1999/2000: Report 2

OFFICE OF THE

Auditor General of British Columbia

Report on Government Financial Accountability for the 1997/98 Fiscal Year

Province of British Columbia

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Part 3: Report on Province's Financial Systems and Controls

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overview

overview

High on the public agenda in recent years in British Columbia has been the citizens' demand for greater financial accountability from their elected officials. This, my report on government financial accountability for the 1997/98 fiscal year, includes my report on the 1997/98 Public Accounts as well as on the Province's financial management and the Province's financial systems and controls.

The Public Accounts are the primary annual accountability documents of government. They include the Province's financial statements—statements that show whether the Province's finances are improving or deteriorating, and how well the government performed financially compared with its fiscal plan.

By auditing the Province's financial statements, my Office helps contribute to an effective accountability relationship between the government and the Legislative Assembly. This is a primary responsibility of my Office and so is the focus of much of my staff's work throughout the year. In meeting this responsibility, I also rely on the work of many private sector auditors who audit public bodies not audited by my Office. The financial statements of these public bodies, as well as those I audit, are included in the Public Accounts.

My report on the 1997/98 Public Accounts is in Part 1 of this report. To assist the Legislative Assembly in its review of the Public Accounts, I issued this part of my report in November 1998, soon after the government released the 1997/98 Public Accounts.

The government of British Columbia's financial management plan for the 1997/98 fiscal year, as presented in Budget '97 and further discussed in Budget '98 and Budget '99, is an important document used by the government to communicate its plan for managing provincial debt. In recent years, in addition to issuing the Public Accounts, the government has also been reporting annually on its progress in managing the provincial debt.

The Minister of Finance and Corporate Relations asked me to audit certain key financial information included in the report of the government on its management of provincial debt, a report titled Debt Statistics 1997/98. I welcomed this responsibility to report on the Summary of Provincial Net Debt, Key Indicators of Provincial Debt, and the Summary of Key Benchmarks. Such work required my Office to keep abreast of government's financing and investing transactions throughout the year. Part 2 of this report contains my comments on the government's accountability for provincial debt.

In Part 3 of this report, I comment on internal control and other aspects of systems and procedures that help the government in its operations and financial accountability. Due to the matter's importance, I also provide in this part of the report my comments on the state of readiness of government organizations for the Year 2000.

Report on the 1997/98 Public Accounts

Timeliness

Complete and timely accounting is essential to public trust and this year I am pleased to note the issuance of the Public Accounts on a far more timely basis—October 20, 1998, for the 1997/98 Public Accounts compared to December 18, 1997, for the 1996/97 Public Accounts. This is a significant achievement; however, further improvement is still necessary and I urge the government to strive for even earlier issuance of the Public Accounts. My Office will provide continuing support in this regard, as is demonstrated by the issuance of this report devoted solely to my comments on the Public Accounts of the Province.

Completeness

Although I am pleased with the more timely release of the Public Accounts, I remain concerned about the completeness of government’s financial accountability. My Auditor’s Report is qualified as to completeness because the government, again this year, excluded from its financial statements all regional hospital districts, public health care organizations, universities, colleges and institutes, and school districts. In this report I have discussed the matter at some length as, suffice to say, without their inclusion I do not believe the financial statements provide a full accounting of government.

I also remain concerned that when preparing, discussing and reporting on its operating plan, the government continues to refer to the Consolidated Revenue Fund. The Consolidated Revenue Fund encompasses ministry operations only, and includes only those revenues it receives directly. This presents an incomplete accounting picture, as much of the business of government is conducted through government organizations whose activities are not included in the Consolidated Revenue Fund. However, these organizations' financial activities are included within the Summary Financial Statements, which I believe should be the basis for full accountability of the financial affairs of government.

Full Accrual Accounting

In addition to the improved timeliness of the issuance of the Public Accounts, I am also pleased to note the continuing progress made by the government in capitalizing tangible assets. I believe that the recording of such assets is essential to determining the full cost of government services and establishing better stewardship over assets.

Other Matters

In this report, I make recommendations for improvement to the government's accounting and financial controls, and provide comments that will help readers understand the financial information provided by government. I have also included information about the Province's revenue, expense, deficit and debt. I hope my comments and suggestions help improve the completeness and clarity of government's financial accountability.

Report on the Province's Financial Management

Debt Management Reporting

Debt Statistics 1997/98 included valuable information on managing the provincial debt. The report is a very important public accountability document. In 1998, the government did not release this report in a timely manner along with the Public Accounts.

Since 1995 each Budget has discussed the government's debt management plan or (its successor) the financial management plan, a plan designed to harness and control the provincial debt. In Budget '97, the government determined that its 1995 projections for debt repayment were not achievable. The new financial management plan set forth medium-term targets to take effect for the fiscal year ending March 31, 1998. This plan assumed a balanced budget or better, but did not foresee substantial repayments of existing direct debt. In Budget '98, the government altered the 1997 goals, introducing further flexibility in the plan.

In Budget '99, the government has apparently abandoned the previous plans by introducing a five-year framework within which it intends to manage revenue, expenditure and debt levels. I believe when plans are frequently modified to a substantial extent, the purpose of having them in the first place is defeated, and public confidence in the planning information on which the government is expected to be accountable may be eroded.

Report on the Province's Financial Systems and Controls

Readiness for the Year 2000 is a focus of government activities in dealing with its computer systems. Since the latter part of 1998, these activities have gathered considerable momentum—so much so that, in some instances, by the time a review of the state of readiness is conducted and reported on, the information may be dated. Nevertheless, I believe it is important that the Legislative Assembly and the public be advised on government's activities in this respect.

I have asked the government for, and received from it, an outline of actions taken on my recommendations to date. The government response is comprehensive and reassuring. I have included it in this report in its entirety. I intend to have my Office conduct and report on this issue again this year, before we enter the new millennium.

I have noted a generally proactive approach by ministries and Crown corporations to resolving the Year 2000 issues. I am not sure that the same could be said for health authorities and advanced education institutions. The government assures me that it has provided adequate funding to help health authorities to make their computer systems Year 2000 ready. Information I received from universities and colleges was not adequate for me to evaluate their state of readiness. Considering some of these institutions are involved in scientific research, failure of any computer-controlled environment may have serious effects.

I greatly appreciate the cooperation of the government officials and staff in the ministries, Crown corporations and agencies. Their helpful assistance enabled me to complete my audit of the Public Accounts in an efficient manner.

I also wish to acknowledge the outstanding work of my staff in completing this report and to thank them for their hard work, professionalism and dedication.

George L. Morfitt, FCA
Auditor General

Victoria, British Columbia
June 1999

part 1:
report on the 1997/98 public accounts

introduction

introduction

The Auditor General is required, under the provisions of the Auditor General Act, to examine the government's accounts and records and to report annually to the Legislative Assembly on the Financial Statements of the Province. In these reports, the Auditor General must state whether all the information and explanations required have been received; whether the statements present fairly the financial position, results of operations, and changes in financial position of the Province; and whether the statements have been prepared in accordance with accounting policies stated in them, on a basis consistent with that of the preceding year. If the Auditor General is unable to express an opinion without reservation, the reason why should be stated.

The Auditor General is also eligible to be appointed auditor of any Crown corporation, Crown agency, or public body. The Act does not specify what is required of the Auditor General in the conduct of such audits. In the absence of special direction, the work is carried out in a manner and with the same objectives as those applied to the audit of the Financial Statements of the Province of British Columbia.

The Act directs that the Auditor General should comment where he or she believes that accounting records are not sufficient or properly kept, or that internal controls are not adequate to protect the assets of the Crown or ensure the proper collection of revenue and making of expenditures. He or she may also provide the Legislative Assembly with an assessment as to whether the Financial Statements of the Province have been prepared in accordance with the most appropriate basis of accounting for the purpose of fair presentation and disclosure.

The Auditor General also has the mandate to comment on whether government programs are being administered economically and efficiently, and on whether there has been compliance with laws and regulations. This the Auditor General does periodically, in other public reports.

This part of the report contains comments and observations arising during the Auditor General's audit of the financial statements of the Province for the fiscal year ended March 31, 1998. It also relates to audits of the financial statements of various Crown corporations and other public bodies, in particular those for which the Auditor General is the appointed auditor.

province's financial statements and public accounts

province's financial statements and public accounts

The Province's financial statements are an important component of the financial accountability discipline imposed on the government by the Legislative Assembly. They are the means by which audited financial information about government's stewardship of public funds are reported to all British Columbians. The Financial Administration Act requires that these statements be finalized annually no later than the end of September—six months after the fiscal yearend.

Public Accounts

The Public Accounts are prepared pursuant to the Financial Administration Act. They contain the Province's financial statements and other information that the government is either required by law, or chooses, to include in the publication. The form and content of the Public Accounts, as well as the accounting policies used in the preparation of the Province's financial statements, are determined by Treasury Board. According to the Act, the Public Accounts must be sent to the Minister of Finance and Corporate Relations no later than December 31 following the end of the fiscal year. The Minister must then table them before the House shortly after the first sitting of the Assembly.

In recent years the government has been making the Public Accounts available to the Members of the Legislative Assembly and the public usually in late December, before they were officially tabled in the House. In October 1998, the Public Accounts for the 1997/98 fiscal year were published in two volumes. This date is approximately two months earlier than in the previous year. We commend the government for further improving the timeliness of publishing this important document, and we encourage it to continue publishing its financial statements soon after the end of the fiscal year.

Volume I (Section A), titled *Annual Report*, provides a commentary by government on the numbers reported in the Summary Financial Statements, plus additional information on the financial performance of the government. The audited Summary Financial Statements of the Province, which provide a more complete accounting for government organizations and enterprises, are also in this volume. The unaudited section of the volume provides additional information on the results of the health and education sectors.

Volume II (Sections B and C), titled *Financial Statements and Schedules of the Consolidated Revenue Fund*, contains the audited financial statements of the Consolidated Revenue Fund, together with unaudited supplementary schedules to the financial statements. This volume is intended to serve as the government's accountability report to the Legislature on revenues raised and expenditures made as authorized by the Supply Act and other statutory spending authorities.

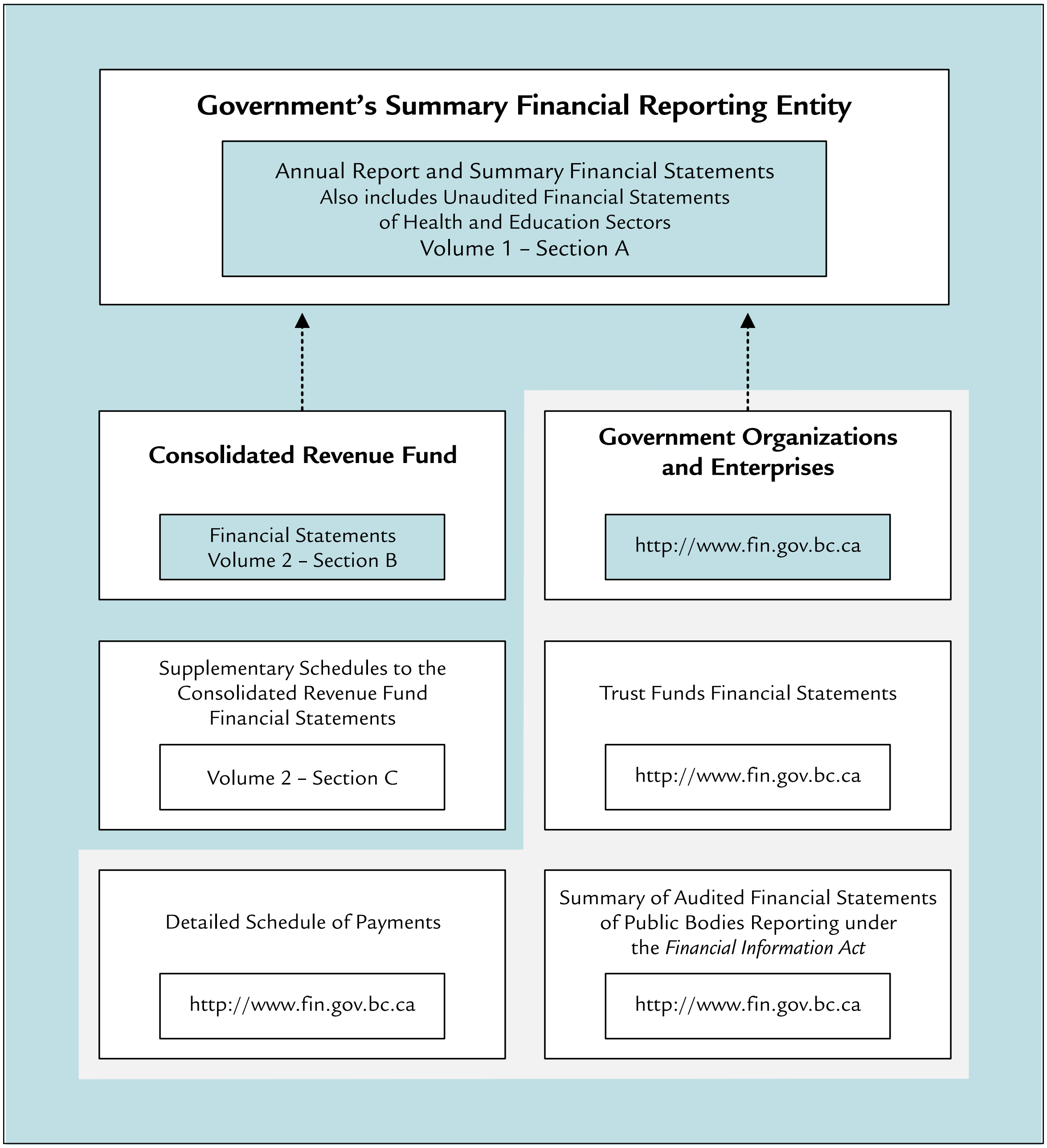
For the past four years, the Public Accounts have been published in three volumes: Volume I, *Annual Report*, including the Summary Financial Statements, Volume II, *Financial Statements and Schedules of the Consolidated Revenue Fund*, and Volume III, *Other Government Financial Statements and Information*. This year the government has published the first two volumes in standard hardcopy form. The detailed schedules of payments, however, along with the information previously included in Volume III, are published on the Ministry of Finance and Corporate Relations' web site at http://www.fin.gov.bc.ca.

Every few years, Treasury Board may set a new limit for payments by the government, and these must be disclosed in the Public Accounts—Detailed Schedules of Payments. The last time this limit was changed, it affected reporting of the Public Accounts for the 1991/92 fiscal year. At that time, the limit for disclosing salaries was raised from $35,000 to $50,000. For the 1997/98 Public Accounts, the reporting limits for employees' salaries has been raised from $50,000 to $75,000, and the limits for grants and contributions and for payments to suppliers of goods and services have been raised from $10,000 to $25,000. Unchanged, however, were the limits for the reporting of payments to the Members of the Legislative Assembly, indemnities and allowances, and salaries and travel expenses of ministers, deputy ministers, associate deputy ministers, and Order-in-Council and other appointees.

The structure of the government's financial reporting in the Public Accounts is outlined in Exhibit 1.1.

Exhibit 1.1

Financial Reporting in the 1997/1998 Public Accounts



Source: The Public Accounts

Summary Financial Statements

The Summary Financial Statements of the Province provide the most complete information about the operating results and financial position of the Province of British Columbia. Aggregating most, but currently not all, entities owned or controlled by the Province, the statements consolidate the financial position and results of operation of the Province's general and special funds—collectively referred to as the Consolidated Revenue Fund—with the financial position and operating results of the government entities (see pages A51 and A52 of Appendix D of this report for a complete list).

A copy of the Summary Financial Statements, together with the Auditor General's report on them, appears in Appendix D of this report.

Depending on the nature of their operations, these aggregated entities are referred to as either "government organizations" or "government enterprises." Government organizations, in addition to the Consolidated Revenue Fund, include corporations, associations, boards, foundations, societies and similar entities that are separated from the operation of central government mainly for administrative reasons. They also include subsidized corporations that provide goods or services to the public. Government enterprises, on the other hand, are usually separate legal entities that, in the normal course of their operations, earn—or are expected to earn—sufficient revenue from goods or services they provide to the public, to pay for their operations.

The account balances of government organizations are fully consolidated with the central government's accounts on a line–by–line basis after they are adjusted for compliance with the government's stated accounting policies. Government enterprises are consolidated on a modified equity basis. This means that the original cost of investment of the government in these business enterprises is adjusted each year to include the net earnings or losses and other net equity changes of each enterprise. These enterprises follow accounting policies generally accepted for commercial operations.

In the 1995/96 fiscal year, the composition of the government reporting entity was significantly expanded so that universities, colleges and institutes, school districts, regional hospital districts, and public health care organizations were included in the Summary Financial

Statements of the Province. However, starting in the 1996/97 fiscal year, the government excluded those organizations from reporting in the Summary Financial Statements. The effect of the exclusion is explained in the qualification paragraph of the Auditor General's Report on the Summary Financial Statements of the Province.

Capitalization of tangible capital assets is continuing to proceed on a phased-in basis. Virtually all purchased or otherwise acquired-for-value, major tangible capital assets of the Province have been capitalized with the exception of highways and bridges. Capitalized assets of the Consolidated Revenue Fund (CRF), starting in the 1997/98 fiscal year, included parkland, which accounts for a major part of land acquired by the CRF. The government expects to have substantially completed recording its capital assets by the end of the 2001/02 fiscal year.

"Net liabilities," the difference between the Province's liabilities and its financial assets, is an important indicator of the Province's financial conditions. Because the Summary Financial Statements no longer differentiate between "financial" and "non-financial" assets, they do not embody this important indicator. Note 30 of the statements provides a reconciliation that clearly shows the Province's net liabilities at the end of the fiscal year.

Consolidated Revenue Fund Financial Statements

The Consolidated Revenue Fund is established by the Financial Administration Act. Its financial statements account for the financial activities of central government, which includes ministries, special offices and other appropriations.

This is the fund into which all public money of the government, other than trust funds, must be paid. Accordingly, its financial statements also constitute an important accountability document, and include the accounts of the General Fund and the Natural Resource Community Fund. The Consolidated Revenue Fund Financial Statements provide a comparison of the actual results of the fund operation with the intended results as approved by the Legislative Assembly in the estimates of revenue and expenditure. They are the operating fund statements of the government on which the Auditor General provides an auditor's report.

