

TORONTO STAFF REPORT

February 8, 2006

To: Audit Committee

From: Chief Corporate Officer

Subject: Management Response to Auditor General's Management of City Information Technology Assets Review

Purpose:

To provide a response to the Auditor General's Management of City Information Technology Assets Review.

Financial Implications and Impact Statement:

There are no immediate financial implications associated with this report; however, there may be resource implications for the 2007 operating and capital budgets resulting from various recommendations within the Review.

Recommendations:

It is recommended that this report be received for information.

Background:

The 2005 Annual Work Plan of the Auditor General's Office included a City-wide Information Technology Asset Management Review. The Auditor General's report summarizing the results of this review is to be submitted at the February 22, 2006 meeting of the Audit Committee.

Comments:

This staff report will provide general comments on the work that has been completed or is underway to continuously improve the management of information technology (IT) assets at the City, which addresses the scope of the Auditor General's review. Appendix 1 attached to this report provides a specific management response to address each of the Auditor General's recommendations.

City IT Governance and Organization Design

As noted in the Auditor General's report, responsibility, control and accountability for IT asset management is not centralized at the City. In addition to a corporate Information & Technology (I&T) Division, there are IT units at various levels across the organization, and in agencies, boards and commissions (ABC's). The I&T Division does not have authority over all IT decisions and service delivery for the City. This is a shared responsibility operating within a complex organization structure. Staff acknowledge that as information and information technology becomes increasingly critical to City operations and services, a highly efficient and effective IT governance and accountability framework needs to be in place, and a well-designed organization structure is required. To this end, as the Auditor General has noted, staff have initiated an IT governance and organization design review. Since information technology impacts all City divisions, staff have previously recognized that this review must be directed by the City Manager, with an Executive Steering Committee to include all the Deputy City Managers and the Chief Corporate Officer.

The intent of the IT governance and organization design review is to move the City towards industry best practices in IT governance and organization design that will elevate the strategic value of IT and enable optimal service delivery.

The Auditor General has recommended that the City Manager consider extending the scope of the review to include the ABC's. He has observed that there has already been improvement in the level of interaction between the City I&T Division and counterparts in the ABC's, but this relationship is informal. The City Manager agrees that communications and collaboration between the City and the ABC's is beneficial; but is mindful of the need to respect the autonomy granted the ABC's. A more formal protocol to increase this interaction and attendant benefits will be investigated.

Technology Asset Management

A number of staff initiatives have been underway for some time to improve the management of IT assets. This includes:

The Technology End of Lease Strategy (TELS)

The Technology End of Lease Strategy (TELS), approved by Council in 2004, had two principle components: a major technology refresh project to replace obsolete leased computer equipment with owned assets; and the development of a technology sustainment model, to ensure that the City's critical technology infrastructure is maintained in a state of good repair through a well-planned annual replacement program using established industry lifecycle management principles.

The refresh project has been highly successful, completed on-time and under-budget without disruption to users. A number of rigorous processes and procedures for detailed needs analysis, blanket contract management and City-wide inventory data collection were implemented. A number of consolidations in server/storage infrastructure deployments significantly reduced the

number and complexity of this equipment. Some migration of equipment from divisions into the main data centre managed by the I&T Division was also accomplished.

A sustainment reserve budget has been submitted and approved as part of the 2006 – 2010 capital budget. The sustainment implementation plan, approach and procedures are presently being finalized. This effort will establish a smooth transition from the TELS project to ongoing annual technology refresh, and will ensure that equipment lifecycles are planned and implemented to meet the City's needs.

Technology Asset Management Strategy

This strategy, approved by Council in 2005, will establish best practices around managing the complete lifecycle of IT assets, including: planning, procurement, deployment, management, and disposal.

As noted by the Auditor General, a comprehensive City-wide technology asset information management system has been planned for some time. An RFP for this system is to be issued shortly. The goal is to begin to implement a solution in 2006. The proposed new system will provide an integrated approach to capturing asset and contract information. It will be connected to the City's SAP system for financial reporting, and other key systems that are used to provide real-time monitoring and support. This system will act as a central repository for asset information, accessible to all divisions. It is expected to have a significant impact on staff's collective ability to control and more effectively utilize the City's investment in the technology assets.

Mainframe Decommissioning Strategy

The City currently outsources its mainframe services requirements. This technology platform, while still necessary, is considered non-strategic for the City and a program is in place to progressively reduce the number of mainframe applications and data storage costs. As the Auditor General has noted, since 2001, a 50% reduction in costs associated with the mainframe has been successfully realized through the efforts of the I&T Division and others. A mainframe decommissioning study to develop a plan to prioritize the continued migration from the mainframe is budgeted to commence in 2006.

Policies and Procedures Development

A number of policies and procedures were progressively implemented in 2004 and 2005 and will be extended or updated in 2006 in the area of asset management. These policies and procedures are aimed at ensuring best practices are followed in such processes as IT procurement and contract management, technical standards development and adherence, inventory control, software licence compliance, asset performance monitoring, disposal, information security, and acceptable use.

The Auditor General has a number of findings and recommendations related specifically to the disposal of IT assets. It should be noted that a disposal policy, initially developed and

implemented in 2003 was updated and approved by Council in 2005. Since the City leased much of its computer equipment and was engaged in litigation with the leasing vendor until mid-2005, these assets could not be disposed of and needed to be stored for a longer period than desirable. Through the TELS project, a rigorous decommissioning and disposal process that ensures obsolete/surplus assets are disposed of in a timely manner, while at the same time protecting the City from any inadvertent loss of data on hard drives leaving City property, has been established.

A further review and updating of the disposal policy and procedures is scheduled for the fall of 2006.

Contract Management and Software Licence Requirements Analysis

As noted above, policies and procedures related to improved contract management have been implemented over the past several years and continuous improvement is planned, including:

Blanket Contract Management

Blanket contract management procedures have been improved over time. The TELS project initiated a very comprehensive process to ensure controls are in place to govern purchases, including: authorization, products that can be ordered, a 2-level release and 3-way match approach controlled through the SAP system; and, price monitoring.

Contract Analysis and Software Licence Requirements Analysis

I&T Division informed the Auditor General of the situation that was subsequently reported regarding Novell licences not in use as of 2005. These licences were acquired in 2001 for the Electronic Service Delivery project, which had been initiated but later postponed. The Novell software licences support an authentication/security process for online electronic transactions. This was expected to be a major part of the City's online services program and a divisional Business Licence Renewal project was to be a key pilot, but the initiative was later cancelled.

Plans for the use of these licences in 2006-2007 and beyond are now in place. The licences, which currently cost the City \$8,000 per year, should not be terminated. Whenever any software licences that have been purchased are cancelled, and then later required, all of the maintenance costs backdated to the initial purchase must be paid or the initial licences repurchased. This is a standard software industry practice.

Since 2004, the I&T Division has conducted annual reviews of demands for all its software licences. Maintenance and support for products found not in use or not scheduled to be used in the foreseeable future are discontinued, resulting in operating budget savings. As the Auditor General has noted, the I&T Division now demonstrate diligence in ensuring that software licences are not acquired before they are required.

