methodology that starts with a clear definition of the organization's mission and strategic goals and ends with a system that meets specific information needs. We have seen many system efforts in the federal government fail because agencies started with a general need (such as improving financial management) but did not define in precise terms (1) the specific problems they were trying to solve, (2) what their specific operational needs were, and (3) what specific information requirements flowed from these operational needs. Instead, they plunged into the acquisition process in the belief that these specifics would be defined along the way. As a result, systems were delivered well past anticipated milestones; failed to perform as expected; and, accordingly, required costly modifications.

⁴Computer Chaos: Billions Wasted Buying Federal Computer Systems, Investigative Report of Senator William S. Cohen, October 12, 1994.

⁵High-Risk Series: Information Management and Technology (GAO/HR-97-9, February 1997).

⁶Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology (GAO/AIMD-94-115, May 1994).

A structured "building block" approach is fundamental to systems acquisition.⁷ It is especially important to complete three building blocks early in the project: a concept of operations, a requirements definition, and an analysis of alternatives to meet the defined requirements. These must be done well for the acquisition to succeed in meeting the organization's needs.

A **concept of operations** defines how the organization's day-to-day operations are (or will be) carried out to meet mission needs. The concept of operations includes high-level descriptions of information systems, their interrelationships, and information flows. It also describes the operations that must be performed, who must perform them, and where and how the operations will be carried out. Failure to develop a complete concept of operations can have catastrophic consequences for the system acquisition because it is the primary building block on which the whole effort is based.

A **requirements definition** builds on the concept of operations. Requirements are the blueprint that system developers and program managers will use to design and develop the system. It is critical that requirements be carefully defined and flow from the concept of operations. For this reason, the concept of operations must be done before fully defining the system requirements. Ill-defined or incomplete requirements have been identified by many system developers and program managers as a root cause of system failure. Without adequately defined and organizationally approved requirements, a system will need extensive and costly changes before it can become fully operational.

Operational requirements identify the level of performance needed to accomplish the program's mission and provide the information that will drive later decisions on such items as the alternatives analysis and hardware and software designs. Examples of requirements include the amount, type, frequency, and speed at which data and information must be gathered, edited, correlated, updated, displayed, printed, and transmitted in support of specific organizational needs. In addition, security, reliability, availability, and maintainability must be realistically defined because these system requirements drive subsequent system design choices and have a significant impact on system development cost, schedule, and performance.

An **alternatives analysis** can begin after the concept of operations and requirements definition have been completed. The purpose of an alternatives analysis is to assess the various options that are available to meet the system requirements. Several options should be evaluated to determine the costs, benefits, and risks of each. Each option should be capable of meeting current and potential future missions and be analyzed in terms of its present and future operational effectiveness, maintainability, and cost-effectiveness. The

⁷Strategic Information Planning: Framework for Designing and Developing System Architectures (GAO/IMTEC-92-51, June 1992).

alternatives analysis should include hardware, software, communications, data management, and security.

KEY ISSUES NEED RESOLUTION
TO REDUCE RISK, CONTROL COSTS, AND
PRODUCE A QUALITY SYSTEM

The District has not yet completed a concept of operations, requirements definition, or alternatives analysis, though it has taken some initial steps in these areas. The District is aware of the need to do more detailed work in these three areas and plans to hire a contractor to assist in this effort.

Concept of Operations Needs to Be Developed

Regarding a concept of operations, the District's Chief Financial Officer (CFO) has developed a draft strategic plan⁸ outlining high-level goals for the District, such as ensuring that financial information is timely, accurate, and trustworthy; ensuring that the budget is structurally balanced; and regaining an investment rating for the District's securities. These are important and laudable goals that provide the basis for developing operating concepts. But they do not in themselves constitute a complete concept of operations because they do not provide the information or level of detail needed to define the requirements for a new financial management system.