These fund statements could by used mistakenly for reviewing the Province's overall financial position and results of operations. To prevent any misunderstanding, the Auditor General's report for the year ended March 31, 1998, contains these two additional opening paragraphs:

These fund statements are prepared to compare the actual operating results of the Consolidated Revenue Fund with the estimates of revenue and expense as presented by the annual Estimates and Budget of the government for the 1997/98 fiscal year. As with the annual Estimates, these fund statements do not include many of the significant financial activities of the Province which occur outside the Consolidated Revenue Fund. These additional activities occur in organizations and enterprises for which the government is responsible and which are to be included, along with the Consolidated Revenue Fund, in the Province's Summary Financial Statements.

Exhibit 1.2

Comparative Summary of Financial Results and Balances for the Year Ended March 31, 1998[1]

($ Millions)

	Government Reporting Entity	Consolidated Revenue Fund Reporting Entity
Assets, end of year	25,120	21,710
Liabilities, end of year:		
Public debt	29,096	28,191
Other	6,253	5,992
	35,349	34,183
Net deficiency, end of year	10,229	12,473
Net expense for the year	(432)	(152)
Guaranteed debt, end of year	862	1,622

[1] Not adjusted for the effects of reservations in the Auditor General's reports (pages 25 to 27)

Source: The Public Accounts

To understand and assess the government's management of public financial affairs and resources as a whole, readers should refer to the Province's Summary Financial Statements.

To clarify the significant differences in financial results between the government's summary financial reporting entity and the Consolidated Revenue Fund, relative financial results and balances for the fiscal year ended March 31, 1998, are shown in Exhibit 1.2.

Special Fund

Natural Resource Community Fund

Effective April 1, 1992, the Natural Resource Community Fund was established under the Natural Resource Community Act. This Special Fund was established to assist communities largely dependent on a single resource industry to adjust to severe economic declines that result in business closures or industry workforce reductions.

The fund receives as income 0.5% of all revenues, other than fines, collected under a number of Acts dealing with natural resources. Its value is not to exceed $25 million.

Since its creation in 1992/93, with a transfer of $15 million from the British Columbia Endowment Fund, the fund has earned $54 million in revenues from natural resources and $7 million in investment income. During that time, it has transferred $49 million back to the General Fund and paid out $1,750,329 in assistance to eligible communities.

In 1997/98, the fund received $9 million from natural resource revenues and earned $1 million in income from investments. No amounts were paid out in assistance and $10 million was transferred back to the General Fund. The balance of the Natural Resource Community Fund as at March 31, 1998, stood at its $25 million limit, as it has for the past four years.

The Auditor General's Reports Resulting from Financial Statement Audits

Auditor's Reports on Financial Statements

The Auditor General has provided auditor's reports on the Summary Financial Statements and the Consolidated Revenue Fund Financial Statements prepared by the government for the fiscal year ended March 31, 1998, and on the financial statements of 78 entities whose fiscal yearends occurred during the 1997/98 fiscal year.

The Auditor General's reports on the Province's financial statements appear with their respective statements published in the Public Accounts. Reports containing the Auditor General's opinions on the financial statements of government entities are similarly appended to those statements in each entity's annual report. The Auditor General's reports on the financial statements of trust funds held and administered by the government can be found on the Ministry of Finance and Corporate Relations' web site at http://www.fin.gov.bc.ca.

The Auditor General reports in the format of the standard auditor's report recommended by the Canadian Institute of Chartered Accountants (CICA). The wording adopted by the CICA emphasizes the roles of management and the auditor with respect to the statements.

The recommended report, where there is no reservation of opinion, contains three paragraphs. The first identifies the financial statements that have been audited, and points out that management is responsible for preparing those statements and the auditor for expressing an opinion on them. Next is a paragraph that defines an audit, and describes the nature and extent of the auditor's work and the degree of assurance that the auditor's report provides. This paragraph states that the auditor conducts the audit in accordance with generally accepted auditing standards (which require the auditor to obtain reasonable assurance that the financial statements are free of material misstatement). It also includes the Auditor General's confirmation that all information and explanations required for the audit have been received. The final paragraph contains the auditor's conclusion based on the audit conducted—the opinion. Where there is a cause for a reservation of opinion, the recommended report requires the auditor to give the reasons for such reservation, draw attention to the effects of the reservation on the financial statements, and place such explanation before the opinion paragraph.

Summary Financial Statements

The Auditor General's report on the Summary Financial Statements for the fiscal year ended March 31, 1998, was issued with one reservation, or qualification, as to the fair presentation of those statements. The following two paragraphs explain the reasons for, and the effect of, the reservation on the financial statements of the Province.

In preparing these statements the government did not include the regional hospital districts, public health care organizations, universities, colleges and institutes, and school districts. These organizations meet all requirements of the government's general accounting policy on the reporting entity which provides for the inclusion in the Summary Financial Statements of organizations that are accountable for the administration of their financial affairs and resources either to a minister of the government or directly to the Legislature, and that are owned or controlled by the government. Their exclusion is based on a decision by the government, stated in note 1(a) of these statements, that when an entity is part of a Province-wide program, is locally-based, and has initial accountability to a local board, it is excluded from consideration as being accountable to a minister of the government or directly to the Legislature for the purposes of the Summary Financial Statements. This decision selectively excludes the above-mentioned organizations which are, nevertheless, accountable to the government. Therefore the regional hospital districts, public health care organizations, universities, colleges and institutes, and school districts should be included in the summary reporting entity.

Had the regional hospital districts, public health care organizations, universities, colleges and institutes, and school districts been included in these statements, the total assets as at March 31, 1998 would increase by $4,307 million ($3,914 million for 1997), total liabilities as at March 31, 1998 would increase by $1,420 million ($1,338 million for 1997), and the net deficiency as at March 31, 1998 would decrease by $2,887 million ($2,576 million for 1997). Similarly, there would be an increase in revenue for the year ended March 31, 1998 of $1,331 million ($1,112 million for 1997), and an increase in expense for the year then ended of $1,181 million ($1,021 million for 1997), resulting in a decrease in annual deficit for the year ended March 31, 1998 of $150 million ($91 million for 1997). These changes include the effect of eliminating on consolidation amounts totaling

$5,018 million ($4,964 million for 1997) described in the balance sheet as "Loans for the purchase of assets, recoverable through future appropriations."

The Auditor General believes that the Summary Financial Statements—as presented by the government—together with information contained in his reservation paragraph, would provide the reader of the statements with adequate information to assess the financial position and results of operation of the Province.

Further comments on the above-mentioned matter can be found on page 31 of this report, in the section titled "Changes in the Composition of the Summary Financial Reporting Entity."

Consolidated Revenue Fund Financial Statements

The preamble to the Auditor General's Report on the Consolidated Revenue Fund Financial Statements explains the specific purpose of those statements and refers to other significant financial activities of the Province that occur outside the Consolidated Revenue Fund.

This year, the report contains a reservation regarding the government accounting treatment of loans recoverable through future appropriations, and of certain debts of government organizations that are guaranteed by the Province but expected to be repaid by future government funding. The two reservation paragraphs explain why the Auditor General has expressed a qualified opinion on these financial statements and quantifies the effect of the reservation on the Consolidated Revenue Fund Financial Statements:

The government has recorded as assets of the Consolidated Revenue Fund the amounts described in the balance sheet as "Loans for the purchase of assets, recoverable from future appropriations." These loans do not have the necessary characteristics of assets, and should be accounted for as an expenditure of the Consolidated Revenue Fund of the period in which each loan was incurred. Similarly, the debt of government organizations guaranteed by the Province, the repayment of which depends on future appropriations, should be accounted for as a direct liability of the Consolidated Revenue Fund.

Had the above-noted loans been expensed and guaranteed debt been recorded as a direct liability of the Consolidated Revenue Fund, the net deficiency as at March 31, 1998 would increase by $6,309 million to $18,782 million (for 1997 by

$6,198 million to $18,519 million), liabilities as at March 31, 1998 would increase by $555 million to $32,038 million (for 1997 by $702 million to $33,695 million), and net operating expenses for the year ended March 31, 1998 would increase by $111 million to $263 million (for 1997 by $306 million to $643 million).

We have commented in greater detail about loans and guaranteed debt repayable through future government funding on page 48 of this report.

Further comments on the significance of the auditor's opinion, and on the process employed in reaching that opinion, appear in Appendix A of this report.

Other Reports

While conducting our financial statement audits, we encounter numerous items that call for study and corrective action by the ministries, central agencies, and government entities concerned. We deal with these matters by having direct contact with officials of these organizations. Some issues, however, are considered of sufficient significance to warrant the attention of the Legislative Assembly and are included in this report. Those arising as a result of our audit of the government financial statements appear in a section of this report entitled "Audit of the Financial Statements of the Province." Those relating to our audit of government entities are contained in a subsequent report section entitled, "Audit of Financial Statements of Government Entities, Trust Funds, and Other Organizations."

audit of the financial statements of the province

audit of the financial statements of the province

Changes in the Composition of the Summary Financial Reporting Entity

Government accounting policies define what should be included in the Summary Financial Statements of the Province. According to these policies, the statements are intended to include all organizations that are accountable for the administration of their financial affairs and resources either to a minister of the government or directly to the Legislature, and are owned or controlled by the government.

A detailed schedule of organizations and enterprises included in the government reporting entity is shown in Appendix D on pages A51 and A52.

Changes to the composition of the government reporting entity during the 1997/98 fiscal year are summarized below:

- BCIF Management Ltd., British Columbia Arts Council, Fisheries Renewal BC, Industry Training and Apprenticeship Commission, Tourism British Columbia, and 552513 British Columbia Ltd. were created and added to the reporting entity.
- Legal Services Society was added to the reporting entity because of changes to its governing statute.

In the 1995/96 fiscal year, the composition of the government reporting entity was expanded to include health care organizations, regional hospital districts, universities, colleges and institutes, and school districts. However, starting in the 1996/97 fiscal year, the government decided to exclude these organizations from the summary reporting entity. In the 1997/98 Summary Financial Statements, the government therefore included the following caveat in its accounting policies:

Accountability to a minister or directly to the Legislature, for purposes of the reporting entity, does not include those entities that are part of a province-wide program yet are locally based and have an initial accountability to a local board.

Excluding these organizations has had the following effects on the reporting of government operations for the fiscal year 1997/98:

- The tangible capital assets have decreased by approximately $8.0 billion. This amount represents physical assets acquired by advanced education institutions, school districts and health care organizations that otherwise would have been accounted for in the Summary Financial Statements of the Province. Including capital assets and their amortization would provide better information about the total costs of government programs and enhance the stewardship over tangible capital assets invested by the government.
- The amounts receivable has been decreased by $5.0 billion. This represents the outstanding balance of loans made over the years by various financing authorities to advanced education institutions, school districts, and health care organizations for the purchase of capital assets.
- Had the above organizations been included in the government reporting entity, their assets and liabilities would have been combined with other assets and liabilities of the Province, and any of their debt to the Province would have been eliminated against the corresponding loans receivable held by the Consolidated Revenue Fund. However, since they are not included, the government should write off these loans as an expense in the periods they were made. These loans, made under the Fiscal Agency Loan Program, have no value to the Province as assets, because their repayments depend on government’s future payments to the borrowing organizations.
- “Other assets” and “other liabilities” have each decreased by approximately $1.3 billion. These amounts reflect the other assets and liabilities of advanced education institutions, school districts and health care organizations.
- The net deficiency (accumulated deficit) of the Province increased by approximately $2.9 billion, from $7.3 billion to $10.2 billion.
- Both “revenue” and “expense” decreased by approximately $1.4 billion and $1.2 billion, respectively. These amounts represent the revenue, such as tuition fees and patient charges, that are not funded through the Consolidated Revenue Fund but are necessary for the organizations to deliver their programs.
- The net operating expense increased by approximately $0.2 billion.

Exhibit 2.1 summarizes the above differences and shows the significance of the information currently being excluded from the Province's financial statements.

Exhibit 2.1

The Overall Effect of the Change in the Reporting Entity

Effect of expanding the government reporting entity to include health care organizations, regional hospital districts, universities, colleges and institutes, and school districts ($ Billions)

Condensed Summary Financial Statements
Province of British Columbia
March 31, 1998

Balance Sheet

	Existing[1]	Pro Forma[2]
Assets		
Other assets	12.5	13.8
Equity in government enterprises	3.2	3.2
Loans for purchase of assets, recoverable from future appropriations	5.0	–
Tangible capital assets	4.4	12.4
	25.1	29.4
Liabilities		
Other liabilities	6.2	7.5
Debt	29.1	29.2
	35.3	36.7
Net equity (deficiency)	(10.2)	(7.3)
	25.1	29.4

Statement of Operations

	Existing[1]	Pro Forma[2]
Revenue	23.5	24.9
Expense	24.0	25.2
Net operating expense for the year	0.5	0.3

[1] Existing summary reporting entity comprising government organizations (excluding health care organizations, regional hospital districts, universities, colleges and institutes, and school districts) and government enterprises.

[2] The summary reporting entity as in (1) above, and including health care organizations, regional hospital districts, universities, colleges and institutes, and school districts.

Source: The Public Accounts and financial statements of excluded organizations

Changes in the Presentation of the Financial Statements of the Province

New Balance Sheet Format

Up to and including the 1996/97 fiscal year, the focus of the Province's statement of financial position was on disclosing the Province's "net liabilities." In arriving at this important indicator of financial position for the past four years, the financial statements of the Province distinguished between "financial" and "non-financial" assets. Non-financial assets included loans repayable from future appropriations. By classifying these loans as non-financial assets, the government made it clear they were not assets on hand at the end of an accounting period that could discharge existing liabilities of the Province or finance future government operations.

In the 1997/98 fiscal year, the government changed its financial statement presentation, replacing the statement of financial position with a typical "balance sheet" that shows assets, liabilities, and net equity or net deficiency. This change in presentation reflects the government's commitment to full accrual accounting that requires capitalization of tangible capital assets. By doing so, the government is moving away from a net liabilities concept of financial reporting, to allow recording of the full costs of its programs (including the annual charges to programs of costs associated with the use of capital assets). However, in order not to lose sight of the net liabilities, that indicator is separately disclosed in a note to the financial statements.

The effects of changes made in the presentation of the Province's financial statements can be seen in Exhibit 2.2, which compares the new balance sheet of the Summary Financial Statements, as reported in the 1997/98 Public Accounts, to the statement of financial position, as it would have been reported if the 1996/97 style of presentation had been followed.

Exhibit 2.2

Presentation of the Financial Position of the Province

These two statements, extracted from the Summary Financial Statements of the Province, compare the way government used to report loans made through its Fiscal Agency Loan Program with how it reports them now ($ Millions)

Balance Sheet[1]

(As reported in the 1997/98 Public Accounts from Summary Financial Statements)

	March 31, 1998	March 31, 1997[2]
Assets		
Other assets	8,043	7,630
Fiscal Agency Loan Program	12,652	12,525
Tangible capital assets	4,425	4,356
	25,120	24,511
Liabilities and net deficiency		
Other liabilities	6,590	6,475
Public debt, used for government operating purposes	16,107	15,291
Public debt, used for Fiscal Agency Loan Program	12,652	12,525
	35,349	34,291
Net deficiency	**10,229**	**9,780**
	25,120	24,511

Statement of Financial Position[1]

(As would have been reported in the 1997/98 Public Accounts if there was no change in financial statement presentation)

	March 31, 1998[2]	March 31, 1997
Liabilities		
Other liabilities	6,590	6,475
Public debt, used for government operating purposes	16,107	15,291
Public debt, used for loans		
Recoverable through future appropriations	5,018	4,964
Recoverable from agencies	7,634	7,561
	35,349	34,291
Financial assets		
Other financial assets	8,043	7,630
Loans for the purchase of assets, recoverable from agencies	7,634	7,561
	15,677	15,191
Net liabilities	19,672	19,100
Non-financial assets		
Loans for the purchase of assets recoverable through future appropriations	5,018	4,964
Tangible capital assets	4,425	4,356
Net deficiency	**10,229**	**9,780**

(1) Condensed for comparison purposes.
(2) Re-arranged for comparison purposes.

Source: Office of the Auditor General

Changes in legislation that come into effect in 1998/99 allow the Province to forgive loans made to certain government-dependent organizations to purchase capital assets, and to assert a claim to use of those assets in delivering programs for which the Province is responsible (e.g., education, health care and transportation). Any amount representing the value of yet unused assets will be treated as "prepaid capital advances." In the future, these advances will be recorded on the balance sheet when the related assets are acquired, and will be amortized over the life of those assets. In the Summary Financial Statements, if health and educational organizations are included in the reporting entity as we recommend, the "prepaid capital advances" would be eliminated on consolidation and only the tangible capital assets themselves would be reported. A more detailed discussion of prepaid capital advances is contained on page 48 of this report.

Extended Debt Note Disclosure

This year's Consolidated Revenue Fund Financial Statements and Summary Financial Statements have provided additional disclosure on how the Province manages risk in its existing debt portfolio. A new explanation entitled "Risk Management and Derivative Financial Instruments" was added to note 21, "Public Debt, Used for Government Operating Purposes," on how the Province manages the risks inherent in its borrowing programs.

Any contract that gives rise to a financial asset (in the books of one party to the contract) and a financial liability or equity (in the books of the other party) is referred to as a "financial instrument." A simple example of a financial instrument is the debenture issued by the Province. A "derivative financial instrument" is a term widely used for secondary contracts such as options, futures, forwards, interest rate and currency swaps of the underlying debt principal or interest payments.

Since the Province borrows in both domestic and foreign markets, it is exposed to fluctuations in currency values. Any upward changes in currency value relative to the Canadian dollar can cost the Province a higher amount in Canadian dollars when it is settling debt or paying interest on money borrowed in a foreign currency. Now, in note 21, the government explains how it uses derivative instruments to manage risks associated with its financial instruments.

Dealing with Measurement Uncertainty

Some level of "uncertainty" exists whenever amounts are estimated. Too much uncertainty, however, could have a significant effect on the government's financial statements. In 1995, the Canadian Institute of Chartered Accountants recommended that organizations disclose in their financial statements any amounts that are subject to significant "measurement uncertainty."

In the 1997/98 fiscal year, the Province, for the first time, included a note to both the Summary and the Consolidated Revenue Fund Financial Statements on measurement uncertainty. The note cautioned about the uncertainty related to determining personal income tax revenues, Canada Health and Social Transfer payments, the unfunded pension liability, and provisions for bad debts relating to Skeena Cellulose Inc.