The Contract Management Office also reviews vendor IT contracts initiated across the City to determine if there are opportunities for contract consolidation to achieve further financial savings. Where feasible, the City also leverages provincial agreements.

Conclusions:

The Auditor General's review concluded that the I&T Division is making progress in a number of facets of information technology management for the City. Staff acknowledge that further improvements can be made and are committed to a program of continuous improvement, focused on the proactive implementation of best practices to ensure that the City program areas and citizens receive great value from the important investments made in information technology.

The management response and action plan presented in Appendix 1, is a responsible and responsive demonstration of the positive actions taken to date and the commitment to address areas identified for improvement.

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List of Attachments:

Appendix 1 – Management Response to Auditor General's Recommendations

Management of City Information Technology Assets

January 26, 2006

 **TORONTO** Auditor General

Management of City Information Technology Assets

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January 26, 2006

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
RECOMMENDATIONS.....	8
BACKGROUND	12
AUDIT OBJECTIVES, SCOPE AND METHODOLOGY	13
AUDIT RESULTS.....	15
Corporate Information Technology Governance and Organization Design Review	15
The New Administrative Structure	16
The Need for an Information Technology Governance and Organization Design Review.....	17
The Establishment of the eCity Strategic Planning Team	18
The City’s Agencies, Boards and Commissions.....	19
The Development of an Information Technology Strategic Plan	19
ISSUES TO BE ADDRESSED THROUGH THE INFORMATION TECHNOLOGY GOVERNANCE AND ORGANIZATION DESIGN REVIEW.....	20
COMPUTER HARDWARD ASSET MANAGEMENT	21
SOFTWARE ASSET MANAGEMENT	24
CONSOLIDATION OF INFORMATION TECHNOLOGY ASSETS.....	27
CONSOLIDATION OF INFORMATION TECHNOLOGY CONTRACTS.....	28
THE MANAGEMENT OF OUTSOURCED MAINFRAME SERVICES.....	29
THE PROCUREMENT OF INFORMATION TECHNOLOGY ASSETS	30
Monitoring of Prices	31
Compliance with Spending Authorities	32
Compliance with Acceptable Practices for Obtaining Quotes.....	32
THE DISPOSAL OF INFORMATION TECHNOLOGY ASSETS.....	33
CONTRACT MANAGEMENT	36
OTHER ISSUES.....	38
CONCLUSION.....	39

EXECUTIVE SUMMARY

In accordance with the Auditor General's 2005 Work Plan, we have completed our review of the information technology asset management process.

This report addresses issues and recommendations at two levels. The first level provides a commentary on the City's current information technology Corporate governance model and its related impact on the management of information technology assets. The remainder of the report identifies specific issues and provides recommendations for further improving the City's management of information technology assets.

The major theme throughout this report is centred on the need to review the role and authority of the current Corporate Information and Technology Division within the City. In this context, the primary recommendation in this report is similar to the recommendations contained in two audit reports issued in 2005 by the Auditor General on Fleet Operations (April 11, 2005) and Facilities and Real Estate (September 16, 2005).

Both the Facilities and Real Estate and the Fleet Operations reports address the requirement for a review of the Corporate governance structure with a view to centralizing ownership, control and accountability. In general terms, both of these reports make reference to the fact that, in spite of a central resource, many divisions throughout the City manage their own facilities and real estate operations, as well as certain components of their fleet operations.

In much the same way the responsibility, control and accountability for information technology assets are not centralized. Information technology is present in every aspect of City operations and as such, it is extremely important that the issue of Corporate governance be addressed as a priority. An effective information and technology management structure is critical for the optimum management and delivery of City services.

The City Manager has recently issued a request for proposal in connection with an Information Technology Governance and Organization Design Review.

While acknowledging the need to address the governance structure at the City, of equal importance is the need to include in this review the information technology relationships between the City and its Agencies, Boards and Commissions. While we appreciate the fact that the City's Agencies, Boards and Commissions are separate legal entities, there are opportunities for cost savings and efficiencies through the consolidation and better coordination of information technology activities between the City and its Agencies, Boards and Commissions. Information technology development at the Agencies, Boards and Commissions is, for the most part, conducted independently of the City. Ongoing relationships with major Agencies, Boards and Commissions are not structured and are informal.

Issues in connection with the need to formalize information technology arrangements with the Agencies, Boards and Commissions have been long standing concerns. For example, in a report dated March 8, 2002 by the City Auditor (now the Auditor General) entitled "Oracle Database Software Acquisition – Additional Information", reference was made to the purchase of certain software by the Toronto Police Service as follows:

"The decision to proceed with the purchase of IBM Canada database site licences at the Toronto Police Service was taken within a month of the acquisition by the City of 10,000 Oracle licences. Based on our review, the City had purchased a significant number of surplus Oracle site licences, which could have been used by the Toronto Police Service. We have been advised by the Toronto Police Service staff that they were not made aware that the City had recently purchased 10,000 Oracle licences. We have also been advised by the Toronto Police Service that if they had, in fact, been aware of the acquisition of the Oracle licences by the City, the Toronto Police Service would have coordinated its acquisition with the City."

Further, during the review of the Enterprise Case and Occurrence Processing System (e-COPS) project at the Toronto Police Service in April 2005, one of the recommendations contained in that report was:

“The Chief of Police and the City’s Deputy City Manager and Chief Financial Officer develop an ongoing protocol and working relationship in order to ensure that:

- technology developments do not occur in isolation from each other;
- technology developments are in accordance with the long-term objectives of both organizations; and
- the purchase of any computer hardware and software is coordinated.”

While communication between the City and its Agencies, Boards and Commissions has improved, particularly with the Toronto Police Service and the Toronto Transit Commission, relationships in connection with information technology continue to be informal.

The inclusion of the Agencies, Boards and Commissions into the Information Technology Governance and Organization Design Review will necessitate significant additional deliberations. We acknowledge the requirements that information technology governance at the City is a first priority but, nevertheless, it should not be considered in isolation from the Agencies, Boards and Commissions.

The City has recognized and addressed the importance of Corporate governance through its management restructuring. The new administrative structure approved in 2004 introduced a new management group with no day-to-day operational responsibilities. The major role of the new management group is to promote collaboration and innovation across the organization and ensure integration between programs and services. This is an important step towards the coordination of services throughout the City.

Further management initiatives in relation to the issue of Corporate governance include:

- the recent issue of a Request for Proposal in connection with an Information Technology Governance and Organization Design Review; and
- the establishment of the eCity Strategic Committee.

The deliverables from the Information Technology Governance and Organization Design Review are to “assist in the development of an implementation and change management plan that will effectively address recommended improvements; provide well defined roles, responsibilities and accountabilities; provide a decision making framework; and successfully transform the information and technology organization.”