One critical item we would expect to see in the District's concept of operations is how the various components of its financial management system will interact. The District has key underlying feeder systems that provide the core system with accounting, program, and performance information on various operational units' activities. The concept of operations needs to clearly describe the needed information inputs and outputs for each of these feeder systems.

For example, the Child and Family Services Agency (currently under receivership) is in the process of developing a new management information system, one component of which is a financial management system. The agency plans to issue a request for such a system and have it operational by October 1, 1997. However, as of March 1997, neither the CFO nor the Authority had been involved in deciding how the Child and Family Services Agency's financial management operations would be designed or how the system that the District envisions would interact with this feeder system—or whether it will even be needed once a new core system is in place.

⁸1997 Strategic Plan for the Office of the Chief Financial Officer, Government of the District of Columbia (Draft), January 15, 1997.

Complete Requirements Definition and
Alternatives Analysis Are Important

Although a concept of operations has not been completed, the District has nevertheless begun to define its information requirements and assess system acquisition alternatives. As noted earlier, requirements cannot properly be defined without first having a sound concept of operations. Likewise, alternatives cannot be assessed without a clear definition of the requirements that the new system is supposed to satisfy.

The requirements that the District has already identified focus on needs stemming from the CFO's accounting function. They do not yet focus more broadly on the District's financial requirements, such as those stemming from the need to integrate the core financial system with feeder systems. Nor have end-user requirements been fully identified and assessed. Additionally, although the District has identified a requirement for its financial management system to be Year 2000 compliant, its capabilities assessment does not provide enough information to define the nature, size, or complexity of this problem.⁹

While the District has completed a preliminary economic analysis for a new system, it has not yet performed the necessary work for an alternatives analysis. Specifically, the preliminary economic analysis

- was not based on a concept of operations or system requirements, because these documents are not yet completed;
- only included the costs for three alternatives—using the existing system, modifying the existing system, or acquiring a commercial off-the-shelf system; and
- did not include the benefits and risks associated with each alternative.

Until a concept of operations and requirements analysis are complete, it will be impossible for the District to determine which alternative will best meet its financial management system needs.

⁹The Year 2000 problem is rooted in the way dates are recorded and used in many computer systems. Many systems use two digits to represent the year. For example, the way that the year 2001 (01) is represented in many systems makes it indistinguishable from 1901 (01). As a result of this ambiguity, system or application programs that use dates to perform calculations, comparisons, or sorting may generate incorrect results when working with the years after 1999. Systems that are Year 2000 compliant do not have this date problem.

TIME FRAMES FOR COMPLETING
CRITICAL TASKS ARE UNKNOWN

In March 1997, the District, in consultation with officials from the Office of Management and Budget (OMB), developed a project management schedule for assessing its financial management operations. This plan was broken into five broad areas: project strategy, requirements definition, solicitation of system support, solicitation of the system, and implementation. As we have just discussed, developing a concept of operations, defining system requirements, and performing an alternatives analysis will be the key elements in determining the ultimate success of this effort. We are concerned that the current plan does not have a scheduled completion date for the concept of operations and requirements definition phases. This, in turn, makes it unclear when an alternatives analysis can be done. Despite this uncertainty, the District has established a target date of August 1997 for the acquisition of a new system.

Based on our experience in reviewing hundreds of information system efforts, we believe there is a high risk that the District will be driven by its ambitious acquisition schedule and will not allow itself time to develop the kind of quality analysis that it must have in order to manage this important project, which is so critical to the District's financial recovery. Although District officials have acknowledged that the time frames associated with this plan are aggressive, they believe that the necessary work can be accomplished and the overall end date of August 1997 can be met because they have been working on this project for some time and can use previous work.

We have heard similarly optimistic statements from other agencies and have subsequently reviewed the bleak consequences of rushing through these all-important initial steps. Moreover, the District has experienced significant systems development problems with past projects. In its 1995 Information Technology Strategic Plan 1995-1998, the District noted a "high incidence of projects that are started and abandoned, and projects that do not satisfy the needs of the end-user." It also noted that "[i]mproper planning, coupled with pressure from top management to deliver complex systems tomorrow, has resulted in many unsuccessful information systems, wasted funds, and useless equipment in District agencies."