Personal income tax revenue ($5.3 billion in 1997/98) makes up a substantial portion of the Province's total revenue of $21 billion. Because of delays in collecting taxes, the accurate revenue amount for the fiscal year is not available when financial statements are prepared. Knowledgeable staff at the Ministry of Finance and Corporate Relations must estimate much of the amount receivable from taxes. They know that a relatively small change in any of the deciding factors can have a material effect on total revenue. For example, a significant factor in estimating the personal income tax revenues yet to be received for a fiscal year is the expected personal income growth for the portions of both calendar years included in a fiscal year. This figure must be estimated using incomplete information. As a result, a range of reasonably possible assumptions are considered. A change of 1% in this factor (for example, from a growth rate of 3% to 4%) would result in a change in the estimates of approximately $50 million in personal income tax revenues.

Canada Health and Social Transfer payments ($1.6 billion in 1997/98) are also subject to measurement uncertainty (because they are directly related to the estimated amount of personal income tax revenue). So, too, is the pension liability. The estimation of this amount ($2.8 billion in 1997/98) is based on actuarial valuations. Again, given the magnitude of the amounts involved and the dependence of the actuarial valuations on assumptions about long-term future events, a relatively small variation in assumptions could have a very large impact on the Province's financial statements.

In the case of the Province's efforts to protect jobs and the local community during the financial difficulties of Skeena Cellulose Inc. (through direct cash payments and debt guarantees), the measurement uncertainty lies in the unclear future profitability of the corporation—which itself depends on future world pulp and paper prices. Currently these prices are volatile, and therefore accurately measuring the risk of losing all or some of the monies spent, or accurately determining the likelihood that the Province will have to pay out any of the corporation's guaranteed debt at the financial statement date, is difficult. Note 2 to the Summary and Consolidated Revenue Fund Financial Statements discloses this uncertainty clearly.

Despite uncertainties, government management must try to make its best estimates in determining an amount that has a significant effect on the financial statements of the Province. These estimates are further subject to audit by the Auditor General to confirm that they are, in the circumstances, reasonable amounts and calculated on a consistent basis.

Government Accounting Policies

Expense Basis of Accounting

For the past few years, the basis of presentation for the Consolidated Revenue Fund (CRF) Financial Statements has changed each year.

Before the 1995/96 fiscal year, the Province's financial statements were presented on the "expenditure" basis of accounting. This meant that the full cost of tangible capital assets was charged to the expenditure of operations of the year in which the assets were acquired, regardless of their useful lives. As a result:

- capital assets were not recorded at their cost less depreciation in the balance sheet of the Province;
- the costs associated with the government programs or services for which capital assets were acquired did not reflect the use of those assets evenly over the life of assets; and
- as assets were expensed in full, keeping records for safeguarding and maintaining them were left outside the coverage of the government's corporate accounting function.

In 1995/96, the Province made the decision to capitalize tangible capital assets. As a result, its financial statements, both the Summary and the Consolidated Revenue Fund, were presented on the "expense" basis of accounting. The expense basis requires that the full costs of capital assets be accumulated as acquired, and presented as assets in the balance sheet. It also requires that the annual amortization of tangible capital assets be considered as an operating expense and shown in the Statement of Operations.

Recording all tangible capital assets that the government has acquired for value in the past is a significant task that may take a few years to complete. Because, in the transitional period, the financial statements of the government will include a mix of "capitalized" and "not capitalized" assets, they do not truly reflect a complete expense basis of accounting. Therefore, to overcome this unavoidable shortcoming, the government will provide a reconciliation to the expenditure basis of accounting for the next few years.

In 1996/97, the Summary Financial Statements of the Province continued to be presented on the expense basis. However, the Consolidated Revenue Fund Financial Statements for that year were presented on the expenditure basis, although expense-based figures were also provided to allow comparison. The reason given for this dual presentation was that the main purpose of the Consolidated Revenue Fund Financial Statements is to provide a comparison with the Budget as shown in the Estimates. Therefore, while the government wished to continue reporting its financial position and results of operations on the expense basis of accounting, it also had to provide expenditure amounts because the 1996/97 fiscal year Estimates were prepared on the expenditure basis. We commented that presentation on two different bases of accounting was potentially confusing for the user, particularly as the unaudited expense-based amounts were used in producing other government publications, such as the *British Columbia Financial and Economic Review.* We recommended that the Province use only the expense basis of accounting in its financial statements and other financial information.

The Auditor General Act requires that the Auditor General, in his or her opinion, attest to the consistency in the presentation of financial statements with the basis used in the prior year. Every time the government changed its basis of accounting in the past few years, it restated its prior year's financial statements, therefore presenting both its current and prior year's financial statements on the same basis. Also, in a note, it described the effects of any changes in accounting policies. In our opinion, this is an acceptable accounting practice, providing adequate disclosure in financial statements to ensure consistency from year to year.

We are pleased to note that the government has introduced the concept of capitalization and amortization of tangible capital assets in its Estimates for the year ended March 1998. Accordingly, starting in the 1997/98 fiscal year, both financial statements of the Province are presented only on the expense basis of accounting.

Tangible Capital Assets

In its 1995/96 financial statements, the government began the process of capitalizing its tangible capital assets. Initially, the process of identifying and valuing the numerous tangible capital assets used in the government's central activities was expected to take three years. Thus, in the first year, only the following types of tangible capital assets (asset classes) were recorded on the balance sheet:

- computer systems (hardware and software) with a combined cost of $100,000 or more;
- land, for which historical cost, or a reasonable estimate of it, could be obtained;
- light vehicles, regardless of cost;
- buildings with a cost of $50,000 or more; and
- work in progress on the above assets.

The Province must verify ownership and historical cost, and determine an appropriate method and term of depreciation before any particular asset class can be recorded in the financial statements. The determination of historical cost has proven to be more difficult than was originally thought, particularly for land. The result is that the government was only able to record a portion of all land acquired by it over decades.

In the 1996/97 fiscal year, the government removed from the balance sheet the $710 million cost of land which it recorded in 1995/96. It also postponed additional capitalization planned for 1996/97, but lowered the thresholds set in 1995/96 for computer systems and buildings to $10,000 from $100,000 and $50,000, respectively. This resulted in an additional $14 million being recorded for computers and buildings.

In the 1997/98 fiscal year, the government proposed a new schedule for capitalizing the Province's remaining tangible capital assets, and confirmed it by exchanging a memorandum to that effect with the Auditor General. Exhibit 2.3 shows the assets that have already been capitalized, and the proposed capitalization schedule for the remaining tangible capital assets.

Exhibit 2.3

Tangible Capital Assets Capitalization Schedule

The government plans to capitalize all tangible assets acquired by the Consolidated Revenue Fund by the year 2002

Fiscal Year	Asset Class
1997/98 or earlier	Buildings
	Vehicles
	Mainframe and Minicomputers
	Microcomputers
	Parkland*
	Ferries and Landings
1998/99	None
1999/2000	Heavy Equipment
	Operating Equipment
	Tenant Improvements
	Highways
2000/01	Office Furniture and Equipment
	Dams and Water Management Systems
	Forestry Roads
2001/02	Land Improvements
	Silviculture

*Land, other than parkland, is capitalized along with its associated asset (e.g. buildings, highways).

Source: Memorandum of Understanding between Minister of Finance and Corporate Relations and the Auditor General

Specific Issues

Land

In our report on the 1995/96 Public Accounts, we commented on the problems encountered by the government in determining the ownership and cost of its land. Information from the different databases maintained by the Land Titles Office and the British Columbia Assessment Authority proved difficult to reconcile. The above-mentioned memorandum proposes a two-part solution to this problem.

First, instead of attempting to compile, in one year, information about all land held by the Province, the government now plans to capitalize land cost with its associated asset class. In the 1997/98 fiscal year, for example, the land cost associated with ferry landings was capitalized. Also capitalized was land cost associated with parks. Cost of land on which buildings are situated has not yet been capitalized. In 1999/2000, the cost of land acquired for building roads and bridges will be recorded as part of the cost of highways and the related infrastructure.

We recommend that the government expedite recording in its financial statements the cost of land used for provincial buildings.

As mentioned above, information on land owned by the Province exists in the Land Titles Office and the British Columbia Assessment Authority. However, because the databases in these agencies were not designed specifically to keep track of land acquired and owned by the Province, complete and accurate cost information needed for valuation purposes is often not readily available. In its memorandum on capitalization issues, the government has committed itself to developing a dedicated land database, to be used by ministries in the valuation of land as it is capitalized. This will ensure that sufficient accurate information about land owned by the Province is maintained centrally. We recognize that constructing such a database will require spending time and resources, but it is a necessary task.

We recommend that, on a timely basis, the government develop a central database of relevant information on all land owned by the Province.

In auditing the cost of land acquired for value by the Province, we noted that certain relevant costs (for example, legal, registration, appraisal, design, survey, and other overhead costs) are sometimes not accounted for as part of the cost of acquired land. Generally accepted accounting principles require that the cost of a tangible capital asset include the purchase price as well as other acquisition costs. We believe the inconsistency occurs because the government accounting policies on capitalizing cost of land do not address this issue clearly.

We recommend that the government provide ministries with clear and detailed guidance on accounting for the capitalization of land.

Highways

There are a number of complex issues related to the capitalization of roads and bridges. For example, should all highways be recorded in one asset class? What is the estimated useful life of each type of road or bridge? What is the best method to amortize each type of highway? How should the cost of reconditioning a road or reinforcing a bridge be dealt with? Although this class of assets is not scheduled to be included in the Province's financial statements until 1999/2000, we encourage the government to address these complex issues early so that the necessary information can be identified and obtained in time to meet the proposed implementation schedule.

Computers

In the 1997/98 fiscal year, the government recorded all microcomputers and peripheral devices, regardless of cost, as tangible capital assets. In that year alone, the government ministries spent about $64 million on new mainframe, mini- and micro-computers, and software.

In auditing the cost of computers, we noted inconsistencies between ministries in their treatment of certain ancillary costs. For example, some ministries expense software development costs, such as payroll and administration expenses, while others capitalize these costs and expense them over the life of the developed system.

Also in the 1997/98 fiscal year, the government reassessed the expected useful life of its mainframe and minicomputer systems, and reduced it from 10 years to five years. We found that this change was not applied in all cases consistently by all ministries, despite the guidance provided to them by the Office of the Comptroller General. We believe further training may be required to emphasize the application of capitalization guidelines periodically issued by the Comptroller General.

We recommend that the government provide ministries with adequate training to enable them to consistently apply guidelines on accounting for tangible capital assets.

Vehicle Sale and Leaseback

On March 31, 1998, the Province sold most of its vehicle fleet to PHH Vehicle Management Services Inc. for $38 million, and leased the vehicles back for a minimum term of one year. The book value of these vehicles at the time of the sale was $9 million. As the transaction occurred on the last day of the 1997/98 fiscal year, no portion of the $29 million gain was recognized in the fiscal year ending March 31, 1998.

For the purpose of financial statements, it is important to decide whether a lease is a capital or an operating lease. In accounting for a capital lease, the leased asset and the resulting obligation are recorded on the balance sheet as an asset and a liability. For an operating lease, no such asset or liability is recorded. The lessee (in this case the Province) only records, as expense, the annual cost of leasing the capital items.

The government, however, decided to record as a capital lease only the portion of the lease agreement that related to vehicles built before 1992. In making this decision it accepted the advice of a prominent consulting firm that interpreted the guidance provided by the Canadian Institute of Chartered Accountants (CICA).

The CICA's guidance is intended to help organizations determine the nature of a lease for accounting purposes. It is not intended to override the main test of who, in fact, carries the risks and benefits from the rewards. The CICA requires that a lease be recorded as a capital lease when the risks and benefits of ownership of the leased asset have been transferred to the lessee. In our opinion, the risks and benefits of ownership of all the leased vehicles remain with the Province. We believe this to be the case because, according to the PHH agreement, while the government maintains the leased vehicle fleet during the term of the lease, any subsequent gain or loss when the vehicles are sold by PHH will revert to the Province.

We recommend that, in keeping with the substance of the agreement with PHH Vehicle Management Services Inc., the sales transaction be accounted for as a capital lease, and be recorded as an asset and a liability in the Province's financial statements.

How Is the Cost of Parkland Determined?

In the 1997/98 fiscal year, the Province began capitalizing the cost of land acquired for parks. The Province's accounting policies state that tangible capital asset costs include all costs directly attributable to the acquisition, construction, development or installation of those assets. For some capital assets, the process of determining which costs are directly attributable to their acquisition is a relatively simple process. For example, there is normally little dispute over the cost of acquiring office furniture. However, for other assets, it may be difficult to determine which costs were directly associated with the asset purchase, and which costs may have been incurred had the purchase not occurred.

In many instances, determining the cost of a provincial park is as simple as determining the cost of any other asset. However, when a large provincial park is created, a series of transactions may be necessary before land becomes available for use. For example, under licence, large tracts of Crown land may be in use by one or more commercial users. While the Province may not be legally required to pay compensation in these situations, it may nevertheless choose to do so (e.g., by providing other land with similar resources or paying monetary compensation). This compensation would normally be accounted for as the cost of creating the park. In other situations, the Province may engage in a series of transactions for the purpose of relocating the current user. These transactions may include the payment of additional amounts to the current user in order to encourage development of another part of the Province. Such payments could, but not necessarily, be directly related to the creation of the provincial park.

We examined the costs of several parks acquired in recent years, and concluded that park-acquisition costs are being determined inconsistently because there is no clear guidance on which costs are to be capitalized. This is particularly the case where existing users of the land are compensated with conditions for their relocation. In some instances, we believe, knowledge of the government's intentions at the time of the transaction may be the only factor that could be useful in determining whether or not the cost is directly associated with the park.

We recommend that the Province develop guidelines to help government negotiators and the Comptroller General determine which costs incurred when creating a park should be capitalized and which should be charged to normal operations.

Gross Basis of Accounting

A fundamental principle of financial statement presentation is the use of the gross basis of accounting. To properly reflect the operations of the government, the financial statements should show the total (or gross) amount of revenues received and expenses made. Although netting expenses against related revenues has no effect on the net surplus or deficit recorded by the government, netting transactions does not allow the full picture of the government's operations to be presented.

The note describing significant accounting policies of the government for the preparation of the Summary Financial Statements specifies that those statements are presented on the gross basis of accounting. However, the Consolidated Revenue Fund Financial Statements disclose no such requirement. In recent years, we have seen a growing trend to net some expenses against some revenues in these statements. This creates the appearance that expenses have been reduced and revenue did not occur.

Last year in our report on the 1996/97 Public Accounts, we commented on one such instance of netting expenses against revenues — the treatment of government assistance to Canadian Airlines International. In 1997/98, we noticed three additional instances: the netting of the bad debts expense against the related revenue stream, and the netting of certain expenses against liquor licensing revenue and investment fund management fees.

Provision for Bad Debts**—**Sometimes revenues that have been earned cannot be collected. Bad debts are normally considered part of the cost of doing business. The appropriate accounting in these cases is to record separately all revenues earned and all amounts that are not expected to be collected (as a provision for bad debts). This is done in the financial statements of most organizations, including the Summary Financial Statements of the Province. However, in 1997/98, the government changed its accounting policy for the Consolidated Revenue Fund Financial Statements and started to set off the provision for the bad debts expense against the related revenue stream. This had the effect of reducing the revenues and expenses of the Consolidated Revenue Fund by $33 million from what should have been reported. Meanwhile, the provision for bad debts arising from loans that cannot be repaid continues to be shown as an operating expense.

Costs Incurred by the Liquor Licensing Branch (LLB)**—** Another change in 1997/98 was the netting of the operating cost of the LLB against liquor licensing fee revenue. In prior years, the sale of licences enabling dining establishments to serve alcoholic beverages was recorded separately as a revenue of the Province. This year, the decision was made to treat the revenue as a recovery of the expenses incurred in operating the branch.

According to the government's accounting policies, recoveries may be recorded as a credit to expense if:

1. they can be specifically identified with the expense transactions and payment has actually been made from an appropriation;
2. provision has been approved through the Estimates; and
3. the expenses to which they related were incurred in the same fiscal year.

In this case, provision for the recovery had been approved through the Estimates and only the amount actually expensed was treated as a recovery. The fee-related income that exceeds the expenses of running the branch continues to be treated as revenue. However, there is no direct relationship between the administrative expenses incurred in running the branch and the fees collected. The branch performs other functions than merely selling liquor licences. Consequently, we believe that the operating costs of the LLB should not have been set off against licensing revenue. This change in accounting treatment reduced revenues and expenses of the Consolidated Revenue Fund by $5.5 million from what should have been reported.

Management Fees Revenue—In previous fiscal years, management fees for the Province's investment funds were considered to be revenue of the Investments Branch of the Provincial Treasury. In 1997/98, the branch was separated from Provincial Treasury and became the Office of the Chief Investment Officer. The status of the branch also changed from that of a special account, in which revenues and expenses were recorded on a gross basis, to that of a $1,000 vote in which expenses net of recoveries were recorded. This change resulted in revenues and expenses of the Consolidated Revenue Fund being shown as $3.7 million less than they should have been.

Canadian Airlines International—As we reported last year, the Province agreed to provide funding of $11.1 million to Canadian Airlines International for each of four years, beginning in 1996/97. The Province has chosen to record this amount as a reduction in fuel tax revenue rather than as a direct grant. Because the amount is set, and is a concession that has been made only to one airline, we believe it should be more appropriately recorded as an expense.

The total effect of these changes in accounting treatment is to reduce reported revenues and expenses in the Consolidated Revenue Fund by $53.3 million. Although there is no effect on the net deficiency reported by the Fund for the current year, there is a significant bias when only expense numbers are referred to or compared with prior years' amounts.

We recommend that the government use the gross basis of accounting for the Consolidated Revenue Fund Financial Statements.

Loans and Guaranteed Debt Repayable Through Future Government Funding

Under the Fiscal Agency Loan Program, the government initially borrows funds and then makes loans to various public sector organizations so they can purchase capital assets.

In previous reports on the government's annual Public Accounts, we noted our concern with the government's accounting of loans made through this program to certain public sector organizations that depend on the government funding to repay their debt. We recommended that these loans, which were recorded in the Province's financial statements as "loans for purchase of assets, recoverable from future appropriations," be expensed in the period the loans were made.

The main reason for our recommendation was that, though these loans were used by the recipient organizations for purchasing tangible capital assets, the loans themselves provided no future benefits to the lender (that is, the government). For these loans to be repaid, the government first had to advance sufficient funds to the borrower. At the same time, the government had no control over tangible capital assets owned by organizations that by its own definition are residing outside its reporting entity. Nevertheless, the government decided to continue recognizing the loans as assets of the Province. And therefore, again, the Auditor General's Reports on both the Consolidated Revenue Fund Financial Statements and the Summary Financial Statements of the Province for the year ended March 31, 1998, were qualified.