Much of the content of the balance of this report contain issues and concerns which relate to the subject of Corporate governance and are symptomatic of the need to address this matter as a priority. Audits of this nature are generally conducted on a sample basis. In this context, from a divisional perspective, we reviewed policies and procedures in four separate City Divisions. These Divisions were Social Services, Fire Services, Public Health and Toronto Water. Consequently, our comments on individual Divisions relate to those Divisions reviewed. It is possible, however, that the issues identified in these Divisions may exist in other Divisions throughout the City.

A brief synopsis of each section in the report is as follows. Details are provided in the body of the report.

Management of Computer Assets

- While inventories of computer hardware may exist in Divisions, a complete and consolidated inventory does not exist;
- the absence of a complete consolidated inventory makes it difficult to account for and control computer assets;
- the recent computer purchases organized through the City’s end of lease strategy are being accounted for at the time of acquisition.
- the interim consolidated inventory system is incomplete in terms of full functionality and it lacks integration with the SAP Financial Information System;

- there is a need to issue the impending request for proposal for an Enterprise Information Technology Asset Management System as soon as possible;
- there is a need to ensure that all divisional asset inventories are complete, up to date and accurate prior to the transfer of such data to the proposed Enterprise Information Technology Asset Management System; and
- the proposed Enterprise Information Technology Asset Management System should be integrated with the City's SAP Financial Information System.

Management of Software Assets

- A complete and consolidated inventory of City owned software does not exist;
- the absence of a complete inventory makes it difficult to account for and control the use of software;
- software inventories maintained in the Divisions reviewed are incomplete;
- opportunities may exist to make better use of the sharing of software across City divisions;
- certain software licences acquired in 2001 for \$156,000 are not yet being used;
- since 2001, maintenance costs in the total amount of \$120,000 on these particular licences have been paid by the City;
- a determination should be made as to whether future maintenance payments on these licenses should be cancelled; and
- software should only be acquired if the business case supporting the purchase indicates that the particular project is a priority and will proceed in the immediate future.

Consolidation of Information Technology Assets and Information Technology Contracts

- Opportunities exist to consolidate computer equipment (e.g., servers) to fewer City locations;
- greater attention needs to be given to the physical location of servers to take into account security, access, and environmental concerns (such as uninterruptible power supplies, smoke detectors, etc.). Standards in connection with these matters should be developed; and
- where possible, individual divisional information technology contracts should be consolidated.

Management of Outsourced Mainframe Services

- The Information Technology Division has initiated a program to reduce the City's expenditures on the legacy mainframe platform. This has resulted in City expenditures on the mainframe services contract being reduced by approximately 50 per cent over the past five years. However, further opportunities exist to decommission certain mainframe services with external providers. Such a process needs to be completed prior to the expiration of current contracts.

The Procurement of Information Technology Assets

- In some cases, City procurement policies and procedures, such as compliance with spending authorities, have not been followed.

The Disposal of Information Technology Assets

- Divisions need to comply with established policies and procedures in connection with approvals for the disposal of assets;

- for those computers being disposed of improvements are required in the deletion of data from computer hard drives; and
- assets declared obsolete should be disposed of on a more timely basis.

Other Comments

Included in our audit was a review of a specific information technology contract managed by Toronto Fire. We identified a number of issues which require improvement, including:

- the City needs to ensure that all contracts are effectively monitored to ensure that payments made to vendors are reconciled to specific contracted deliverables; and
- the City needs to ensure that all appropriate insurance provisions contained in contracts are complied with.

RECOMMENDATIONS

- 1. The City Manager give consideration to extending the terms of reference of the upcoming Information Technology Governance and Organization Design Review to include the City's Agencies, Boards and Commissions.**
- 2. The City Manager communicate to all City divisions that the Information Technology Governance and Organization Design Review is clearly a City-wide initiative managed by the City Manager's Office and is intended to be inclusive of all City divisions.**
- 3. The Chief Corporate Officer ensure that the Enterprise Information Technology Asset Management System is implemented as a priority. Any solution considered has the ability to interface with other management information systems in the City and in particular, the SAP Financial Information System.**
- 4. The City Manager direct all divisions to ensure that internally developed computer asset inventory lists be accurate, up to date and complete. All divisions be advised that asset inventory information provided by them will be transferred to the Enterprise Information Technology Asset Management System and such information will be subject to an internal audit process.**
- 5. The Chief Corporate Officer, subsequent to the implementation of the Enterprise Information Technology Management System, be required to coordinate periodic asset inventory counts. Any inaccuracies discovered during the inventory count be investigated and appropriate adjustments made accordingly, subject to supervisory review and approval.**

- 6. The City Manager, in consultation with the Chief Corporate Officer direct all divisions to complete an inventory of all non-standard computer software. Inventories, once complete, be consolidated by the Corporate Information and Technology Division within the Enterprise Information Technology Asset Management System. Such information be available to all City divisions.**
- 7. The Chief Corporate Officer consider the implementation of a software compliance assessment program. The extent of such a program be documented.**
- 8. The Chief Corporate Officer determine whether unused Novell Inc. software licences will be required in the short-term. Negotiations be initiated with Novell Inc. to review the possibility of discontinuing future maintenance payments on unused software licences.**
- 9. The City Manager, in consultation with the Chief Corporate Officer, coordinate the review of City software agreements over a predetermined value in order to ensure that the number of software licences purchased is commensurate with the number of licences in use. Significant differences be investigated and where possible, future maintenance payments on unused software be discontinued.**
- 10. The Chief Corporate Officer review the possibility of consolidating the City's computer server resources and where possible, consider locating servers at the City's main data centre.**
- 11. The City Manager direct divisions to provide the Contract Management Office with a list of all active computer contracts including those currently under negotiation or being considered for renewal. The Chief Corporate Officer review each one of these contracts to determine if opportunities exist for consolidating contracts and reducing costs.**

- 12. The Chief Corporate Officer give priority to the reduction or elimination of certain mainframe applications currently outsourced to E.D.S. Canada Ltd. and ensure that this process takes place prior to the expiration of the current contract with E.D.S. Canada Ltd.**
- 13. The Chief Corporate Officer ensure that there are procedures in place regarding the ongoing monitoring of information technology asset competitive pricing, as well as the processes required to recover funds in situations where the City has been overcharged for certain equipment.**
- 14. The City Manager direct all City divisions of the requirement to comply with spending authority requirements as specified in the Delegation of Financial Authority. Divisions be required to develop an internal control process to identify instances of non-compliance and where appropriate, action be taken for instances of non-compliance.**
- 15. The City Manager direct all City divisions to comply with City procurement policies when obtaining quotes for goods and services.**
- 16. The City Manager, in consultation with the Chief Corporate Officer, establish written criteria regarding the level of authority required to declare an information technology asset obsolete. Divisions be directed to comply with established authorization requirements.**
- 17. The Chief Corporate Officer establish a procedure which requires computers for Schools Ontario to acknowledge, in writing, details of all information technology assets received by them from the City.**
- 18. The Chief Corporate Officer ensure that computer assets declared obsolete be disposed of at the earliest opportunity.**