Given the complexity of the project and the District's track record in acquiring systems, it is critical that the District approach this effort diligently and with deliberation. The quality of these initial elements of the acquisition needs to be high, and the Congress needs to be satisfied that the District has laid a solid foundation for this acquisition before going on to the selection of a specific system.

COMMENTS AND OUR EVALUATION

We requested written comments on a draft of this letter from the Chief Financial Officer of the District of Columbia and the Chairman of the Authority. They provided us with comments that are reprinted in enclosures I and II, respectively.

The District's CFO stated that the District has acquired a project management team and that this partnership with the private sector will result in a satisfactory concept of operations and requirements definition process. The CFO stated that this approach will enable the District to assess the alternatives and implement a system that supports its financial and project management needs.

The CFO and the project management staff responsible for this project also stated that they have decided to acquire a commercial off-the-shelf (COTS) system¹⁰ and that the District has begun its requirements definition, which will continue throughout the acquisition process. They also noted that the District is not envisioning extensive changes to the COTS package because

- it is committed to modifying its business practices to reduce the customization needed rather than modifying the acquired system to match its current processes;
- the acquired package already meets the requirements of other state and local governments, which reduces the level of requirements that must be identified before selection; and
- it is planning to focus on a public/private partnership that allows outsourcing the development and operation of the new system. (According to District officials, this approach has been successfully used by several local governments and at least one state government.)

At this stage, it is essential that the District complete the concept of operations, the requirements definition process, and the alternatives analysis. For example, the District has identified a number of systems not operated by the CFO that directly relate to the District's financial management needs. According to project management staff, this list is currently being reviewed to determine how many can be eliminated by using the new financial management system. In

¹⁰On June 23, 1997, the Authority issued a solicitation to acquire a new financial management system. (Statement of Work to Provide the District of Columbia With a Comprehensive, State of the Art Financial Management Services Solution, DCFRA Solicitation #97-R-012). We have not reviewed this solicitation in detail. Therefore, this letter does not include an assessment or comments on this document.

some cases, the District already knows that some systems (feeder systems) will feed summary data to the new financial management system while other systems will likely be replaced by it. However, how this interface will work and what data will be provided for each feeder system have not yet been defined.

District officials told us that their approach will adequately address these concerns and will result in a system acquisition process in which requirements are fully defined. They also said that the efforts of the public/private partnership will result in a cost-effective system that meets the District's needs. This will be a challenge because the District currently performs both state and local functions. The localities it is modeling its system after perform either state or local functions, not both.

To reduce the risks associated with this effort, the District first needs to successfully complete its concept of operations, requirements documents, and alternatives analysis. Furthermore, the District is vulnerable if several critical assumptions are not completely valid. Examples of these assumptions include the following:

- *The belief that a COTS package meeting the needs of a state and local government, such as the District, already exists and can be used with little modification.* If this assumption is not fully correct, costly modifications may be required and the risk of failure greatly increases.
- *The belief that the District will be able to modify its existing processes while bringing in a new system to reduce the needed customization.* If these reengineering efforts are unsuccessful or do not meet the District's needs, additional customization may be required, which will increase the acquisition cost and risks.

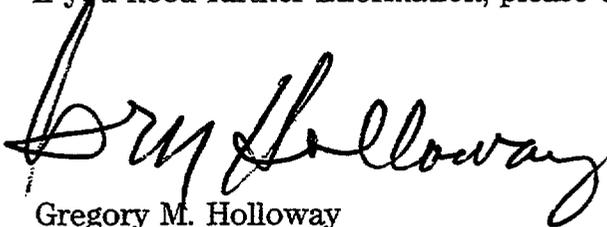
The Chairman of the Authority also provided comments on this letter and noted that on May 15, 1997, the Congress was notified of the Authority's decision to outsource the development and operation of the new financial management system. This appears consistent with the approach taken by the CFO, which was discussed earlier. The Authority was concerned that the focus of this letter was on federal agencies and system failures that the District experienced prior to the establishment of the Authority and the appointment of the current CFO. We believe that the types of problems we discussed are not unique to federal agencies, but rather apply to the District as well as the private sector. The Authority's concern was one reason we referred to past system failures at the District because such failures are not unique to the federal government. We also concur with the Authority's comment that "the District does not have the vast resources available to federal agencies." Therefore, it is even more important that the District undertake all possible measures to reduce its risks.