In late 1997/98, the government examined the possibility of forgiving the loans referred to above, and providing the recipient organizations with "capital advances" equal to the book value of the existing tangible capital assets they hold. In exchange, the government would gain the right to use those assets in delivering its programs. Because the government has moved to a full cost, expense basis of accounting (see page 38), such an arrangement would have helped the government better account for inter-generation expenses. It would also ensure that lump-sum payments made by the government to organizations that help it provide health care, education, and transportation services were accounted for in the Province's financial statements, to the extent they provided utility for delivering those services.

In pursuing this idea, the government consulted with the Auditor General. We are pleased to report that, based on a memorandum exchanged between the Minister of Finance and Corporate Relations and the Auditor General in March 1998, the government agreed to introduce legislation to eliminate three capital financing authorities through which these loans were made. According to new legislation, it is expected that the debt held by the government organizations will be forgiven and the amounts paid out by the government to date for the purchase of tangible capital assets (less any sinking fund) will be recorded as "prepaid capital advances" on the balance sheet of the Consolidated Revenue Fund. The prepaid capital advances will be amortized over the estimated useful lives of the underlying capital assets. The government is also committed to asserting, in due course, its claim to the use of the underlying assets represented by the prepaid capital advances.

We believe that these changes, when fully made, will resolve the long-standing issues related to the accounting for loans made by the government to dependent organizations.

To begin implementing these planned actions, the government passed the Capital Financing Authority Repeal and Debt Restructuring Act on May 13, 1998. This Act, which came to effect on April 1, 1998, dissolved both the British Columbia Educational Institutions Capital Financing Authority and the British Columbia School Districts Capital Financing Authority. The debt obligations owed to both authorities by school districts, colleges, institutes and universities were released as of that date, and the related sinking funds held by those educational institutions were deemed to be held by the government. At the same time, the assets and liabilities of the authorities were transferred to the Consolidated Revenue Fund.

These events resulted in a decrease of "loans for purchase of assets, recoverable from future appropriations" and an increase in "public debt used for government operating purposes" of $4,045 million each as at April 1, 1998.

Also, in our previous reports on the Public Accounts, we had recommended that guaranteed loans of entities which are dependent on government funding be accounted for as the liabilities of government. We are pleased to report that, in 1998/99, the government will include approximately $307 million of debt of the entities that had previously been guaranteed by the Province in public debt used for government operating purposes.

We understand the government is establishing a similar process for the British Columbia Regional Hospital Districts Financing Authority. The Greater Vancouver Transportation Authority Act, passed on July 30, 1998, dissolves the British Columbia Regional Hospital Districts Financing Authority (effective March 31, 1999) and transfers its assets and liabilities to the Consolidated Revenue Fund. This releases the regional hospital districts from the part of their debt obligations to the financing authority that corresponds to the government's percentage of that debt obligation (approximately 60%).

These forthcoming changes have been disclosed in note 32 of the Summary Financial Statements for the year ended March 31, 1998, under the heading "subsequent events."

Liability for Post-Retirement Benefits

For a number of years, we have commented on the way the Province records its obligation for post-retirement benefits. We believe that all post-retirement benefits earned over an employee's service life should be accounted for as liabilities of the Province in its financial statements. This view is supported by the standards proposed by the Canadian Institute of Chartered Accountants, which recommend that all future benefits be accounted for in the same way—not only pension income, but also other benefits, including health care and life insurance premiums. Currently, the cost of these benefits is recorded only when the benefits are actually paid, an amount of approximately $14 million each year. However, the liability for unpaid benefits earned by retired and active employees is not recorded in the financial statements.

Note 25 of the Summary Financial Statements of the Province states that, under existing pension agreements, the government is responsible for paying pensioners' Medical Services Plan and Extended Health Care premiums, which are recorded when due. Although this disclosure makes clear who is responsible for this liability, it does not quantify it.

In hearings held by the Select Standing Committee on Public Accounts, government representatives agreed that a liability exists, but stated that estimating the liability (by actuarial calculation or otherwise) would be expensive. At the conclusion of each of these hearings, the committee recommended that the government report this liability when it is practical to do so.

We recommend that a reasonable estimate of post-retirement benefits be included as a liability in the Summary Financial Statements of the Province.

Insurance Risk Management Account (IRMA)

In our report on the 1995/96 Public Accounts, we reported that the Province did not adequately report its liability for potential insurance claims.

The Province insures risks of various classes of persons and many government organizations such as hospitals, regional health boards, schools, colleges and universities. The transactions related to this self-insurance (including insurance premiums received, claims paid out, and the liability for claims received but not yet paid out) are recorded in a special account of the Consolidated Revenue Fund.

When a claim is registered with the government's risk management office and accepted by it, the government's liability is calculated and recorded. Any payment against these claims is entered as a reduction of the liability. The government considers the difference between these two amounts to represent its insurance liability for known claims. No liability is recorded, however, for incidents that may have occurred as of March 31 of a given year, but for which no claim has yet been filed, or if filed has yet not been accepted by the government.

Normally, insurance premiums are based on an actuarial valuation of the amount that the insurer expects to pay out for incidents arising in a given year. In other words, total premiums collected over time is an amount that allows payments of all claims—even if they are not yet registered. Therefore, we believe that, in the absence of an actuarial valuation of claims that have occurred but not yet been registered, the Province's total insurance liability would be more accurately estimated as the difference between the premium revenues received over time and the amounts paid out. This amount is represented by the balance, at any time, in the IRMA special account. For 1997/98, the account balance was $27.2 million.

We again recommend that the Province account for all its liability for third-party insurance claims.

Contributions to Government Organizations

There are different circumstances under which the Province makes payments to government organizations. It may, for example, provide funding for operations or capital acquisitions, or it may make an investment in an organization with the expectation of financial return on that investment. While the accounting treatment for contributions is understandably different in each case, we are concerned with the overall lack of consistency in how similar types of contributions to government organizations are accounted for.

Normally, for stakeholder funding in a business organization to be appropriately recorded as an investment, there must be a reasonable expectation of financial return. On this basis alone, there is no justification to consider a contribution as an investment when government is funding its non-commercial businesses; however, the government does not always use this concept.

A case in point is the $45 million contribution the government made to Columbia Basin Trust on April 1, 1996. The Province recorded this payment as an investment rather than expensing it as a grant, even though the recipient corporation is not a business enterprise, and is fully consolidated in the Summary Financial Statements of the Province.

This payment is described in the Trust's financial statements as a "Regional Benefit Program Payment" made "for purposes consistent with Section 4 of the Columbia Basin Trust Act." According to Section 4 of the Act, the purpose of the Trust is to "invest, spend and otherwise manage the Regional Allocation and the Trust's other assets, including any assets that may be transferred to it, for the ongoing economic, environmental and social benefit of the region."

Although this contribution might bring some financial return to the Trust, there seems to be no expectation of a return to the Consolidated Revenue Fund, financial or otherwise.

We recommend that the government account for payments to its organizations in a manner that reflects the substance of the transactions.

financial highlights

financial highlights

Financial data presented here are taken from the summary level financial statements included in the Public Accounts of the relevant years. To provide consistent bases for comparison between the last five years, financial results of 1994 and 1995 have been restated to take into account changes in government accounting policies since April 1, 1995.

In the 1995/96 fiscal year, the government expanded the composition of the summary reporting entity to include health care organizations, regional hospital districts, universities, colleges and institutes, and school districts. However, starting in the 1996/97 fiscal year, the government excluded those bodies from the summary reporting entity.

Also, in the 1995/96 fiscal year, the government has changed its accounting policies to phase in capitalizing tangible capital assets and amortizing them over their useful lives.

As in previous years, financial data are not adjusted for changes in the Consumer Price Index (CPI). Population and Gross Domestic Product (GDP) figures are from statistics as at July 1 and December 31 of each year respectively. Otherwise, all “year” references in this section apply to the fiscal year ended March 31 of the year noted.

In its 1998 Budget, the government reported an overall economic growth in 1997 of 2.0% (up from 0.5% in 1996). For 1998, the government expects that the pace of provincial economic activity would slow largely because of the sluggish growth in the Asian economies, softening of international commodity prices and declining population growth. The overall economic growth in 1998 is projected to increase 0.9%,

The Auditor General’s Report on the 1997/98 Summary Financial Statements of the Province contains a reservation with respect to the appropriateness of the summary reporting entity. This means that, to understand the Province’s financial results for that year, the reader should consider information from the Summary Financial Statements together with matters referred to in the Auditor General’s report on those statements. For the purpose of this section we have adjusted the 1996/97 and 1997/98 Summary Financial Statements to reflect the effects of this reservation.

resulting in some 9,000 new jobs in British Columbia. On the basis of these expectations, the government is setting as its 1998/99 target the goal of reducing its deficit by about half of what it was in 1997/98, and moving to a balanced budget by 1999/2000.

Revenue

Taxes remain the most significant source of revenue for the government of British Columbia. Last year, they accounted for 55 cents of every dollar of the provincial revenue. Compared with all other taxes, personal taxes have had the highest dollar increase over the past five years, increasing by $885 million, or 19.8%.

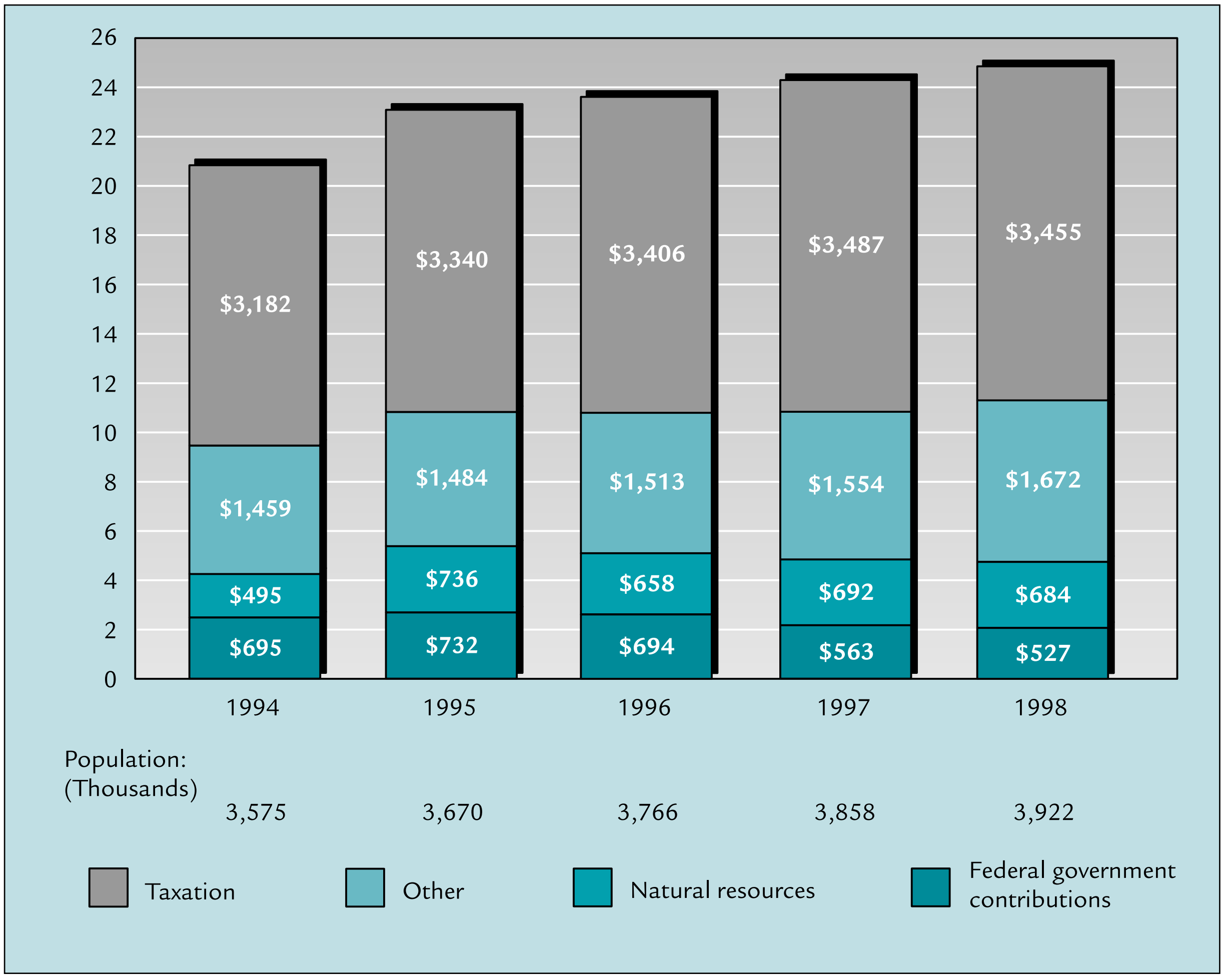
For the year 1998, the largest percentage increase in revenue by main source was in “Other” revenue. This category includes all fee and licence collections, earnings from investments, contributions from government enterprises, recovery of monies from sources outside government, and some miscellaneous revenue. This increased 9.4% from $5,997 million in 1997 to $6,559 million in 1998.

Exhibit 3.1 shows total revenue of the Province in each of the years 1994 to 1998. Taxation revenue has increased significantly from $11,375 million in 1994 to $13,551 million in 1998. Expressed in other terms, this means that the average taxation revenue generated by each resident of British Columbia (per capita revenue) has increased from $3,182 in 1994 to $3,455 in 1998.

Exhibit 3.1

Revenues, 1994 to 1998

Total ($ Billions) and per capita revenue by main sources over the past five years



Source: The Public Accounts (restated) for financial figures; Statistics Canada for population statistics as at July 1

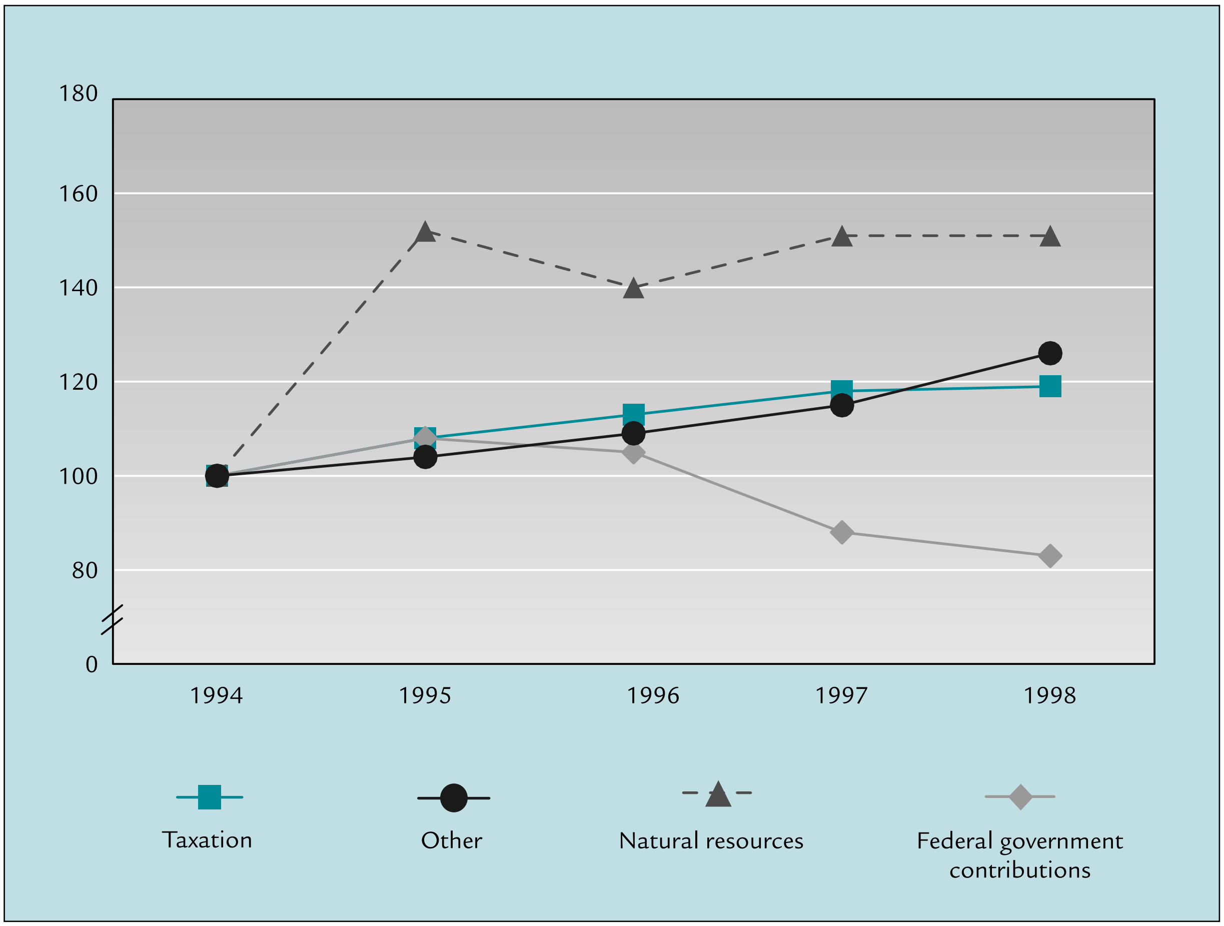
Exhibit 3.2 shows the rate of change in revenue over the last five years by main sources. The base year in this exhibit is 1994. Revenue for each main source in the four years that follow 1994 has been shown as a percentage of the base year. Natural resource revenue has grown significantly over the last five years. During the same period, contributions from the federal government show a gradual decline.

Exhibit 3.3 shows the taxation revenue by source over the five-year period from 1994 to 1998, and the ratio of revenue from each of the major taxation sources to the total taxation revenue of the Province.