- 19. The Chief Corporate Officer review current procedures relating to the processes required to erase data from computer hardware earmarked for disposal. The erasure process should be commensurate with the type and confidential nature of data being erased. All action taken should be clearly documented and authorized by management.**

- 20. The Fire Chief and General Manager ensure that the services specified in the Computer Aided Dispatch and Report Management System contract are reconciled to the equipment and services actually received. This review should be completed prior to the release of the final payment to the vendor.**

- 21. The Fire Chief and General Manager make the necessary arrangements to ensure that system source codes and all related documentation provided for under the contract for the Computer Aided Dispatch and Report Management System are transferred to an Ontario incorporated company resident in Ontario in accordance with the agreement.**

- 22. The Fire Chief and General Manager, in consultation with the City Solicitor, determine whether insurance guarantees provided for in the contract for the Computer Aided Dispatch and Report Management System were provided to the City. The appropriate action be taken if such guarantees have not been provided.**

- 23. The Fire Chief and General Manager ensure that future maintenance charges related to the contract for the Computer Aided Dispatch and Report Management System are in accordance with contract provisions.**

BACKGROUND

The Corporate Information and Technology Division is currently managed by an Executive Director, reporting to the Chief Corporate Officer who in turn reports to the Deputy City Manager and Chief Financial Officer. The Corporate Information and Technology Division provides computer system support to City divisions in the following areas:

- information technology acquisitions both hardware and software;
- inventory management of information technology assets;
- project management;
- disposal of information technology assets;
- software licence management;
- contract management; and
- other related services.

Limited support is provided to the City's Agencies, Boards and Commissions.

Based on information provided to us by management, the City has over \$110 million invested in hardware and software in over 500 locations with considerable additional investment in the City's network, data centre and business applications. Information technology assets managed by the City include:

- 15,400 desktop computers and monitors;
- 2,200 notebook computers;
- 2,000 printers;
- 500 server computers;
- 250 fax machines; and
- several hundred handheld devices, the majority of which are Blackberries.

In addition, the City has over 14,000 Microsoft licences, 14,000 Novell GroupWise licences and 10,000 Oracle licences. The City also has other proprietary and smaller software licence contracts.

This information relates to the City only and does not include the City's Agencies, Boards and Commissions.

The Corporate Information and Technology Division approved gross operating budget for 2005 was \$52 million compared to actual expenditures of \$49 million. Also in 2005, \$4 million (compared to a budget of \$1.7 million) of these expenditures was recovered from other City divisions. These amounts do not include information technology related budgets, which exist in other divisions throughout the City. In addition, it does not include the significant Information Technology budgets which are included in the budgets of the Agencies, Boards and Commissions. The investment in information technology assets, as well as ongoing operating expenditures in the City and its Agencies, Boards and Commissions, are significant.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

The overall audit objectives were to assess the efficiency and effectiveness of Corporate information technology asset management programs, processes and controls. The audit was also designed to identify opportunities to improve controls, efficiencies and cost savings relating to information technology asset management and addressed the following areas:

- Corporate governance;
- management of computer assets;
- management of software assets
- management of outsourced mainframe services;
- acquisition and disposal of information technology assets;
- contract management; and
- other related issues.

Our audit methodology included the following:

- analysis of questionnaires developed by the Auditor General's Office and completed by City divisions responsible for administering information technology assets;
- review of relevant regulations, directives, policies and procedures and current divisional practices;
- review of Council, Standing Committee and Audit Committee reports;
- interviews with appropriate staff in the Corporate Information and Technology Division and other City divisions;
- evaluation of management control, practices and measures;
- site visits and physical verification of information technology assets;
- the review of information technology standards from the Information Systems and Control Association;
- the review of audit reports issued by other local government agencies throughout North America;
- the review of various reports including the report of "Ontario's Task Force on the Management of Large-Scale Information and Technology Projects"; and
- other procedures deemed appropriate.

Our audit covered the period January 2003 to July 2005 and was conducted in accordance with generally accepted government auditing standards.

Our review, for the most part, focussed on the Corporate Information and Technology Division at the City and while there are overlaps in the area of information technology throughout the City, our review, and consequently our comments on other City divisions, are limited. Nevertheless certain of our recommendations will have an impact on City divisions other than the Corporate Information and Technology Division and in these cases, responsibility for the implementation of certain of these recommendations have been directed to the City Manager.

In addition, this review does not address information technology issues at the Agencies, Boards and Commissions. Such a review is beyond the scope of this report. However, even though the Agencies, Boards and Commissions are separate legal entities, one of the themes of this report is the need for an information technology governance structure, which is inclusive of the Agencies, Boards and Commissions.

AUDIT RESULTS

Corporate Information Technology Governance and Organization Design Review

The major focus in this report and an area of significant importance is the requirement to clarify the roles, responsibilities and authority of the Corporate Information and Technology Division within the City. In our view, it is important to re-evaluate this role in a wider City context to at least consider what role the Corporate Information and Technology Division should have within the City, as well as at the City's Agencies, Boards and Commissions. While certain of these Agencies, Boards and Commissions, particularly the Toronto Transit Commission and the Toronto Police Services Board, are independent and autonomous, there are advantages and economies to be gained through the closer coordination of information technology functions. The coordination of information technology activities between the City and the Agencies, Boards and Commissions at the moment is informal and generally independent of each other.

Many of the specific detailed findings contained in this report relate to the fact that the present roles and responsibilities of the Corporate Information and Technology Division within the City are limited. However, having said this, progress has been made in a number of areas to address this concern, both from a Corporate perspective as well as an Information Technology perspective. These are as follows:

- the approval and establishment of a new administrative structure;
- the recognition of the need for an independent governance review of information technology; and
- the establishment of an eCity Strategic Planning Team headed up by the City Manager.

Our specific comments on each of the above in the context of information technology governance within the City are included in the following paragraphs.

The New Administrative Structure

In November 2004, City Council approved a change to the City's administrative structure. One of the limitations of the pre-2004 structure was its inability to promote strategic direction setting or collaboration on a City-wide basis. In many cases, divisional priorities competed with organization-wide or interdepartmental priorities.

The structure approved in 2004 introduced a management group with no day-to-day operational responsibilities. The major role of the new management group is to promote collaboration and innovation across the organization and ensure integration between programs and services.

The new management structure will enable senior management to address many of the issues raised in previous audit reports relating to Fleet Operations and Facilities and Real Estate where many operational decisions are made on a divisional, as opposed to a Corporate, basis. In much the same way, certain of the issues identified in this report are a result of an information technology governance structure that, for the most part, is not centralized and was established at amalgamation.

The Need for an Information Technology Governance and Organization Design Review

During the course of our review, we have had ongoing discussions with senior management concerning the roles and responsibilities of the Corporate Information and Technology Division. Information technology impacts the performance of almost every City division and its ability to meet the needs of each one of the Divisions, while at the same time, meeting City-wide objectives is critical for the effective management and delivery of government services.