The Authority also wanted us to recognize that GAO was a participant in the meetings that established the time frames and that GAO agreed with the milestones that were set by the group. GAO was asked to attend these meetings and provided views on various issues. This report reflects the views GAO expressed in those meetings.

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We are sending copies of this letter to the Ranking Minority Members of your subcommittees and the Chairmen and Ranking Minority Members of the Subcommittee on Oversight of Government Management, Restructuring, and the District of Columbia; the Senate Committee on Governmental Affairs; and the Subcommittee on the District of Columbia, House Committee on Government Reform and Oversight. We are also sending copies to the Director of the Office of Management and Budget, the Chairman of the District of Columbia Financial Responsibility and Management Assistance Authority, and the Chief Financial Officer of the District of Columbia.

If you need further information, please contact me at (202) 512-9510.



Gregory M. Holloway
Director, Governmentwide Audits

Enclosures

COMMENTS FROM THE DISTRICT OF COLUMBIA

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Chief Financial Officer



Anthony A. Williams

May 23, 1997

Mr. Gregory M. Holloway
Director, Governmentwide Audits
Accounting and Information Management
Division
General Accounting Office
Washington, DC 20548

Re: District's Financial Management System
REF: GAO/AIMD-97-101R

Dear Mr. Holloway:

Many of the concerns addressed in your letter have been reviewed in the Control Board/CFO/Congress/OMB/GAO/OIG Steering Committee meeting of which you are a member. Although, they were valid at a point in time, I believe that the agreements reached relative to the implementation approach and an emphasis on outsourcing mitigates those concerns and I am responding to them in that context.

We believe that the District is able to utilize the experience of many state and local government procurements and applications to eliminate the problems that you identified. Since there are operational state and local systems which create and provide the same data required from the District, extensive and costly modifications will be unnecessary. The building block approach is essential in any acquisition, but the degree that is required will vary based on application availability, customization required and willingness to change the operation.

Since our plan is not to create or implement a custom designed system but to acquire a COTS application, the level of detail required is different. We believe that the analysis done in the Arthur Andersen market study of available applications and the ongoing requirements reviews we are conducting at each agency with both program and financial management and staffs will provide us with the needed information to address the requirements needed for the new financial management system. Based on the experience of other state and local governments, the Arthur Andersen study, our focus group and agency reviews we have satisfied the requirements for a concept of operations and system requirements definition. (We will continue to refine the requirements.)

441 4th Street, N.W., Suite 1150N, Washington, D.C. 20001 202/727-2476

Gregory M. Holloway
May 23, 1997
Page 2

A key premise for the new FMS system is that any financial function will be available in the core system, which would eliminate the need for many of the current feeder systems. During our agency reviews, we have identified those agencies whose feeder systems we anticipate becoming part of the core. The requirements identified represent reviews from District wide agencies and functions, individuals that are directly interfacing with FMS and those that are users of the data provided. The non financial staffs have been contacted for their input to ensure the new system will provide information and become the resource they need to manage their businesses. This work will continue throughout the implementation, and will have the support of the private sector partnership which we are initiating that used the successful Philadelphia model.

Since we are actually looking for a best of breed application that is currently installed in a state or local environment which will provide the functions needed to operate the District's financial and program management activities, we have adopted a methodology which will provide the level of requirement information required. Since our plan is to implement changes to our current process operations, we need to understand what our 'customer requirements' are and ensure the proposed application provides us the flexibility to meet those needs.