Exhibit 3.2

Change in Revenues, 1994 to 1998

Rate of change in revenue by main sources (1994 = 100)



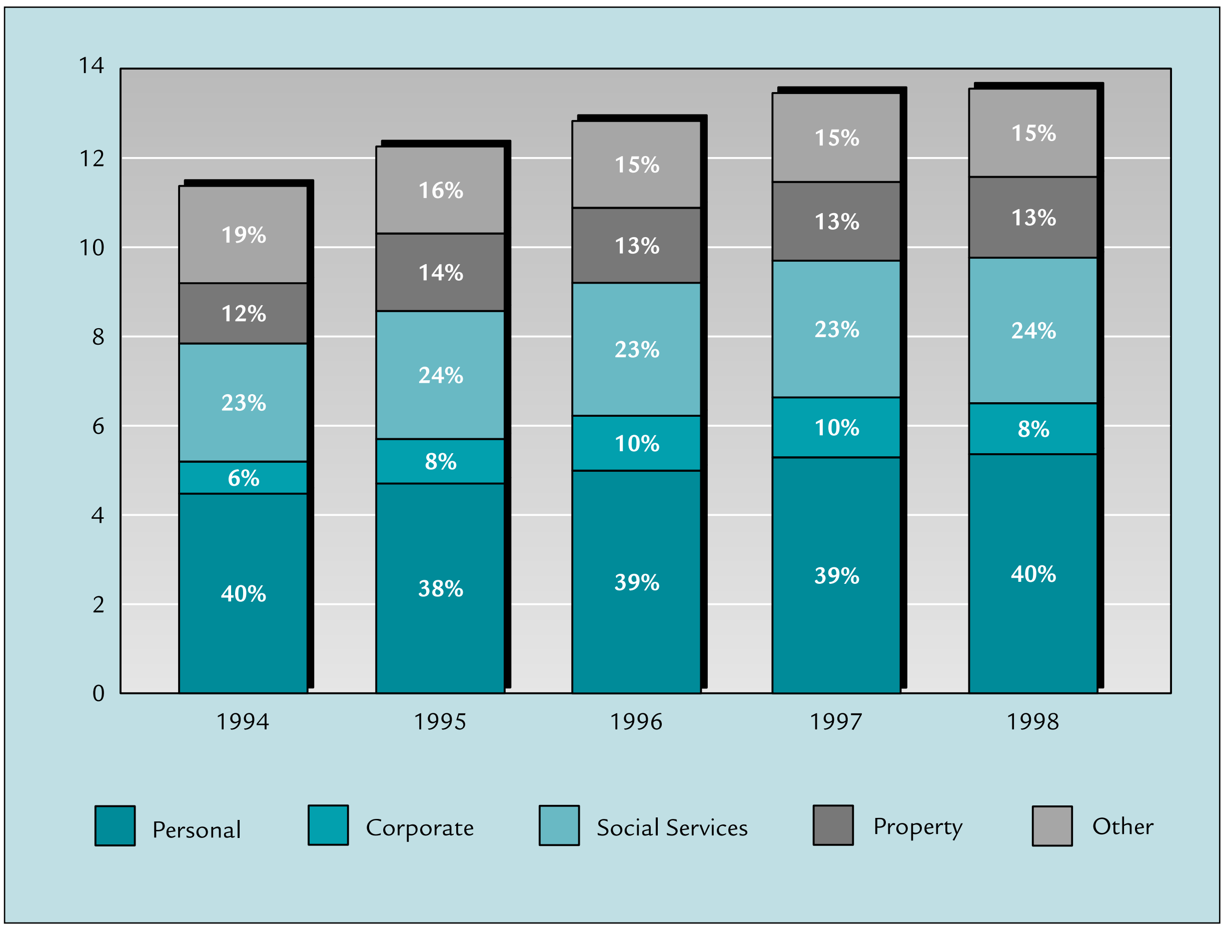
Source: The Public Accounts (restated)

The government collects taxes from many sources. The most important of these taxes include those relating to personal and corporate income, property and sales. In the figures presented in Exhibit 3.3, the taxes denoted as coming from property include residential, business, and rural property taxes. The social services tax is more commonly known as the provincial sales tax. The "other" source includes property transfer, fuel, tobacco and insurance premium taxes, in addition to hotel room, corporation capital and horse racing taxes.

Exhibit 3.3

Taxation Revenue, 1994 to 1998

Total, and percentage of total, taxation revenue by source ($ Billions)



Source: The Public Accounts (restated)

Exhibit 3.4 shows the rate of growth in major categories of taxation revenue compared with the rate of growth in the Province's Gross Domestic Product (GDP) over the years 1994 to 1998. The GDP is used in this exhibit as an indicator of the Province's economy. As in Exhibit 3.2, 1994 is taken as the base year for the comparison.

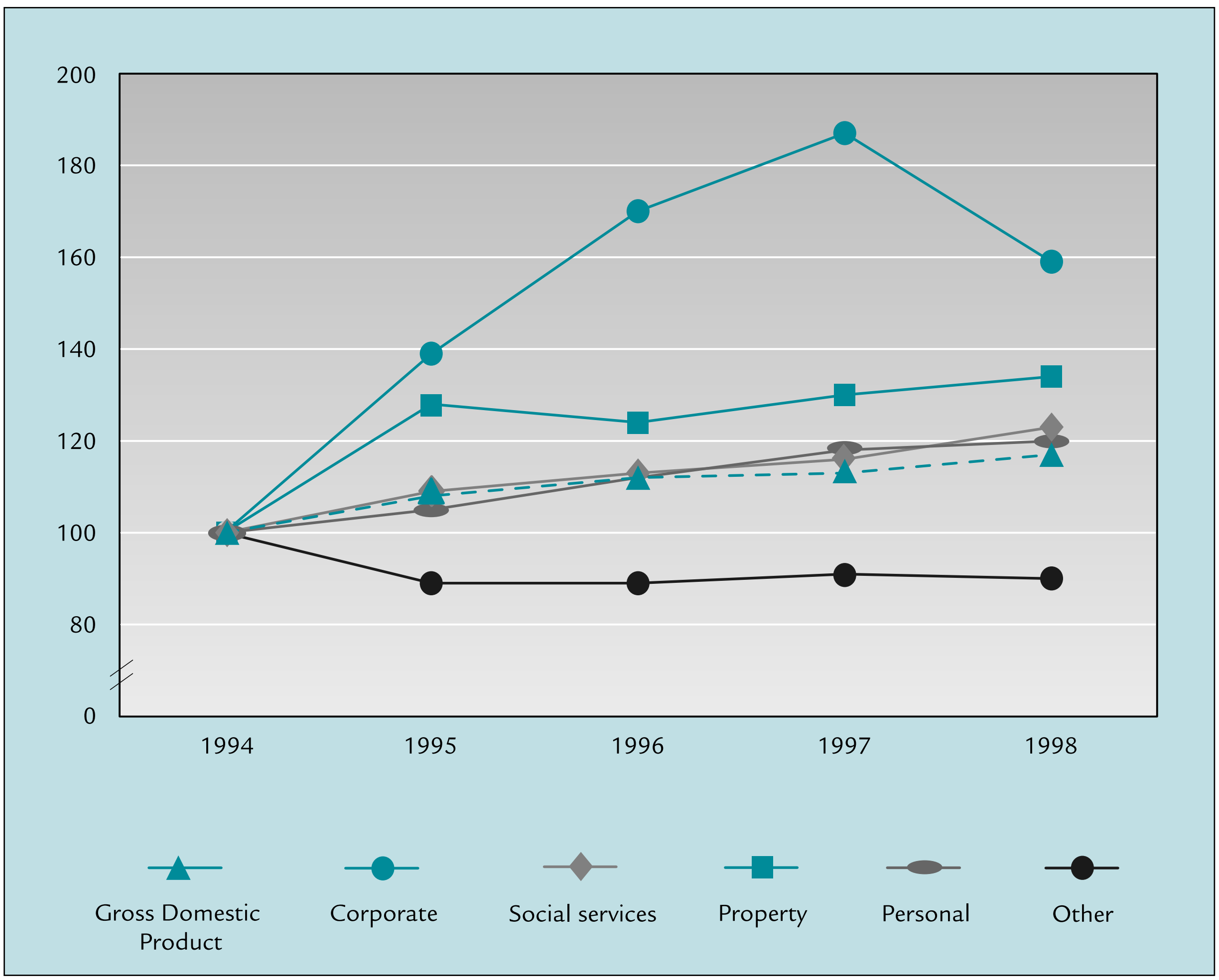
Expense

Exhibit 3.5 shows the Province's total expense from 1994 to 1998. Expense is divided into five groups based on "functions." The three major functions—health, social

Exhibit 3.4

Change in Taxation Revenue, 1994 to 1998

Rate of change in taxation revenue by major categories, compared to Gross Domestic Product (1994 = 100)



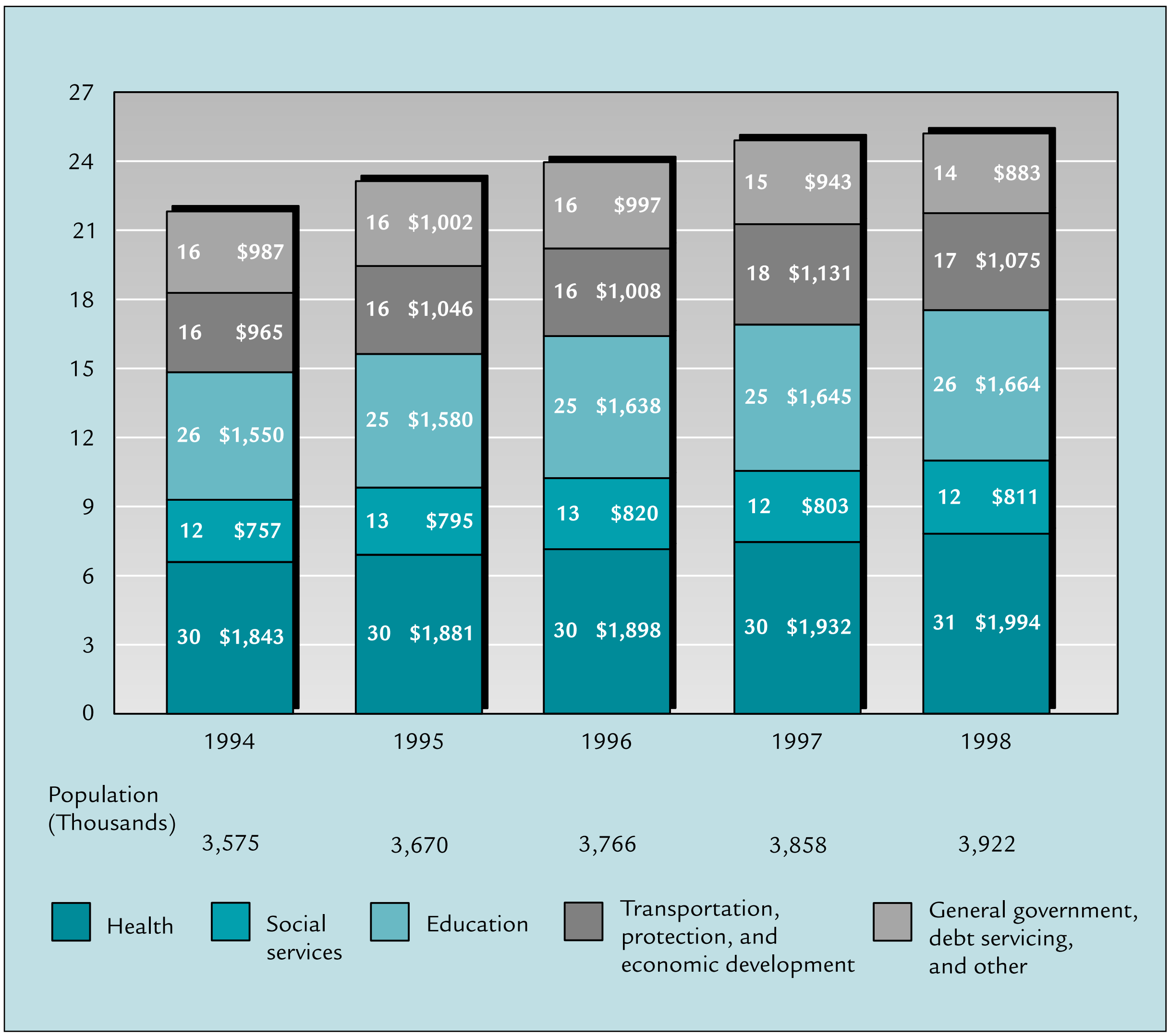
Source: The Public Accounts (restated)

services and education—are shown separately. Transportation, protection and economic development functions are grouped, as are the general government, debt servicing and all other functions. Exhibit 3.5 also provides information on average expense per resident of British Columbia (per capita expense) in each function group. For each group, the percentage of expense in that group to the total government expense is also shown.

Exhibit 3.5

Expenses, 1994 to 1998

Total ($ Billions), percentage of total, and per capita expenses by function group



Source: The Public Accounts (restated)

In the last five years, health, education and social services combined have accounted for an average of 68% of the total expenses of the Province:

- Health costs have increased from $6,589 million in 1994 to $7,820 million in 1998, an increase of 18.7%.
- The cost to the Province of educating our students has increased from $5,541 million in 1994 to $6,526 million in 1998, an increase of 17.8%.
- The cost of social services has increased from $2,705 million in 1994 to $3,181 million in 1998, an increase of 17.6%.

In the same five-year period, the Province's population increased by 8.3% from 3.6 million to 3.9 million, and its GDP grew by 17.0% from $93,490 million to $109,347 million.

Exhibit 3.6 shows the rate of change in per capita expense over the last five years for social services, education and health. To show the change over the five-year period, the per capita expense in each category has been indexed to the year 1994. The expense is in actual dollars and has not been adjusted for inflation. However, the British Columbia CPI is plotted in Exhibit 3.6 to show the general increase in prices in the Province, indexed to 1994, for comparison.

Deficit

The consolidated net expense (known as the annual deficit) of the Province—the excess of expense (operating and capital) over revenue—is an important indicator of the Province's financial performance. The annual deficit for 1998 was $282 million, or 1.1% of the year's total revenue of $24,856 million. The accumulated deficit of the Province—the total of all government deficits and surpluses to date—amounted to $7,342 million at the end of the fiscal year 1997/98.

Exhibit 3.7 shows changes in British Columbia's accumulated deficit over the past five years.

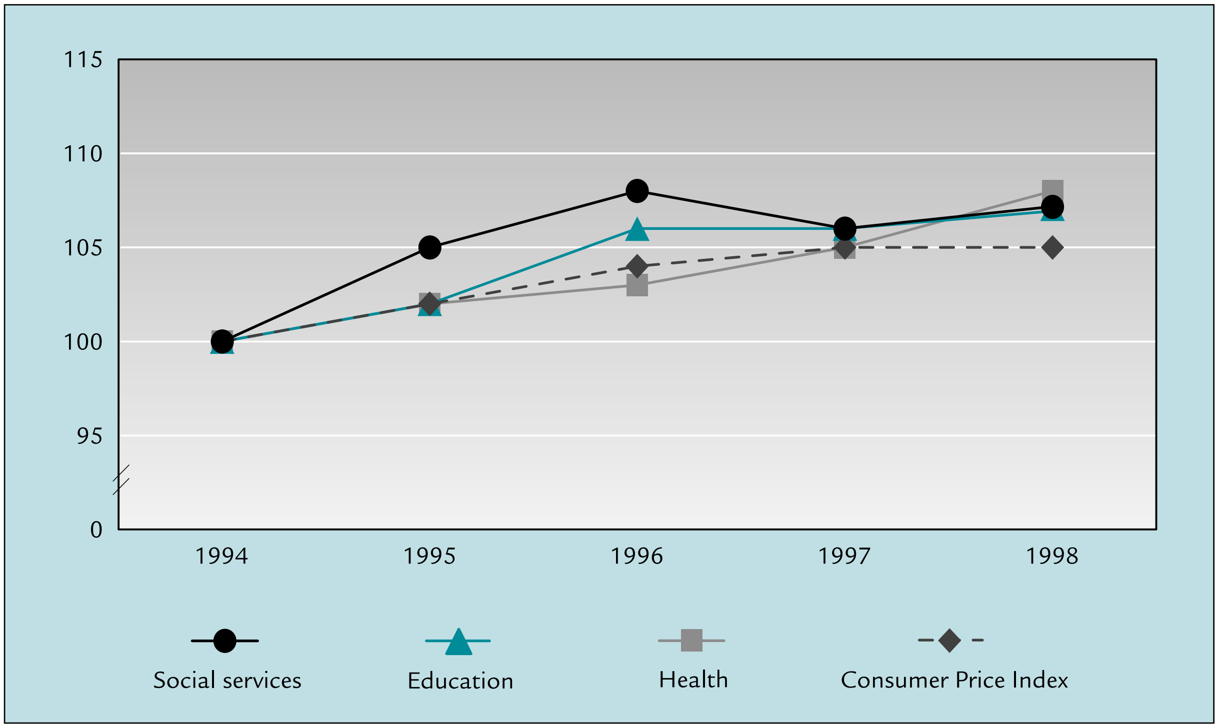
In addition to debt and accumulated deficit, a third financial indicator is also provided in the financial statements: net liabilities. This is disclosed in the notes to the Summary Financial Statements.

The term "net liabilities" represents the difference between total liabilities and financial assets. In order to pay liabilities when they come due, the Province may have to finance this difference by ensuring that future operating revenues exceed expenses (i.e., there is a surplus), by borrowing funds (i.e., assuming additional debt), by selling off assets, or by

Exhibit 3.6

Change in Expenses, 1994 to 1998

Rate of change in per capita expenses for social services, education and health, and in the Consumer Price Index (1994 = 100)



Source: The Public Accounts (restated) for financial figures; Statistics Canada for population statistics as at July 1

Exhibit 3.7

Accumulated Deficit, 1994 to 1998

($ Millions)

Year ended March 31	1994	1995	1996	1997	1998
Accumulated deficit, beginning of year	(5,523)	(6,387)	(6,281)	(6,542)	(7,204)
Adjustments[1]					144
Surplus (deficit) for year	(864)	106	(261)	(662)	(282)
Accumulated deficit, end of year	(6,387)	(6,281)	(6,542)	(7,204)	(7,342)

[1]1998 Adjustments largely relating to the regionalization of the health sector.