All City divisions share in the responsibility to ensure information technology assets are managed effectively and efficiently. The Corporate Information and Technology Division provides leadership and is responsible for overseeing and developing the overall information strategy for the City. However, certain divisions operate on a somewhat independent basis and develop their own priorities, as well as short-term and long-term planning for managing information technology assets.

The potential consequences of the current decentralized model for managing information technology assets include:

- lack of coordinated planning and priority setting for information technology initiatives;
- lack of City-wide support to complete Corporate information technology initiatives;
- no assurance of compliance with information technology standards;
- lack of effective monitoring and control of information technology assets; and
- lack of coordinated hardware and software inventory management.

The City Manager has recently issued a request for proposal for an “Information Technology Governance and Organization Design Review.” The general deliverables from this review are to “assist in the development of an implementation and change management plan that will effectively address recommended improvements; provide well defined roles, responsibilities and accountabilities; provide a decision making framework; and successfully transform the information and technology organization.”

This is an extremely important project and as a result, it is critical that it receives the level of senior management commitment and attention. The results of this review, if completed thoroughly, will have a significant impact on the future effectiveness of information technology services at the City. This review should not be directed or managed by the Corporate Information and Technology Division, but rather be managed as a Corporate initiative by the City Manager's Office. The level of "buy in" by those City divisions who operate their own independent information technology functions will be enhanced if this review is communicated as a Corporate initiative.

An important component of the upcoming governance review is the need to ensure that the Executive Director of Information Technology has the appropriate authority to implement information technology management across divisional boundaries. The challenge for the City will be to find the right balance between the authority needed by the Executive Director and the flexibility needed by divisions. Failure to provide the Executive Director with the "clout" to compel line managers to adhere to City-wide policies and standards and to the City's priorities will unduly compromise the effectiveness of the position. The Information Technology Governance and Organization Design Review will assist management in addressing many of the issues identified in this report.

The Establishment of the eCity Strategic Planning Team

The City has established an eCity Strategic Planning Team to provide leadership, strategic direction and to establish priorities on a City-wide basis. This team consists of the City Manager, the Deputy City Managers, the City Clerk and the Executive Director of Information Technology. This is an important first step in providing a strategic direction to the development and management of information technology assets on a City-wide basis.

The City's Agencies, Boards and Commissions

Many of the City's Agencies, Boards and Commissions have Information Technology Units of varying size and scope. City management have estimated that Information Technology staffing at the Agencies, Boards and Commissions is in the range of 400 – 500. Certain Agencies, Boards and Commissions use elements of the City's technology infrastructure and have adopted City Information Technology policies while others operate on a more autonomous basis.

The Information Technology Governance and Organization Design Review, has its main focus on governance and organization design within the City. However, in our view, there are cost saving opportunities available if the Review encompasses all Agencies, Boards and Commissions. A collaborative Information Technology function would have significant advantages for the City and its Agencies, Boards and Commissions.

As previously indicated, a governance review, which excludes the Agencies, Boards and Commissions, is in our view short sighted and does not address the potential advantages of larger scale economies. We do appreciate the enormity of such an exercise and understand the desire to address governance issues from a City perspective as a first step.

The Development of an Information Technology Strategic Plan

Discussions have taken place with management in connection with the development, as well as the responsibility for development of a long-term strategic plan for Information Technology at the City. While the development of such a plan is important, it likely will have minimal benefit if its preparation is completed before the governance review.

In addition, the development of a long-term strategic plan, which extends beyond two to three years also, has minimal value due to the constant change in technology. Strategic planning in the area of Information Technology should be ongoing.

Recommendations:

- 1. The City Manager give consideration to extending the terms of reference of the upcoming Information Technology Governance and Organization Design Review to include the City's Agencies, Boards and Commissions.**
- 2. The City Manager communicate to all City divisions that the Information Technology Governance and Organization Design Review is clearly a City-wide initiative managed by the City Manager's Office and is intended to be inclusive of all City divisions.**

ISSUES TO BE ADDRESSED THROUGH THE INFORMATION TECHNOLOGY GOVERNANCE AND ORGANIZATION DESIGN REVIEW

Many of the comments in the balance of the report relate to issues requiring attention during the Information Technology Governance and Organization Design Review. These issues are as follows:

- Computer Hardware Asset Management
- Software Asset Management
- Consolidation of Information Technology Assets
- Consolidation of Information Technology Contracts
- The Management of Outsourced Mainframe Services
- The Procurement of Information Technology Assets
- The Disposal of Information Technology Assets

As previously indicated, many of the issues contained in the balance of the report are symptomatic of the current roles, responsibilities and authority of the Corporate Information and Technology Division which often limit the Divisions authority to act on a corporate wide basis within a complex decentralized model for information technology service delivery.

COMPUTER HARDWARE ASSET MANAGEMENT

The City Auditor (now the Auditor General) in his “Finance Department – Management Letter for the Year Ended December 31, 1997” issued in May 1998, recommended that an inventory of fixed assets be compiled as soon as possible with priority on computer equipment. The report also recommended that management establish a policy that included retaining detailed records regarding the purchase and control of fixed assets.

The City currently has no consolidated inventory for all of its computer hardware and software. Inventory listings of computer equipment exist throughout many City divisions, including the Corporate Information and Technology Division, but the quality and completeness of this information is inconsistent. However, the recent computer purchases acquired through the City’s end of lease strategy are being accounted for at the time of acquisition.

Local Government accounting policies for Ontario municipalities have not required the disclosure of fixed assets on its balance sheet. This will likely change over the next number of years as municipalities will be required to inventory and value its fixed assets for financial statement disclosure purposes. Because of current accounting policies, there has been little incentive for municipalities to inventory and account for its fixed assets and, as a result, this matter has not received the attention it should have.

A capital project was approved by Council in 2003 to implement a City-wide information technology asset management system for hardware and software to track assets acquired through the Technology End of Lease Project. At its March 2004 meeting, Council was advised that the Corporate Information and Technology Division was developing a comprehensive asset management system designed to manage technology assets acquired through the Contract Management Office, from acquisition to disposal. The internally developed system was to be built in three phases. However, a subsequent decision to purchase an “off the shelf” system resulted in only the first phase being completed.

A request for proposal to purchase a comprehensive Enterprise Technology Asset Management System will likely be issued in early 2006. According to management, this system is expected to be fully implemented in the final quarter of 2006.

It is important that any asset management system acquired by the City has the ability to interface with other systems throughout the City and, in particular, with the SAP financial accounting system. We have been advised that an SAP solution to the management of the City's information technology assets has been considered but its functionality in regard to asset management is limited. However, there are no reasons why SAP cannot respond to the upcoming request for proposals.

The importance of accounting for fixed assets is not restricted to financial reporting requirements. The implementation of a comprehensive asset management system is important for many reasons, including the need to:

- establish physical control over the assets;
- identify specific assets for insurance purposes;
- identify surplus assets which may be available for location elsewhere;
- identify assets which are obsolete and available for disposal;
- assist in the reallocation of equipment;
- assist in the identification of underutilized equipment;
- facilitate long-term planning and budgeting; and
- identify warranty claims.