The Project Management Team will assist us in ensuring that the requirements have been adequately defined to provide selection of the appropriate application, assist in the creation and analysis of the input necessary to redefine our processes and identify the areas where limited customization is required.

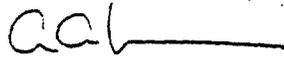
We believe that we will have the necessary resources with the PMT and the private sector partnership and have satisfied the concept of operations and requirement definition information needed to assess the alternatives and implement a system to support the needs of the financial and project management for the District.

Additionally, as you are aware, we agreed in our steering committee meetings to undertake a strategy to utilize outsourcing as the vehicle to solution many of the concerns identified in your report. We are aggressively pursuing that strategy and have initiated the following activities to support it: 1) Selected a PMT Contractor (James Martin) who has extensive outsourcing experience; 2) Plan to restructure the FMS solicitation RFP to focus on outsourcing as a priority; 3) scheduled visits to several jurisdictions (the city Indianapolis, Indiana, Westchester County New York, and the state of Connecticut) who have or who are currently outsourcing all or part of their information systems activities; and 4) Finalizing a Public/Private Partnership to facilitate a smooth transition to a new FMS.

Gregory M. Holloway
May 23, 1997
Page 3

If you would like to discuss this further, please contact me at (202) 727-2476.

Sincerely,

Handwritten signature of Anthony A. Williams in cursive, followed by a horizontal line.

Anthony A. Williams
Chief Financial Officer
District of Columbia

COMMENTS FROM THE DISTRICT OF COLUMBIA FINANCIAL RESPONSIBILITY AND
MANAGEMENT ASSISTANCE AUTHORITY

District of Columbia Financial Responsibility
and Management Assistance Authority
Washington, D.C.

June 4, 1997

Mr. Gene L. Dodaro
Assistant Comptroller General
Accounting and Information Division
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Dodaro:

The District of Columbia Financial Responsibility and Management Assistance Authority ("Authority") has reviewed the draft report entitled, "Status of District of Columbia's Efforts to Develop a New Financial Management System" (GAO/AIMD-97-101R, May 1997). We have several concerns about this draft report.

While the draft report attempts to portray the current status of efforts to develop a new Financial Management System ("FMS"), this is an ongoing process therefore it is difficult for key information to remain current. For instance, on May 15, 1997, the Authority notified the Congress that the District was accepting the suggestion of the Congress to outsource the development and operation of the FMS. We have the following additional concerns regarding the draft report:

Page 2 Paragraph 2—The report states that "the District was provided a total of \$28 million...". While this is factually accurate, it is important to note that these are local funds generated by District tax revenues, and not Federal funds. Furthermore, the funds were requested as part of the District's fiscal year 1996 budget, which was approved rather than "provided" by Congress.

Page 2 Paragraph 4—There is no citation given for Senator Cohen's report.

Pages 2-3—Much of the discussion focuses on Federal agency systems and experience. However, it is important to note that the District is not a Federal agency, but rather a municipal government lacking the vast resources that Federal agencies have at their disposal.

Page 4—The last line on the page refers to "a draft strategic plan". This is unclear. Is this a reference to CFO 2000 - A Performance Improvement Initiative ?

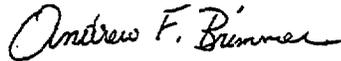
Pages 6-7—The report should recognize the participation of the General Accounting Office (GAO) in the meetings that established the time frames, and agreement of GAO with the milestones that were set by the group.

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Page 7 paragraph 3—In the first line a reference is made to “the District’s past track record in acquiring systems”. This matter is not previously discussed and, those acquisitions were accomplished prior to the appointment of the Authority and the CFO. The inference here is that the Authority and CFO would not approach the effort diligently and with deliberation. There is no basis for this inference.

We hope that these comments are helpful in preparing the final report.

Sincerely yours,



Andrew F. Brimmer
Chairman

(901748)

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