Source: The Public Accounts (restated)

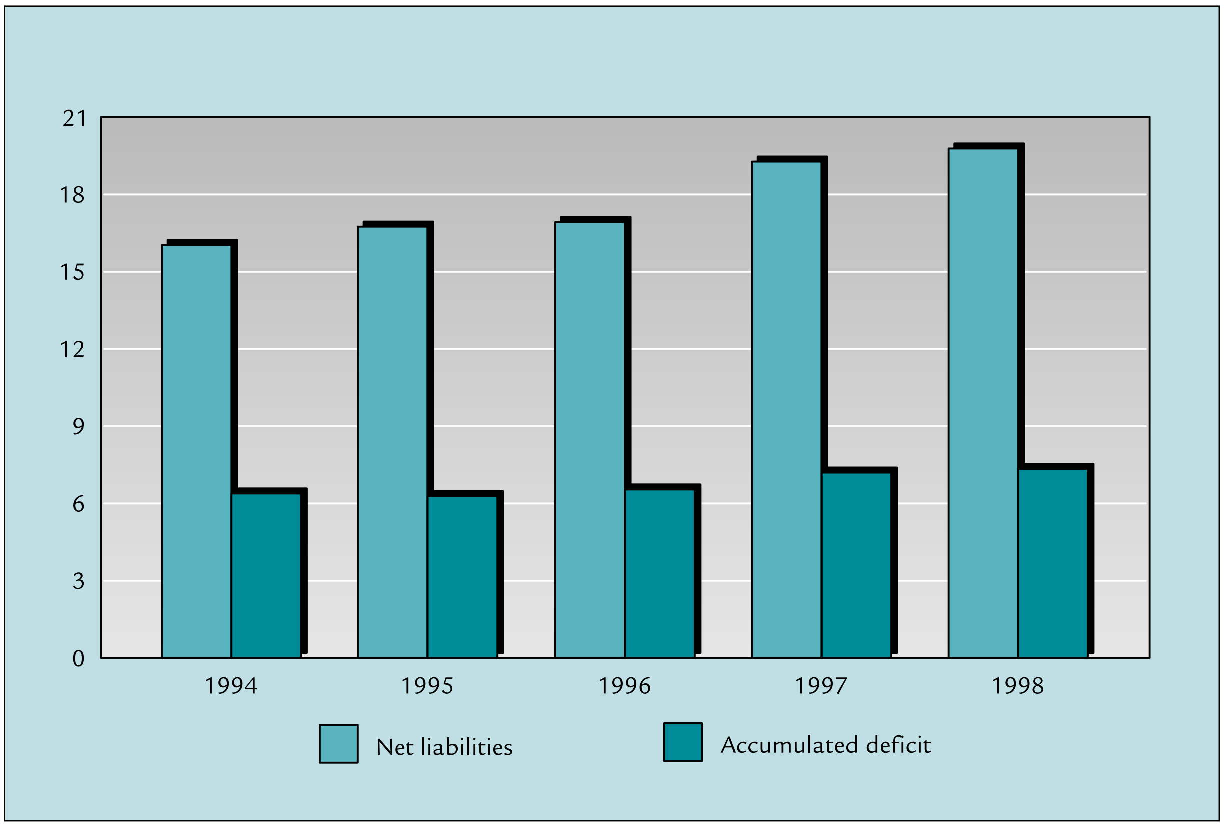
undertaking a combination of these. The net liability amount is an indicator of the Province's financial indebtedness.

Exhibit 3.8 provides information on the accumulated deficit and net liabilities over the past five years. During this period, the accumulated deficit increased by 15.0% from $6,387 million in 1994 to $7,342 million in 1998, and the net liabilities increased by 23.3% from $16,036 million in 1994 to $19,777 million in 1998.

Exhibit 3.8

Accumulated Deficit and Net Liabilities

Comparison of accumulated deficit and net liabilities at the end of the past five fiscal years ($ Billions)



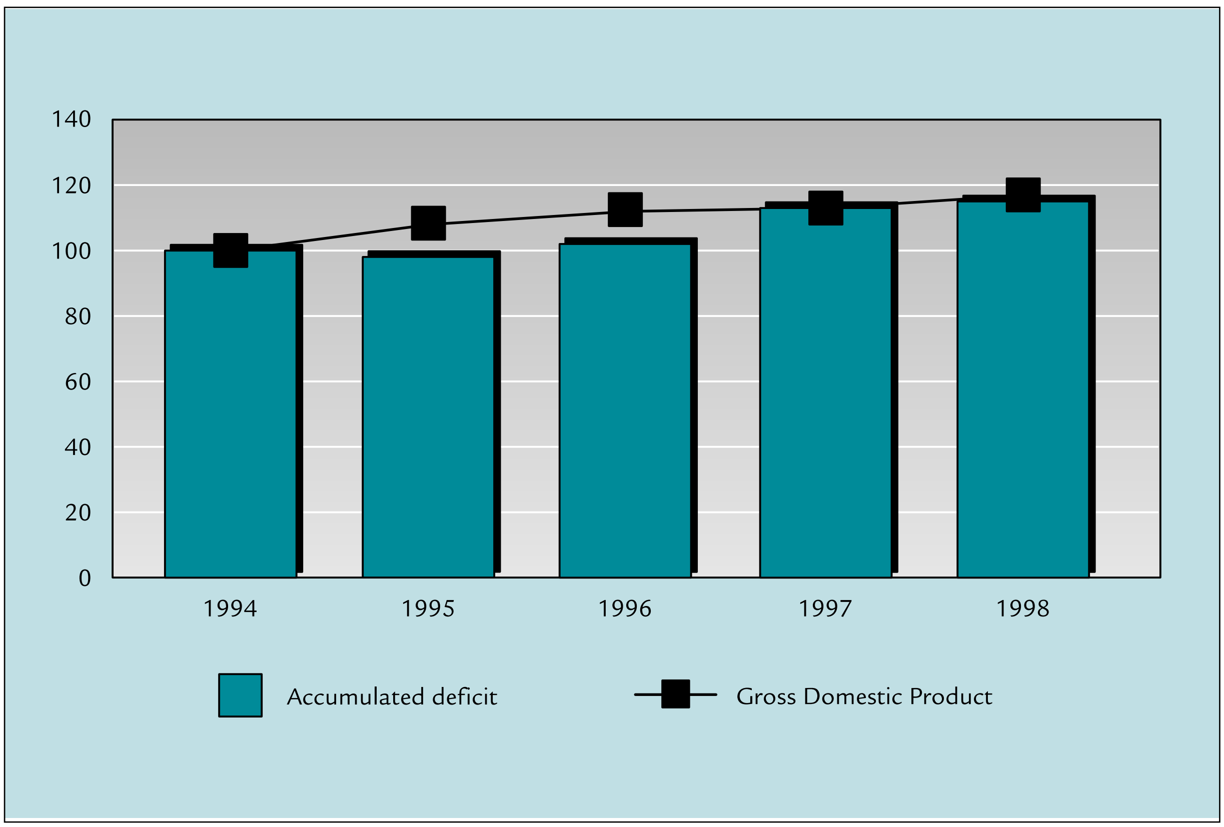
Source: The Public Accounts (restated)

Exhibit 3.9 shows the rate of change in the Province's GDP compared with the rate of change in accumulated deficit at each fiscal year end, 1994 to 1998, indexed to 1994. During the last five years, the accumulated deficit increased by 15.0%, compared to the GDP, which increased by 17.0% and the population by 8.3%.

Exhibit 3.9

Accumulated Deficit and Gross Domestic Product (GDP), 1994 to 1998

Rate of change in accumulated deficit and in GDP (1994 = 100)



Source: The Public Accounts (restated)

Exhibit 3.10 shows the annual result of operations compared to the growth in the provincial economy represented by the percentage change in GDP from the previous year.

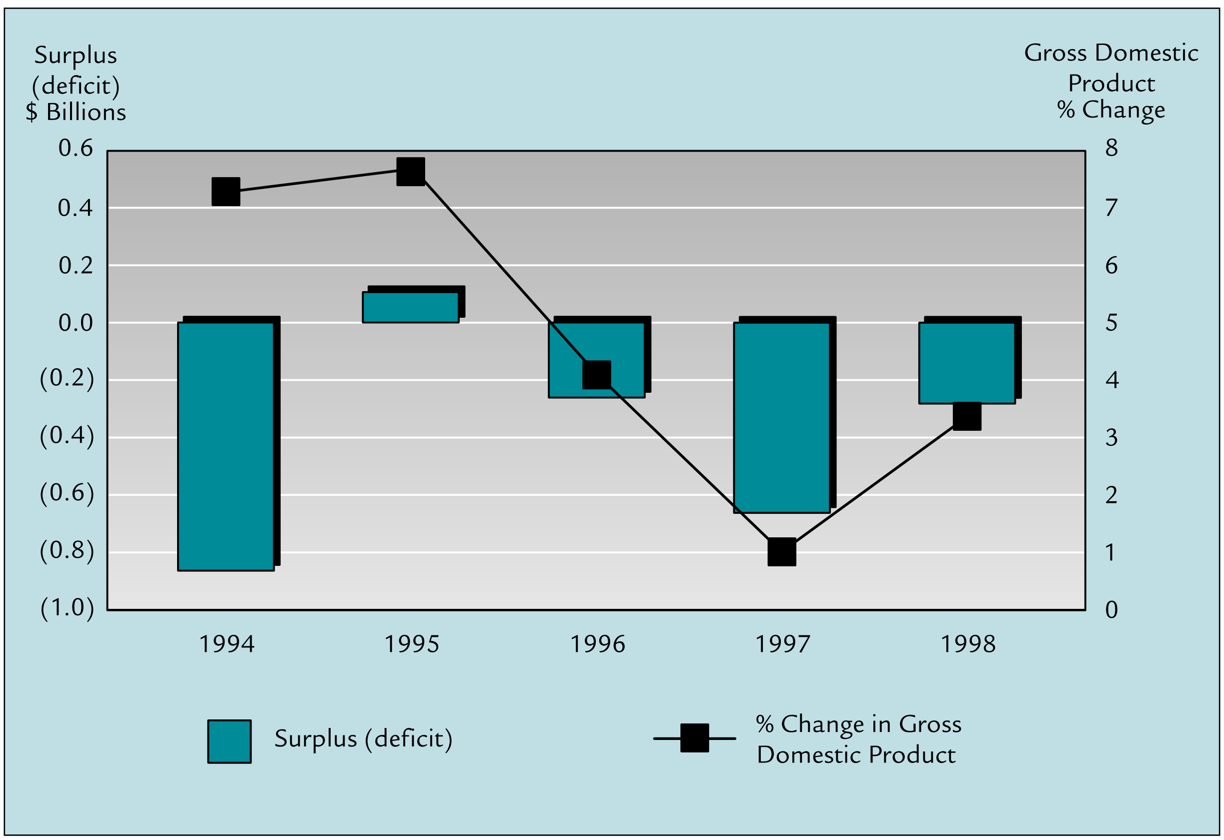
Public Debt

The Province has been borrowing in the capital market for three purposes: first, for its own current needs; second, for its own anticipated needs in the future; and third, to lend funds through its Fiscal Agency Loan Program to various government and other public sector entities. Entities receiving funds through this loan program, and which will repay these funds through their operations, include British Columbia Railway Company, and British Columbia Hydro and Power Authority.

Exhibit 3.10

Annual Surplus (Deficit) and Gross Domestic Product (GDP), 1994 to 1998

Annual deficit compared to percentage change in GDP



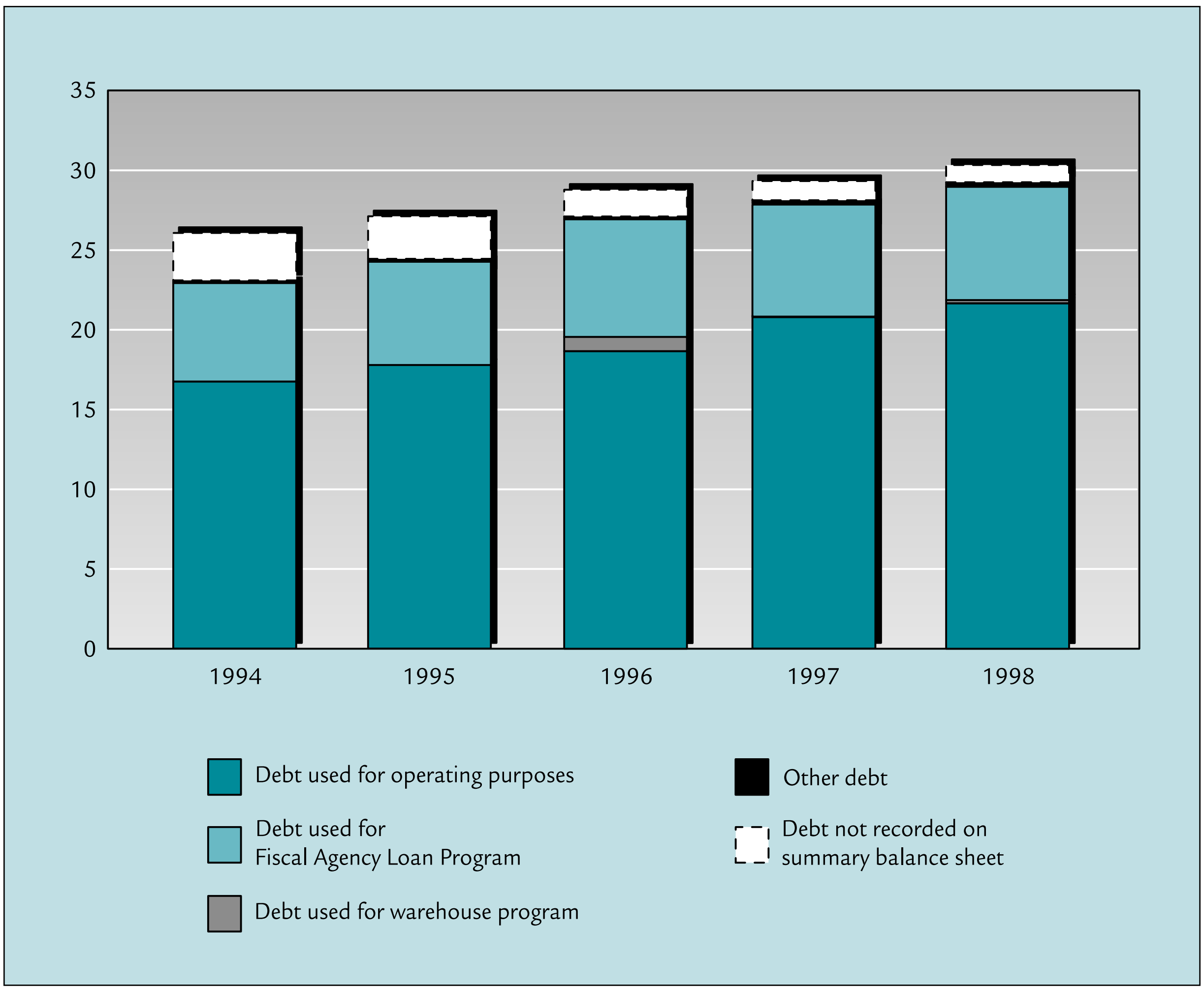
Source: The Public Accounts (restated)

Exhibit 3.11 shows the amount of public debt, including amounts borrowed by the Crown enterprises included in the government reporting entity from sources outside the government (not recorded in the Summary Financial Statements), at March 31 for each of the years 1994 to 1998. During the last five years, the total funds borrowed by the Province increased from $26,061 million in 1994 to $30,337 million in 1998, an increase of 16.4%.

Exhibit 3.11

Total Public Debt, 1994 to 1998

Debt by category, including debt not recorded on the summary balance sheet ($ Billions)



Source: The Public Accounts (restated)

Exhibit 3.12 shows the balance of monies borrowed for government "operating purposes" at the end of each of the last five years, compared with the accumulated deficit balances at the same dates.

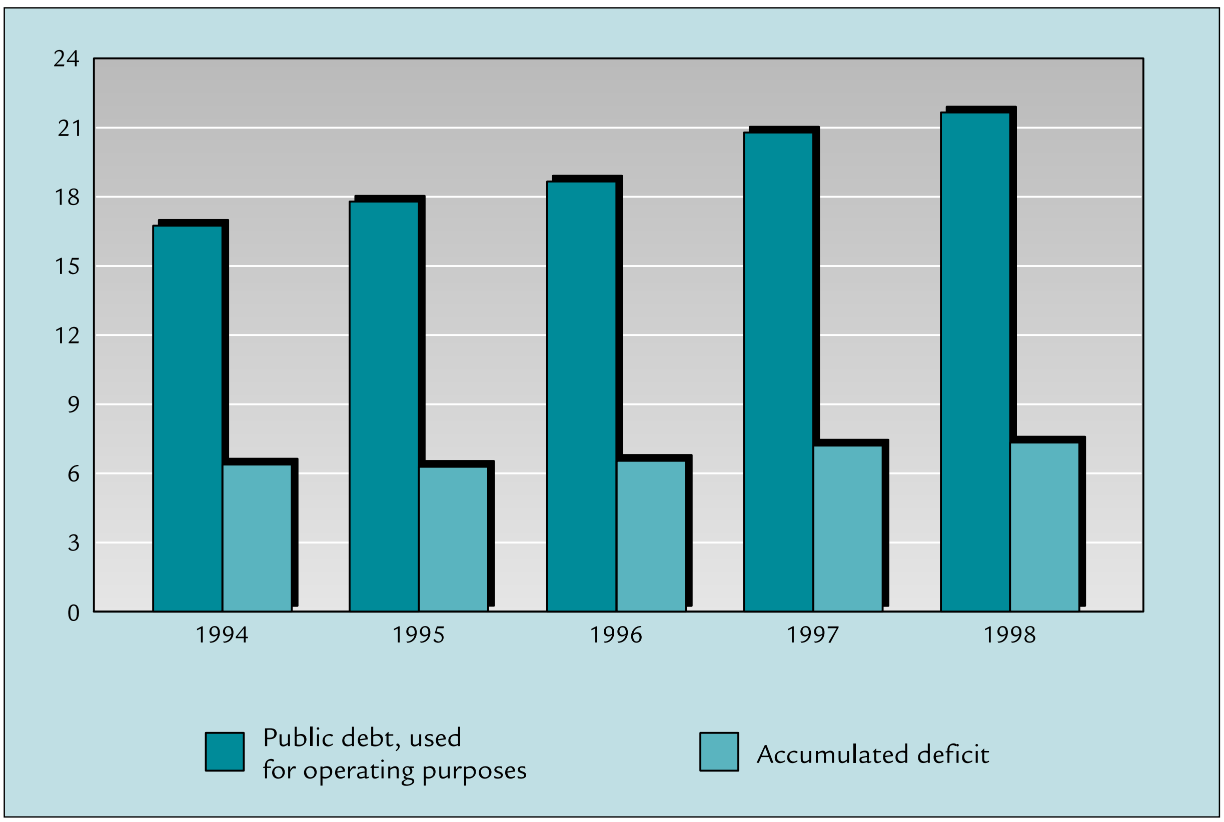
> In government financial reporting, debt used for "operating purposes" means monies borrowed for use in all aspects of operation of ministries and all fully consolidated government operations, including acquisition of assets.

The Province's debt for operating purposes exceeds the accumulated deficit. In addition to financing its operating deficits, the government uses borrowed funds for other purposes, such as purchasing or developing tangible capital assets or financing increases in temporary investments.