The City has taken steps to prepare for the implementation of its proposed asset management system. During the recent replacement of computer hardware through the Technology End of Lease Project, all new computer hardware and software used was identified. In order to capture this data, the City's Corporate Information and Technology Division developed a Corporate Technology Asset Management System as an interim solution for tracking information technology assets acquired by the City as part of the end of lease strategy initiative. An arrangement with the new hardware supplier requires that they supply asset data such as serial numbers and model numbers for all hardware purchased. The transfer of supplier data to the Corporate Technology Asset Management System is in process.

When the City's proposed Enterprise Technology Asset Management System is implemented, the data in the current Asset Management System will be transferred to the new system. It is critical that the integrity of the data on the interim system be accurate and complete. In this context, it is equally important that inventory assets maintained by divisions be accurate and complete. During our review, we noted that inventory records were maintained at various levels of detail and in general were inaccurate. For example, the Social Services Division did not inventory a purchase of 83 computers. In addition, in the Fire Services Division, during the period September 2003 to March 2005, 20 "spare computers" and "19 spare printers" with a total value of \$50,000 were purchased. These were replaced as needed but with no audit trail in terms of where this equipment was located. Further, in our review of the available inventory listing, we were unable to locate four computers and four printers on the listing.

Recommendations:

- 3. The Chief Corporate Officer ensure that the Enterprise Information Technology Asset Management System is implemented as a priority. Any solution considered has the ability to interface with other management information systems in the City and in particular, the SAP Financial Information System.**
- 4. The City Manager direct all divisions to ensure that internally developed computer asset inventory lists be accurate, up to date and complete. All divisions be advised that asset inventory information provided by them will be transferred to the Enterprise Information Technology Asset Management System and such information will be subject to an internal audit process.**
- 5. The Chief Corporate Officer, subsequent to the implementation of the Enterprise Information Technology Management System, be required to coordinate periodic asset inventory counts. Any inaccuracies discovered during the inventory count be investigated and appropriate adjustments made accordingly, subject to supervisory review and approval.**

SOFTWARE ASSET MANAGEMENT

The Corporate Information and Technology Division is responsible for ensuring large software purchases are properly coordinated across the City so that software licences are purchased and supported in the most cost effective manner. The Division also tracks and monitors the number of City-wide software licences used. Although software purchases made by the Contract Management Office are accounted for, the Office does not effectively manage the use of the software.

The City does not have a City-wide inventory system in place to track non standard software from acquisition to disposal. There is no single consolidated inventory maintained of software acquired and individual divisions do not always keep accurate records. Consequently, the sharing of non standard software amongst Divisions is difficult. The tracking of software purchased or implemented by divisions for their own use is generally left to the discretion of the Division. In addition, in most cases, divisions have responsibility for managing software implemented and used by them. For example, the Toronto Maintenance Management System in the Transportation Services Division and the CLASS Recreation Registration and Permitting System in the Parks, Forestry and Recreation Division are managed by the respective divisions.

Guidelines on the nature of software information to be recorded have not been communicated to City divisions. Such guidelines should include the name of the software, platform and current version of the software number of copies purchased, date of purchase, history of software updates, evidence of licence, how licences are being used and controlled and maintenance provisions.

It is extremely difficult to determine what software is being used throughout the City. A single consolidated inventory of software throughout the City would improve opportunities for divisions to share software.

In addition, the implementation of a sole repository for consolidated software inventory information will make software licence compliance and software licence management practices more efficient. It will also allow for the Contract Management Office to negotiate usage-based software licence agreements and ensure that all computers are appropriately configured and can be applied to all technology assets. In addition, such an inventory will also allow for tracking of relocated or decommissioned software.

Recommendation:

- 6. The City Manager, in consultation with the Chief Corporate Officer direct all divisions to complete an inventory of all non-standard computer software. Inventories, once complete, be consolidated by the Corporate Information and Technology Division within the Enterprise Information Technology Asset Management System. Such information be available to all City divisions.**

Software licence management is essential for legal, technical and operational reasons. The City is legally required to monitor software usage in order to ensure compliance with software licence agreements. The Corporate Information and Technology Division will periodically identify software on computers connected to the City's networks in performing self-assessment audits for major vendors such as Oracle and Novell. However, in general, periodic software compliance audits and checks of software installed on computers are not performed.

The use of unauthorized software on the City's computers presents an operational risk in terms of potential computer virus infections throughout the City. In this context, it is important that a software compliance program be implemented.

Recommendation:

- 7. The Chief Corporate Officer consider the implementation of a software compliance assessment program. The extent of such a program be documented.**

In 2001, the City acquired a number of licences from Novell Inc. for a cost of \$156,000. These licences are currently not used because the projects, which would have required the use of these licences, was never completed because of other priorities.

In addition, software maintenance fees charged by Novell Inc. are contractually based on the number of licences acquired and not the licences in use. Since 2001, the City paid approximately \$120,000 in maintenance fees for these unused licences.

The acquisition of these licences occurred in 2001. Subsequent to that time, we have been advised that technology projects are now required to be in progress prior to the decision being made to acquire software licences.

Recommendations:

- 8. The Chief Corporate Officer determine whether unused Novell Inc. software licences will be required in the short-term. Negotiations be initiated with Novell Inc. to review the possibility of discontinuing future maintenance payments on unused software licences.**

- 9. The City Manager, in consultation with the Chief Corporate Officer, coordinate the review of City software agreements over a predetermined value in order to ensure that the number of software licences purchased is commensurate with the number of licences in use. Significant differences be investigated and where possible, future maintenance payments on unused software be discontinued.**

CONSOLIDATION OF INFORMATION TECHNOLOGY ASSETS

One of the major objectives of the Information Technology Governance and Organization Design Review will be to review the potential to consolidate information technology resources throughout the City. The consolidation will, for the most part, address staff roles and responsibilities.

While the potential consolidation of staff resources is an important matter, there are other consolidation issues which require consideration. For example, we identified 57 locations throughout the City containing servers which are not managed by the Corporate Information and Technology Division. The 57 locations do not include any of those relating to Agencies, Boards and Commissions. While cost saving opportunities exist for the consolidation of certain of these servers, there are other issues which need to be addressed immediately. These issues include:

- access to servers;
- security of servers;
- environmental control of servers; and
- consolidation of software.

The consolidation of computer equipment to fewer locations or even to the City's main data centre does provide potential cost saving opportunities.

Recommendation:

- 10. The Chief Corporate Officer review the possibility of consolidating the City's computer server resources and where possible, consider locating servers at the City's main data centre.**

CONSOLIDATION OF INFORMATION TECHNOLOGY CONTRACTS

In May 2005, City Council approved a recommendation that...“all divisions negotiating new or renewing existing computer contracts refer the proposed contracts to the Contract Management Office in the Corporate Information and Technology Division for review for the purpose of determining if there are opportunities for consolidating contracts.”