Exhibit 3.12

Operating Debt and Accumulated Deficit

Comparison of public debt used for operating purposes[1] and the accumulated deficit at the end of each of the past five fiscal years ($ Billions)



[1]See highlighted explanation above.

Source: The Public Accounts (restated)

audit of financial statements of government entities, trust funds, and other organizations

audit of financial statements of government entities, trust funds, and other organizations

Auditors of Government Entities

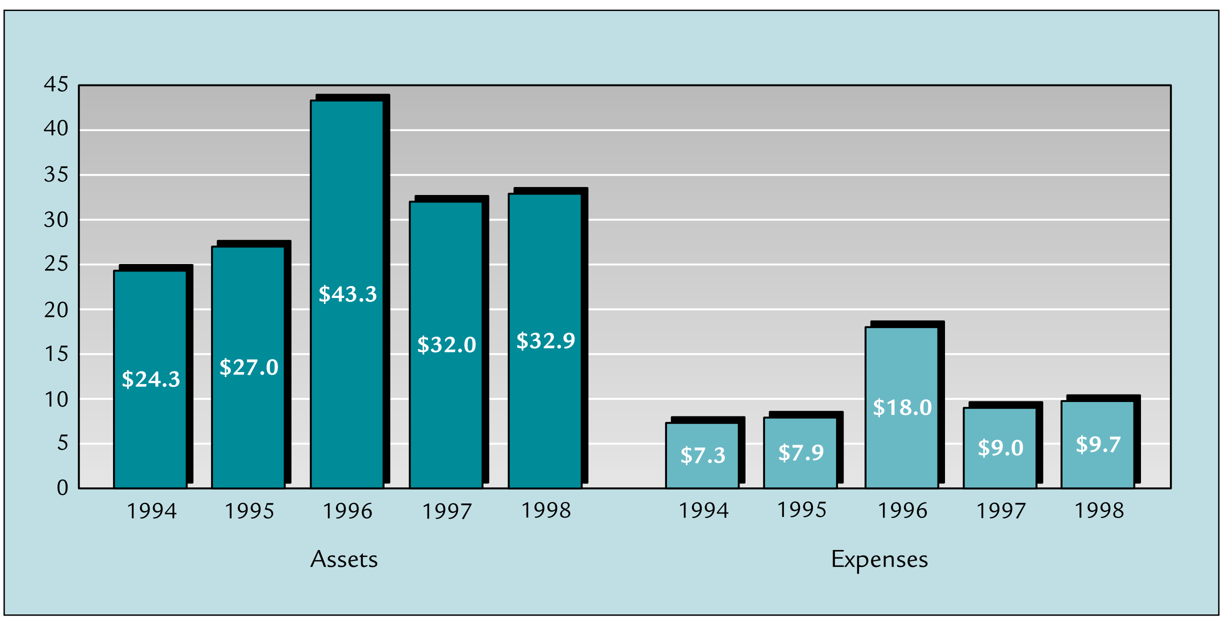
The Summary Financial Statements of the Province for the 1997/98 fiscal year include the results of the financial activities and operations of the Consolidated Revenue Fund (including the British Columbia Liquor Distribution Branch) and 49 other government organizations and enterprises.

In the 1997/98 fiscal year, the assets and expenses of these 49 government organizations and enterprises (collectively referred to in this section as government entities) amounted to $32.9 billion and $9.7 billion, respectively. Exhibit 4.1 shows the assets and expenses of these government entities reported in the Summary Financial Statements of the Province from 1994 to 1998.

Exhibit 4.1

Changes in Assets and Expenses

Assets and expenses of government entities, 1994 to 1998 ($ Billions)



Source: Financial statements of government entities

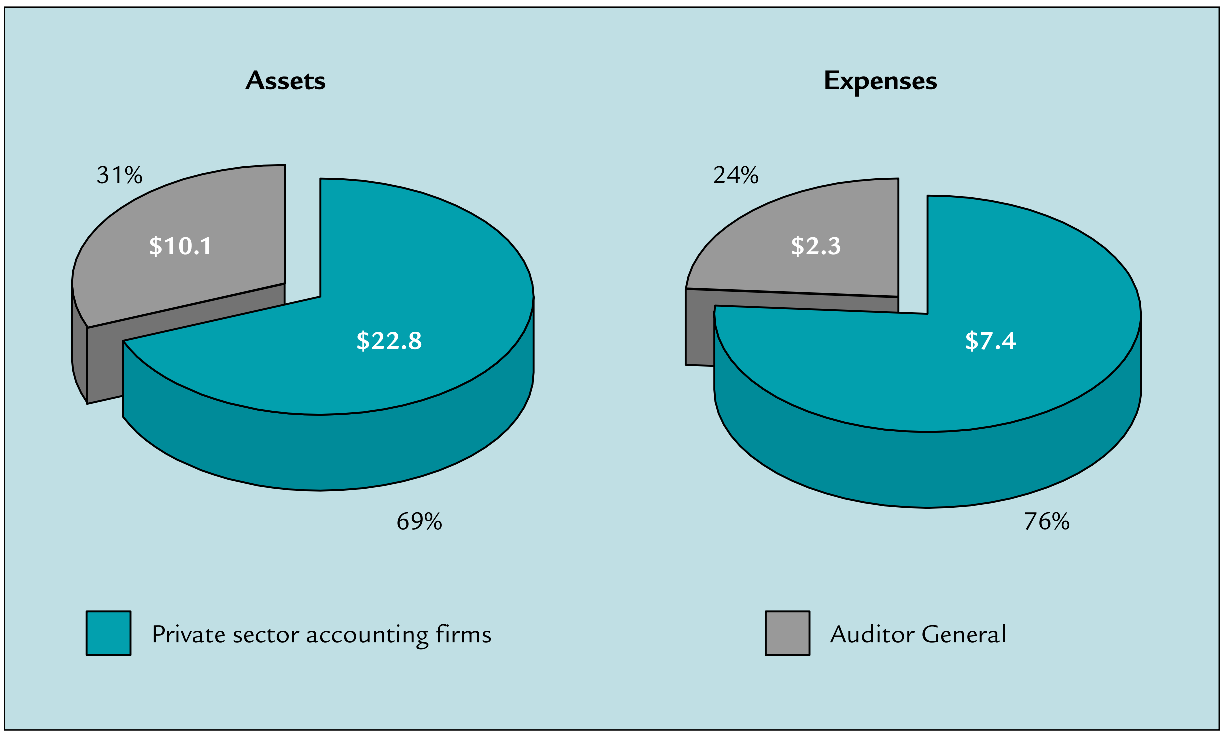
All changes to the summary reporting entity are summarized in the *Audit of the Financial Statements of the Province* on page 31 of this report.

Exhibit 4.2 shows, for the government entities included in the 1997/98 Summary Financial Statements of the Province, the asset and expense amounts audited by private sector accounting firms and those audited by the Auditor General. Private sector accounting firms audited 27 government entities, which had combined assets and expenses of $22.8 billion and $7.4 billion, respectively. The Auditor General audited 21 such entities, with total assets of $10.1 billion and expenses of $2.3 billion. And there was one small entity that does not require an audit to be performed.

Exhibit 4.2

Distribution of Financial Statement Attest Audits

Assets and expenses amounts audited by private sector accounting firms and by the Auditor General (for government entities), 1994 to 1998 ($ Billions)



Source: The Public Accounts

In addition to the government entities included in the Summary Financial Statements of the Province, the Auditor General audited a further 57 organizations with assets of $83.0 billion and expenses (including financing transactions) of $47.8 billion. Among these were 33 trust funds, including pension and superannuation plans, and investment funds administered by the government.

Appendix B of this report lists all government entities audited by the Auditor General, as well as other organizations and trust funds audited by the Auditor General which are not included in the Summary Financial Statements of the Province.

Appendix C lists the government entities that are included in the Summary Financial Statements and whose financial statements were audited by private sector accounting firms.

Auditor's Reports

Both management and auditors have responsibilities associated with an entity's financial statements. Management is responsible for preparing the financial statements, establishing their form and content, and determining the accounting policies that are appropriate for the organization's activities. The auditor's responsibility is to express an opinion as to whether the financial statements present fairly, in all material respects, the financial position and operating results of the entity and are in accordance with appropriate accounting principles.

Where the auditor finds that the financial statements are not in accordance with appropriate accounting principles and the exception is considered to be material, the auditor must include a reservation in his or her report. During this past year, with the exception of one entity, the auditor's report on the financial statements of those government entities included in the Summary Financial Statements was issued without reservation. The exception was relating to one small entity, of which its auditor's report includes references to the nature of revenue that was not susceptible to satisfactory audit verification.

Accounting Standards for Government Entities, Financial Statement Comparability in the Public Sector

When, in similar organizations within the public sector, appropriate accounting principles are applied consistently, it enhances comparability between them and between these and similar organizations in the private sector. Such comparisons may also provide important information to users about the performance of a public sector organization.

The two main sources that public sector organizations usually refer to for accounting guidance are the Canadian Institute of Chartered Accountants (CICA) and its Public Sector Accounting Board (PSAB). They offer alternative accounting treatments for different accounting needs. Normally, the governing boards of funded organizations, as well as the central agencies and ministries that fund them, are fully informed about the available choices. Of course, most governing boards will select an accounting standard that best portrays the activities of the entity. Funding ministries, on the other hand, will be more interested in ensuring reasonable consistency between entities in the financial information they report about their activities.

As the chief accounting officer of the government, the Comptroller General's advice is often sought in this process. The Auditor General, as the auditor of the government, works with both the funding ministries and the Office of the Comptroller General to encourage appropriate financial reporting throughout all government sectors.

In this report we discuss some of the accounting issues that we have noted in relation to the reorganization of health care, and to the financial reporting of entities included in the education sector.

Reorganization of Health Sector

In response to the 1991 report by the Royal Commission on Health Care and Costs, the Province began restructuring the health care service delivery system. The process was complex and the new direction proposed by the government created some concern. In June 1996, the Minister of Health halted the process and assembled a Regionalization Assessment Team, consisting of Members of the Legislative Assembly, to conduct a review. The Regionalization Assessment Team submitted its report and recommendations to the Minister of Health in the fall of 1996. One of the key recommendations was the transfer of responsibility for health care services to local health authorities. The idea was accepted and the regionalization of the health sector began on April 1, 1997.

The local health authorities are made up of regional health boards (RHBs), community health councils (CHCs) and community health services societies (CHSSs). The Health Authorities Act of 1993, with its subsequent amendments, sets out the overall responsibilities of all three bodies, including the health services societies which were created under the Society Act. When these authorities assumed responsibility for health care, the Ministry of Health entered into a Funding and Transfer Agreement with them. This agreement sets out the obligations of the health authorities, as well as the funding and compliance requirements the authorities must meet in managing and delivering health services. Under this arrangement, these health authorities stay accountable to the Minister of Health, though they are also locally accountable to their respective communities.

As a result of all this reorganization, the activities of certain health care organizations operated by religious groups and societies were brought under the “umbrella” of the health care authorities. Together these groups and societies have formed the Denominational Health Care Facilities Association. Its members receive operating funds and direction from a designated health board or health council, to carry out acute care and continuing care services. During the process of regionalization of health care, the association also entered into an agreement with the Minister of Health, which stated that the ministry would recognize the right of association members to own, manage, operate and conduct affairs of their respective facilities and to carry out their respective religious missions. However, some of the association’s members have since expressed concern to the Comptroller General and the Auditor General that the inclusion of their assets in the Province’s financial statements would take away their individual status and may suggest the government has legal title to their assets.

In our opinion, the Summary Financial Statements of the Province should include all organizations that are accountable for the administration of their financial affairs and resources either to a minister of the government or directly to the Legislature, and that are owned or controlled by the government. Our review of the matter confirms that these denominational health care organizations are accountable to the Minister of Health. The strategic direction of these organizations, to the extent they provide health care services, is controlled—through the designated health authorities—by the government. Accordingly, we believe that they should be included in financial information provided by the government publicly on health care services it controls. In this way the government would be able to state publicly how much in assets is employed in providing health care services and at what annual cost. Nevertheless, to respect the fact that some of the assets employed in providing health care services to the public are privately owned, we also believe that the government should use appropriate disclosure in its reporting.

We recommend that the government include an appropriate note in the Province's financial statements and financial information it provides on health care to reflect the ownership of certain privately owned assets employed in providing health care services to British Columbians.

New Financial Reporting for Colleges and Institutes

The British Columbia Institute of Technology and all but one public college in British Columbia used "fund accounting" principles in its financial statement presentation for the fiscal year ended March 31, 1997. According to this approach, the colleges recognized as revenue amounts they received as contributions, even if they purchased assets with them that would benefit the institutions for a long time. Also, they fully charged to the expenditure in a capital fund those amounts they used to purchase tangible capital assets, and generally recorded no depreciation. Each organization's statement of financial position and statement of operations described the activities of the major "funds." The result of this treatment is that the cost of acquiring capital assets, less any outstanding debt related to those assets, was usually credited to equity in capital assets. As we reported in our previous Report on the Public Accounts, we believe that colleges should follow accounting standards that rectify the shortcomings of fund accounting, such as those explained above.

We are please to report that, for the fiscal year ended March 31, 1998, most colleges and institutes in British Columbia implemented the new not-for-profit organization accounting standards of the Canadian Institute of Chartered Accountants (CICA). These standards address capitalization and depreciation of tangible capital assets, and allow deferral of contributions specified for purchasing them. Contributions that are not for a specific purpose are recognized as revenue as they are received. Implementing these new standards has been a major task for colleges and institutions, for which they must be commended.

Applying these standards retroactively resulted in significant changes to the colleges' financial statement presentation for 1996/97. These changes are summarized in Exhibit 4.3 for all colleges and institutes.

The most significant results of these changes are a $448 million provision for accumulated depreciation of tangible capital assets and a $218 million recognition of deferred capital and non-capital contributions. Other changes include the classification of net assets as either unrestricted or externally restricted assets, a decrease of $630 million in the investment in capital assets, the elimination of $6 million in inter-fund balances, and the netting of sinking funds with long-term debt.

For the statement of operations, the new standards resulted in revenue recognition of $39 million in amortization of deferred capital and non-capital contributions for 1996/97, and $49 million in depreciation expense for tangible capital assets. Adjustments were made to the grants from the provincial government and other revenue sources to recognize amounts deferred. Items affecting equity in capital assets—such as $68 million in capital funding, $93 million in capital expenditures, and $22 million in debt principal repayments—are no longer recognized in the statement of operations. Inter-fund transfers have also been eliminated.

Exhibit 4.3

Summary of Changes in Financial Statement Presentation—Colleges and Institutes

($ Millions)

Balance Sheet

	1996/97 restated	1996/97	Increase (Decrease)
Assets			
Short-term assets	232	232	0
Interfund receivable	11	17	(6)
Sinking funds	139	202	(64)
Capital assets	1,167	1,616	(448)
Total assets	**1,549**	**2,067**	**(518)**
Liabilities			
Other liabilities	170	173	(3)
Inter-fund payable	11	17	(6)
Debt	936	1,000	(64)
Deferred contributions	278	60	218
Net assets			
Investment in capital assets	150	780	(630)
Other balances	4	37	(33)
Total liabilities and net assets	**1,549**	**2,067**	**(518)**

Income Statement

	1996/97 restated	1996/97	Increase (Decrease)
Revenue			
Grants from Province	670	706	(36)
Amortization of deferred contributions	42	3	39
Inter-fund transfers	5	9	(4)
Capital funding	18	86	(68)
Other revenue	331	349	(18)
Total revenue	1,066	1,153	(87)
Expenses			
Amortization	52	3	49
Capital expenditures	5	98	(93)
Debt servicing	100	122	(22)
Inter-fund transfers	6	10	(4)
Other expenses	890	907	(17)
Total expenses	1,053	1,140	(87)
Surplus	**13**	**13**	**0**

Source: Data compiled by the Office of the Auditor General

Schools: Need for Better Accounting Standards

Annually, the Ministry of Education in British Columbia spends approximately $4 billion to fund some 60 school districts. Last year this accounted for about 17% of the Consolidated Revenue Fund expenses.

Under the School Act, every school district is required to prepare audited financial statements and an annual report each year. The Act deals broadly with the format, content and timeliness of the financial statements. The Ministry of Education provides instructions and guidelines for the school districts to follow in their financial statement preparation. School districts also make employee and supplier payment schedules publicly available, and other accountability information required by the Financial Information Act.

The only way that users of the school district financial statements can draw meaningful comparisons between educational programs in various school districts within the Province is if all districts record and present the results of their transactions in a unified and consistent manner. This is not happening. The accounting principles and standards of financial statement reporting currently being used by school districts are interpreted and applied quite differently from district to district. This not only makes financial comparison between school districts difficult, it also calls into question the usefulness of information provided in government summary financial statements and the education sector's financial accounts.

For example, different school districts account for employee's leave liabilities, vacation pay and sick leave in very different ways. Some recognize them as they are paid, others as they are earned, and others not at all. Inconsistencies also exist in reporting retirement allowances and severance pay. Furthermore, some school districts record certain revenue and expenditure items on a cash basis rather than an accrual basis, some do not recognize prepaid expenditures, and they use a variety of methods to record inventories.

Accounting for tangible capital assets we also found to be inappropriate. For instance, school districts capitalize the original purchase of capital assets, but expense the replacement cost of other assets, making no provision for depreciation. Consequently, the costs of assets replaced remain on the books indefinitely, while school expenses vary from year to year based on the type of capital asset acquired. The result is that amounts reported may not represent the cost of assets that the school districts currently hold accurately.

We also noted that school district financial statement presentation needs improvement. Currently, school districts compare the current year balances with their budget; they do not compare the current year amounts with those of the prior year. We think such a comparison would provide valuable information.

We recommend that the government conduct a comprehensive review of accounting for school districts, with the purpose of improving their financial accountability.

Memorandum of Understanding with the Minister of Finance and Corporate Relations

The provisions of the Memorandum of Understanding between the Minister of Finance and Corporate Relations and the Auditor General are designed to provide a rational audit process that allows the Auditor General to fulfill the duties imposed by the Auditor General Act.

The memorandum goes some way to rationalize who should perform the financial statement audits of government organizations, and gives the Auditor General the opportunity to provide guidance to private sector auditors. In the memorandum, the Minister has agreed that the auditor selection process will reflect the judgements of the Auditor General with respect to:

- the persons appointed as auditor;
- the nature and extent of the audit work undertaken; and
- the standards adhered to in conducting the audit.