As part of this review, we noted that the Public Health Division and the Corporate Information and Technology Division both have separate agreements with Recall Canada, an external backup tape service provider. Although the financial impact is not significant, the contract with the Corporate Information and Technology Division contains a more favourable pricing arrangement.

The Contract Management Office indicated that it relies on individual divisions to advise them of all computer related agreements. Central accountability, along with a proactive approach to identifying computer related contracts administered by divisions, will provide greater assurance of compliance with Council’s directive.

Recommendation:

- 11. The City Manager direct divisions to provide the Contract Management Office with a list of all active computer contracts including those currently under negotiation or being considered for renewal. The Chief Corporate Officer review each one of these contracts to determine if opportunities exist for consolidating contracts and reducing costs.**

THE MANAGEMENT OF OUTSOURCED MAINFRAME SERVICES

In April 2002, City Council approved a report from the then Executive Director, Corporate Services, Information and Technology Division which recommended that the outsourced mainframe services contract with E.D.S. Canada Ltd. be extended. Management also committed to undertake a full review of the City's outsourced mainframe services to determine if certain contracts could be discontinued and costs could be reduced.

In May 2004, a second progress report was received by the Administration Committee. This report indicated that minimal progress had been made to reduce the mainframe services provided by E.D.S. Canada Ltd. The report recommended that the Corporate Information and Technology Division work with divisions to complete and implement the development of application life cycle strategies for reducing remaining active mainframe applications.

The City expects to reduce annual costs for mainframe services by approximately \$1.3 million due to service rates negotiated with E.D.S. Canada Ltd. in the latter part of 2005. Although some efficiency gains in mainframe storage with better back up strategies resulted in reduction in costs, a more aggressive approach and commitment by management will result in further cost reductions for the City.

For instance, the City currently pays approximately \$132,000 annually in storage and back-up services for data seldom used or, in some cases, no longer accessible. An example is payroll data retained for the former City of Toronto, but the application used to access this data no longer exists. Another example is the retention of Y2K test data, which is probably no longer required.

We were informed that the Corporate Information and Technology Division's 2006 capital budget includes funds for a study to assist with a reduction strategy and migration plan.

Recommendation:

- 12. The Chief Corporate Officer give priority to the reduction or elimination of certain mainframe applications currently outsourced to E.D.S. Canada Ltd. and ensure that this process takes place prior to the expiration of the current contract with E.D.S. Canada Ltd.**

THE PROCUREMENT OF INFORMATION TECHNOLOGY ASSETS

Purchases for many standard information technology assets are administered through two master contracts. The first contract is for routine purchases of information technology equipment including desktop computers, notebooks and monitors and a second agreement is available for the acquisition of common software used throughout the City. City divisions request purchases through the Contract Management Office. The Contract Management Office is responsible for managing the two master agreements on behalf of City divisions. An additional approval process is required for the acquisition of non-standard equipment and software.

In assessing controls on the acquisition of information technology assets, our primary focus was on the procedures in place to ensure competitive pricing in a changing market and compliance with City procurement procedures and proper recordkeeping over the assets purchased. We reviewed a sample of transactions for the period January 2003 to July 2005 for four specific divisions, Social Services, Fire Services, Public Health and Toronto Water. We identified the following issues related to the acquisition of information technology assets:

- the need for continuous monitoring of prices;
- the need to comply with spending authorities; and
- the need to ensure that the practice of obtaining quotes is appropriate and consistent.

Monitoring of Prices

The City purchases standard hardware and software at public sector prices. These prices were negotiated in two different master contracts, one for hardware, the other for software. In the constantly evolving information technology market where prices generally decrease as advances in technology are made, it is important to ensure that City purchases are made at competitive market prices.

According to the current agreement with the approved vendors, they are required to provide equipment and software to the City at prices which are equivalent to those offered to their best clients. In other words, prices offered to the City should be the lowest available with that particular vendor.

In regard to non-standard equipment, it is also important to ensure that the City does not restrict itself to purchasing from the City's approved vendor, as prices may be lower with other suppliers.

The Contract Management Office is responsible for the monitoring of price changes as well as the recovery of any adjustments from the vendor.

Recommendation:

- 13. The Chief Corporate Officer ensure that there are procedures in place regarding the ongoing monitoring of information technology asset competitive pricing, as well as the processes required to recover funds in situations where the City has been overcharged for certain equipment.**

Compliance with Spending Authorities

The Delegation of Financial Signing Authority provides for staff signing authority and spending limits for purchase requisitions and invoices. Within the limits of this authority, divisions make purchases through a purchase order or a contract release order. We conducted a sample compliance review of delegated authority limits for the approval of purchase orders and the approval of invoices.

In our sample of Purchase Order Requisitions, we found acquisitions were in compliance with limits set forth by the Delegation of Financial Signing Authority. However, the required spending authority for invoice approval, in certain cases, and in our view, was not always in compliance with the Delegation of Financial Signing Authority.

Recommendation:

- 14. The City Manager direct all City divisions of the requirement to comply with spending authority requirements as specified in the Delegation of Financial Authority. Divisions be required to develop an internal control process to identify instances of non-compliance and where appropriate, action be taken for instances of non-compliance.**

Compliance with Acceptable Practices for Obtaining Quotes

Our review in Toronto Water identified several instances where the difference in the quotation dates for non-standard computer equipment from one supplier to another varied by as much as 45 days and the last quote received was always from the same vendor.

Even though the vendor selected was the lowest bidder, the validity and integrity in obtaining quotes in the circumstances noted above are compromised and give the impression the City may be favouring one particular vendor. Steps should be taken to ensure fair and equitable purchasing practices are followed.

Recommendation:

- 15. The City Manager direct all City divisions to comply with City procurement policies when obtaining quotes for goods and services.**

THE DISPOSAL OF INFORMATION TECHNOLOGY ASSETS

The Corporate Information and Technology Division has developed policies and procedures to assist divisions in disposing of surplus or obsolete information technology assets. The process is centrally monitored and coordinated by the Contract Management Office.

Suitable working but obsolete equipment is offered to Toronto area charities and non-profit organizations if it meets their regional technical specifications. The remainder is sent to Computers to Schools Ontario, a non-profit agency that refurbishes equipment for donation to Toronto area schools and charities first and then to other schools in Ontario.

The lack of detailed inventory records for all City divisions makes it difficult to track equipment declared obsolete. There is no process in place to ensure that assets declared obsolete are appropriately controlled. It is not possible to determine whether an asset regarded as obsolete in one division may be useful in another. In addition, declaring an information technology asset as “obsolete” should be subject to an appropriate level of management approval. A review of the process for the disposal of information technology assets indicate a lack of control over who is authorized to retire an asset. We also observed that records for obsolete items are not adequately maintained.

The City is not in the practice of receiving written acknowledgement from Computers for Schools Ontario for information technology equipment provided to them. Consequently, there are no assurances that equipment was actually delivered and received by the intended recipient.

Recommendations:

- 16. The City Manager, in consultation with the Chief Corporate Officer, establish written criteria regarding the level of authority required to declare an information technology asset obsolete. Divisions be directed to comply with established authorization requirements.**

- 17. The Chief Corporate Officer establish a procedure which requires computers for Schools Ontario to acknowledge, in writing, details of all information technology assets received by them from the City.**

It is common practice to store obsolete assets in various locations throughout the City. When a sufficient number of obsolete items have accumulated, the Division begins the asset disposal process. However, our review of information technology assets held for disposal indicated that certain of them were held for four to seven years prior to disposal. For example:

- the Parks, Forestry and Recreation Division was storing 32 desktop computers, 11 notebook computers, 18 printers and 38 monitors awaiting disposal. Many of the computers were acquired prior to 2000 and have not been in use for over four to five years; and

- Toronto Water Division possessed over 160 obsolete computers ranging in age from four to seven years, while Fire Services Division had possession of over 125 computers, 110 monitors and 55 printers that have been in storage for a number of years.

In July 2003, Council approved a policy on the disposition of information technology assets with a stated purpose to “ensure maximum re-use and recycling of information technology assets while protecting the environment and the City’s data.” If the City is to comply with this policy, shorter disposal time frames are necessary.

Furthermore, undue delays in disposing of obsolete equipment increases the risk that the City may be required to seek an alternative approach to disposing of obsolete equipment. For example, donating unusable computers to Computers for Schools Ontario may prompt the organization to terminate its participation in the program requiring the City to locate potentially more expensive disposal alternatives.

Recommendation:

- 18. The Chief Corporate Officer ensure that computer assets declared obsolete be disposed of at the earliest opportunity.**

Current procedures for the deletion of data from obsolete computers require divisions to erase all data from computer hard drives prior to disposal. All non-working hard drives are required to be removed and destroyed. This activity is monitored through records maintained related to the information technology assets disposal process.

In reviewing records for over 1,000 computers prepared for disposal, we were unable to determine from records available if data was appropriately removed on almost 70 per cent of them.

In most cases, the method used to erase electronic data from computers is not adequate to prevent access to previously deleted data through the use of off-the-shelf file recovery tools.

Recommendation:

- 19. The Chief Corporate Officer review current procedures relating to the processes required to erase data from computer hardware earmarked for disposal. The erasure process should be commensurate with the type and confidential nature of data being erased. All action taken should be clearly documented and authorized by management.**

CONTRACT MANAGEMENT

As part of this review, we examined the management of a \$10.2 million contract relating to the implementation of a Computer Aided Dispatch and Report Management System for Toronto Fire Services. We have identified areas where improvements can be made to the contract management process. While our comments apply to this one particular contract, they may have relevance to other information technology contracts. We have discussed these issues in some detail with the Fire Chief and General Manager and appropriate action is being taken.

The project team responsible for managing and implementing the Computer Aided Dispatch and Report Management System included a staff Quality Assurance Group formed to monitor ongoing progress and fulfill a quality assurance role related to services provided by the vendor.

Our review identified the fact that a number of payments were made to the vendor for certain modules which had not been delivered. These payments were made contrary to internal policy, which required written authorization from the Quality Assurance Group that the work completed was functioning as intended. We were advised that the Quality Assurance Group had given verbal approval to proceed with payment.

A formal reconciliation of contracted services, including both hardware and software, to actual services provided, has not yet been conducted in order to ensure that the vendor has complied with contract terms and conditions and that outstanding issues have been resolved. The project is not complete, although 85 per cent or \$8,670,000 of the total contract amount has been paid.

In our reconciliation of the contract payment schedule to services provided to date, we have determined that only 70 per cent of the contract amount or \$7,140,000 should have been paid to the contractor. In effect, the City has paid approximately \$1.53 million for work not yet completed by the vendor.

Recommendation:

- 20. The Fire Chief and General Manager ensure that the services specified in the Computer Aided Dispatch and Report Management System contract are reconciled to the equipment and services actually received. This review should be completed prior to the release of the final payment to the vendor.**

The contract between the vendor and the City stipulates that the computer system source code and all system documentation were to be deposited by the vendor in an escrow account with an Ontario company. The City is entitled to access all documentation including source code amendments, systems operation and future modifications under specific circumstances including termination of the agreement with the vendor and vendor bankruptcy.

We have been advised that the source code has been placed in a depository in the United States. Management is not clear on the terms and conditions under which the depository would grant the City access to the source code and documentation.

If circumstances require access to the source code and documentation, Toronto Fire Services could potentially experience undue delays. This increases the risk that a system critical to services provided by Toronto Fire Services may be impaired for a period longer than necessary.

In addition, four insurance guarantees with a total value of \$13 million were to be provided by the vendor to protect the City against public and professional liability claims including errors and omissions, completed operations liability and valuable paper replacement insurance.

We were unable to determine whether the required guarantees were received by the City. Neither Toronto Fire Services nor the Contract Management Office had knowledge regarding the existence of these guarantees.

Validating the existence of these insurance guarantees will ensure the City is not exposed to unnecessary risks resulting from a failure to provide agreed upon contract provisions.

Recommendations:

- 21. The Fire Chief and General Manager make the necessary arrangements to ensure that system source codes and all related documentation provided for under the contract for the Computer Aided Dispatch and Report Management System are transferred to an Ontario incorporated company resident in Ontario in accordance with the agreement.**
- 22. The Fire Chief and General Manager, in consultation with the City Solicitor, determine whether insurance guarantees provided for in the contract for the Computer Aided Dispatch and Report Management System were provided to the City. The appropriate action be taken if such guarantees have not been provided.**

According to the provisions in the contract, maintenance charges by the vendor may be increased by the lower of 3 per cent or the annual change in the Consumer Price Index. A review of maintenance charges paid under the contract 2005 revealed an increase in maintenance costs of 2.5 per cent. The change in the consumer price index for 2004 was 1.7 per cent.

Recommendation:

- 23. The Fire Chief and General Manager ensure that future maintenance charges related to the contract for the Computer Aided Dispatch and Report Management System are in accordance with contract provisions.**

OTHER ISSUES

During the course of our review, we identified a number of relatively minor issues which require attention. These issues were as follows:

- all contract renewals need to be executed in a timely manner;
- security of computer back-up information stored with a third party should be assessed;
and
- the recording and accounting of repair and maintenance charges should be reviewed.

These issues have been discussed with management and have also been communicated to the City Manager for review and follow up.

CONCLUSION

The objective of this review was to assess the quality and effectiveness of the City's information technology asset management program and processes. Our review noted that the Information Technology Division is making progress in a number of facets of information technology management for the City. However, we identified a number of areas requiring improvement over the City's administration and management of information technology assets.

A key issue identified in this report was the need to evaluate centralizing responsibility, control and accountability of City information technology assets and integrating information technology planning and related funding. The review also identified the need to develop closer coordination, relationships and coordination with the City's Agencies, Boards and Commissions, notwithstanding the fact that the Agencies, Board and Commissions are separate and distinct legal entities. The implementation of the recommendations contained in the report will improve the management of the City's information and technology assets.