The memorandum applies to audit appointments requiring the approval of the Minister, and also to appointments made by Order-in-Council. These include almost all Crown corporations, the colleges, 11 regional health boards and 34 community health councils. It is supported by an implementation plan that provides for the Auditor General to become auditor to some organizations, and for him to relinquish other audits to the private sector. New audits assumed by the Office enable us to increase our knowledge of government organizations and audit issues relating to them. Audits taken on are usually returned to the private sector on a rotational basis over a five-year period.

For the 1997/98 fiscal year, after three years of implementation, the Office employed agents for the audits of the British Columbia Buildings Corporation (BCBC), the British Columbia Assessment Authority, Provincial Capital Commission, Creston Valley Wildlife Management Authority Trust Fund, and British Columbia Institute of Technology. All, except for BCBC, were previously audited directly by our Office. We relinquished the audit of the British Columbia Health Research Foundation and assumed the direct audits of the BC Transportation Financing Authority, Kwantlen University College and Victoria Line Ltd.

We have also been appointed auditor for the following new organizations:

- Technical University of British Columbia
- Fisheries Renewal BC
- Tourism British Columbia
- 552513 British Columbia Ltd.
- Industry Training and Apprenticeship Commission
- Seven Community Health Services Societies (1 year)

During this fourth year, we release the following audits to private sector accounting firms, who may be engaged as our agents:

- Legal Services Society
- Simon Fraser University
- University of Victoria
- University of Northern British Columbia
- Five Community Health Services Societies

As well, we will assume the audit of a Community Health Council, and retain the audit of two Community Health Services Societies.

In keeping with the terms of the memorandum, we provide not only the Minister but also management with advice as to the appointment of auditors. At the start of the auditor appointment process, we advise management about the various factors to be included in the Request for Proposal that goes to audit firms and we review the draft request and offer suggestions for improvement. We then review the process undertaken by the government organization, analyze the short list of suggested auditors, and provide our advice on the audit appointment to the Minister.

The Auditor General must also report on the government's financial statements and examine other financial information included in the Public Accounts. This information is drawn from the financial statements of all the government entities. In this work, we rely on the reports and work of the auditors of these entities. We must take reasonable care to assure ourselves that our reliance on other auditors is justified. We do this by meeting annually with some of the private sector auditors and reviewing their working papers to the extent we consider necessary.

The result is that this process is providing us with a good understanding of the nature of the audit work being undertaken in the public sector, which in turn will help us provide further advice to the Minister and the Legislative Assembly about audit issues.

summary of recommendations

The recommendations made in the section of this report titled *Audit of the Financial Statements of the Province* are listed below for ease of reference. They should be regarded in the context of the report.

The Office of the Auditor General recommends that:

Tangible Capital Assets

- *The government expedite recording in its financial statements the cost of land used for provincial buildings.*
- *On a timely basis, the government develop a central database of relevant information on all land owned by the Province.*
- *The government provide ministries with clear and detailed guidance on accounting for the capitalization of land.*
- *The government provide ministries with adequate training to enable them to consistently apply guidelines on accounting for tangible capital assets.*
- *In keeping with the substance of the agreement with PHH Vehicle Management Services Inc., the sales transaction be accounted for as a capital lease, and be recorded as an asset and a liability in the Province's financial statements.*

How Is the Cost of Parkland Determined?

- *The Province develop guidelines to help government negotiators and the Comptroller General determine which costs incurred when creating a park should be capitalized and which should be charged to normal operations.*

Gross Basis of Accounting

- *The government use the gross basis of accounting for the Consolidated Revenue Fund Financial Statements.*

Liability for Post-Retirement Benefits

- *A reasonable estimate of post-retirement benefits be included as a liability in the Summary Financial Statements of the Province.*

Insurance Risk Management Account (IRMA)

- *The Province account for all its liability for third-party insurance claims.*

Contributions to Government Organizations

- *The government account for payments to its organizations in a manner that reflects the substance of the transactions.*

Accounting Standards for Government Entities, Financial Statement Comparability in the Public Sector

- *The government include an appropriate note in the Province's financial statements and financial information it provides on health care to reflect the ownership of certain privately owned assets employed in providing health care services to British Columbians.*
- *The government conduct a comprehensive review of accounting for school districts, with the purpose of improving their financial accountability.*

part 2: report on province's financial management

provincial debt: comments on its reporting

provincial debt: comments on its reporting

The total debt of the Province of British Columbia has increased every year since the fiscal year ending in 1989/90. From March 31, 1990 to March 31, 1998 the debt almost doubled, from $16.3 billion to $30.3 billion. Last year the government's Budget '98 predicted that total debt would increase during fiscal 1998/99, to $31.2 billion.

The government's Budget '99 predicts that debt will be $32.0 billion as at March 31, 1999, and will increase again during fiscal 1999/2000 to $34.7 billion.

These comments relate to the Province's debt as at March 31, 1998, the latest audited information available, and refer to Budget '98. Where relevant, information from Budget '99 is also included.

The government, in its Debt Statistics for the 1997/98 fiscal year, published in December 1998, has reported on the key measures and indicators of public debt. Although there is debt information contained in other government publications, the annual Debt Statistics report remains the main source for information on debt. Exhibit 5.1 summarizes key measures and indicators we identified in 1991/92 as necessary for accountability on debt and on which the government has been reporting in recent years.

Exhibit 5.1

Measures and Indicators Recommended for Disclosure in the Public Accounts

1. Debt to revenue
2. Total provincial debt
3. Debt per capita
4. How debt changed
5. Why debt changed, including the operating deficit
6. Sources of borrowing
7. Interest bite
8. Debt to Gross Domestic Product
9. Total cost of debt servicing
10. Rate of interest

Debt Management Plan and Financial Management Plans

The government introduced its first debt management plan in Budget '95. Since then, it has provided new goals and benchmarks for debt in Budget '97 and again in Budget '98.

The following provides a brief history of the government's debt plans.

Budget '95 Debt Management Plan

In Budget '95, the government introduced its debt management plan and made a commitment to annually publish an audited debt management progress report. This it has done. The progress report was to provide information on debt measures and performance indicators, and match the provincial debt to the benchmarks set in the debt management plan.

At the time it was developed, the government stated the debt management plan was intended to be a long-term plan to harness and control the debt, and it represented a commitment by the government to repay the Province's direct debt and to cap and reduce the overall cost of debt.

The debt management plan adopted four key goals:

1. maintain British Columbia's credit rating as the highest of any province in Canada;
2. eliminate, over 20 years, the then $10.2 billion in debt incurred from previous budget deficits, by using budget surpluses to pay down debt;
3. reduce total taxpayer-supported debt as a share of British Columbia's Gross Domestic Product (GDP) from its 1994/95 level of 19.1% to 10.2% within 20 years; and
4. cap the interest cost of taxpayer-supported debt to ensure that this cost does not exceed 8.5% of provincial revenue in any year over the next 20 years (i.e. cap the interest bite).

In Budget '95, the government set specific benchmarks for each of the first five fiscal years of the debt management plan, and for five-year intervals after that to the year 2015. Although the plan was based on certain economic growth assumptions, the government committed itself to achieving its five-year benchmarks regardless of actual future economic performance.

Budget ’97 Financial Management Plan

In Budget ’97, the government determined that its projections for debt repayment were not achievable, and it replaced the debt management plan with a new financial management plan. The financial management plan’s “medium-term targets” were scheduled to take effect for the fiscal year ending March 31, 1998.

In Budget ’97, the financial management plan presented the following two goals:

1. capping the ratio of taxpayer-supported debt to GDP; and
2. capping the taxpayer-supported interest bite.

Budget ’97 provided specific “medium-term targets” for these goals up to the fiscal year 1999/2000. In addition, Budget ’97 discussed the government’s intentions with respect to the achievement of the following four goals, based on business and labour panel advice:

1. a ceiling of 20% for the ratio of taxpayer-supported debt to GDP, with the ratio falling to 15% by 2015;
2. a balanced operating budget;
3. a reduced direct debt over 20 years; and
4. a maximum taxpayer-supported interest bite of 9.0 cents per dollar of revenue.

With respect to the first goal, the panel advised that if the taxpayer-supported debt to GDP ratio ever exceeds 20%, then the government should provide a three-year fiscal plan showing how the ratio is to be brought down to 20%. The medium-term targets in Budget ’97 recognized this target, and predicted that the taxpayer-supported debt to GDP ratio would fall to 20% in fiscal year 1999/2000. The financial management plan also provided a table that projected the ratio of taxpayer-supported debt to GDP would decline to approximately 15% by the year 2015. However, no indication was given as to how these targets would be achieved.

The financial management plan also assumed balanced budgets or better, but did not plan for any substantial repayments of existing direct debt.

The debt management plan’s goal of British Columbia maintaining the highest credit rating of all provinces was not included in the new financial management plan. The credit rating of the Province is, nonetheless, an important measure of debt management and should be reported publicly. We think a useful goal would be the maintenance of a certain credit rating, regardless of what happens in other jurisdictions.

The Minister of Finance and Corporate Relations asked the Auditor General to provide an audit opinion on the benchmarks and other measures contained in the new financial management plan, starting with the 1997/98 fiscal year. The Auditor General's opinion appears in the Debt Statistics 1997/98 report that was published by the government in December 1998.

Budget '98 Financial Management Plan

In Budget '98, the government altered the financial management plan goals set only one year earlier. The government stated in Budget '98 that the unpredictability of the rate of economic growth makes it prudent for government to retain some flexibility when establishing targets based on GDP. The government feels it would then be able, during periods of economic slow-down, to accelerate capital investments to stimulate the economy. Accordingly, the government has added a three-year target range to guide the management of its taxpayer-supported debt to GDP ratio.

The latest goals of the financial management plan are as follows:

1. Limit the taxpayer-supported debt to GDP ratio to a target range of 19 per cent to 22 per cent over the next three years. (The target range will be reviewed annually to ensure that the limits remain appropriate and will be lowered as the level of taxpayer-supported debt to GDP declines.)
2. Limit the taxpayer-supported debt to GDP ratio at March 31, 1999 to 21.2 per cent.
3. Balance the operating budget in 1999/2000.
4. Maintain the 9.0 per cent cap on the cost of debt relative to provincial revenue.

Exhibit 5.2 compares the goals of the debt management plan from Budget '95 with the financial management plan goals from Budget '97 and Budget '98.

Several comments arise from the government's decision to alter its financial management plan.

Two reasons for having a debt plan are to achieve certain goals, and to be able to measure performance against those goals. Excessive modification defeats the purpose of having a plan in the first place. As well, it may erode public confidence in the reliability of the planning information government presents to the Legislative Assembly and the public.

Based on the new goals, it appears there is no longer "a long-term plan to harness and control the debt" as was stated in Budget '95. Today, the government seems to simply be providing the public with short-term estimates of debt, and debt benchmarks that are relatively dynamic in nature. While the measurements are certainly good information to provide on an annual basis, the new goals no longer provide meaningful long-term benchmarks which the government performance may be measured against. The current financial management plan is a short-term plan, similar to that provided in the government's annual Estimates.

With respect to the first and second goals referred to in the latest plan, the fact that the government may reduce the target range of taxpayer-supported debt to GDP in the future begs the question, "will they increase the range, and the cap, if taxpayer-supported debt to GDP increases?" Budget '98 discusses the possibility of increasing capital investment (i.e. increasing debt) during times of slower growth (i.e. low GDP growth). This combination of events would almost certainly

Exhibit 5.2

Comparison of Goals in the Various Debt Management Plans

A comparison of goals which were to be achieved by the government's Debt Management Plan (Budget '95), and Financial Management Plans (Budget '97 and Budget '98)

Published Goals and Other Information	Debt Plan Management Plan (Budget '95)	Financial Management Plan (Budget '97)	Financial Management Plan (Budget '98)
Stated length of plan	20 years	3 years	3 years
Credit rating relative to other provinces	Highest	N/A	N/A
Direct (operating) debt of the Consolidated Revenue Fund	Eliminate over 20 years	Reduce over 20 years	N/A
Taxpayer-supported debt as a percent of provincial GDP	Reduce to 10.2% by 2015	Cap at 20% Reduce to 20% by 2000 Reduce to 15% by 2015	Target range of 19% to 22% until 2001 Limit to 21.2% as at March 31, 1999
Taxpayer-supported interest expense per dollar of revenue (interest bite) (cents)	Cap at 8.5 until 2015	Cap at 9.0	Cap at 9.0
Operating results—surplus or deficit	Surplus	Balanced	Balanced in fiscal 1999/2000

increase the taxpayer-supported debt to GDP ratio. (Budget ’99 confirms that increasing debt combined with very slow GDP growth has resulted in estimated increases in taxpayer-supported debt to GDP. Budget ’99 predicts taxpayer-supported debt to GDP to increase from 20.1% as at March 31, 1998 to 21.3% and 23.9% as at March 31, 1999 and 2000, respectively. The government will not meet its goal of limiting the taxpayer-supported debt to GDP rate to 21.2% as at March 31, 1999, nor does it expect to limit the rate to 22% for all three years ending March 31, 2001.)

The government’s taxpayer-supported debt to GDP goal is a useful long-term trend ratio; however in the short-term the level of GDP can be somewhat unpredictable. Perhaps, instead of providing short-term taxpayer-supported debt to GDP goals, the government should focus on a long-term taxpayer-supported debt to GDP goal. The government could then provide targets with respect to how much total debt will change during the fiscal period, and report the trend of taxpayer-supported debt to GDP as a measure of their performance. If the government’s goal was, for example, to reduce the taxpayer-supported debt to GDP ratio to 15% by the year 2015, then it needs to work towards that goal, either each year, or over a short business cycle. This means that the rate of increase in debt must be less than the rate of increase in GDP over that time. Exhibit 5.9 provides the trend of total provincial debt to GDP over the 20 years from 1981 to 2000 (figures for 1999 and 2000 are from Budget ’99).

Also with respect to the first goal, it is difficult to judge whether or not a taxpayer-supported debt to GDP ratio of 19% to 22% is reasonable or not. The plan does not provide enough information to determine how this figure was chosen, nor whether this ratio can be sustained. Ultimately, more information is needed to judge whether or not these goals are reasonable.

The third goal is to balance the CRF operating budget in 1999/2000. Budget ’97 had projected a balanced CRF budget for 1998/99. Budget ’98 then predicted the 1998/99 fiscal year to have a $95 million deficit and a balanced budget in 1999/00. Budget ’99 now predicts a CRF deficit of $544 million in 1998/99 and a deficit of $890 million in 1999/00. Regardless, the goal of balancing the operating budget should be based on the Summary Financial Statements. The Summary Financial Statements are the best gauge to determine whether the Province has a surplus or a deficit, because the Summary Financial Statements report all operations over which the government has control, not simply the operations of central government.

Goal four has not changed from the previous plan. The low interest rates in Canada for the last several years have helped the government to meet this target.

The new financial management plan goals do not include the goal of reducing the direct debt. This is understandable, given recent changes in the reporting of debt. As of April 1, 1998 the British Columbia School Districts Capital Financing Authority and the British Columbia Educational Institutions Capital Financing Authority ceased operations. The British Columbia Regional Hospital Districts Financing Authority ceased operations as of March 31, 1999. This will cause the debt of education and (a portion of) health facilities to be reclassified for financial statement purposes as direct debt, rather than fiscal agency debt. Since the government has stated that it plans to continue construction of schools and hospitals, it would be difficult to reduce direct debt as it is now reported. However, the government should still maintain a distinction between debt used for government operating purposes, and debt used for capital spending.

The reason that the debt of hospital districts is not being taken into direct debt until March 31, 1999 is that a portion of the funding for the debt servicing and repayment of this debt comes from regional hospital districts. It had to be determined how the Authority's debt was to be divided. A portion (approximately 40%) of the debt is being transferred from debt owed by the hospital districts to the government to debt owed to the Municipal Financing Authority. Since the regional hospital districts are not currently included in the Summary Financial Statement entity, this will have the effect of reducing total and taxpayer-supported debt. The government will also assume all the debt of the Greater Vancouver Regional Hospital District (increasing debt), and will transfer a portion of BC Transit's debt to the newly created Greater Vancouver Transportation Financing Authority as at March 31, 1999 (reducing debt).

One should also note that the Financial Management Plan relates only to taxpayer-supported debt. Over the past several years, our Office has ensured that the relevant debt ratios and benchmarks are also shown on a total debt basis. In effect, commercial enterprises may borrow to help government reduce its taxpayer-supported debt. For example, commercial enterprises may borrow funds in order to pay a dividend to the Province. The Province could then use these funds to pay down taxpayer-supported debt. We are pleased that the government continues to provide, in the Debt Statistics report, its debt measures and indicators on both a total and taxpayer-supported basis. A further improvement to the information provided would be a comparison of the current year's measures and indicators to those estimated in the previous budget documents.

Budget '99 and the Financial Management Plan

Budget '99 does not discuss the financial management plan. This is unusual because the Budget has discussed either the debt management plan or the financial management plan each year since its inception in 1995. One would expect that the government would at least provide a comparison of the planned and actual results, and discuss any variances therefrom.

One area where debt is discussed in Budget '99 is in a topic box on page 44. The "Five Year Fiscal Planning Framework" states that it "provides a five-year framework within which government will manage revenues, expenditures and debt levels." The topic box states that the business community has recommended the adoption of new debt targets. It also provides that one of the government's "Fiscal Planning Principles" is that debt levels must remain affordable. The topic box then goes on to say that over the next five years of the fiscal planning framework the taxpayer-supported debt to GDP range has been set at between 22% and 27%.

It appears that the government has changed one of the goals of the financial management plan (the planned ratio of taxpayer-supported debt to GDP). However, it is unclear whether or not the financial management plan has been abandoned, or whether it has been replaced with the "Five Year Fiscal Planning Framework."

Debt Related to Skeena Cellulose Inc.

During the 1997/98 fiscal year the government became involved with Skeena Cellulose Inc. (Skeena), a forest products company located in northern British Columbia. Skeena, a privately held company, was in financial difficulty and in danger of shutting down. The government decided that it would help to keep the company operating by providing loans and other guarantees. One result of the government's involvement was that the Province acquired, through its subsidiary 552513 British Columbia Ltd., a majority ownership interest in Skeena.

This section of our report will focus on how Skeena's debts to its two major creditors were restructured, and how this impacted the total Provincial debt.

As at March 31, 1998 the restructuring of the debt and ownership of Skeena increased total provincial debt, as reported in the Debt Statistics 1997/98 report, by $157.1 million. The source of this debt was the consolidated accounts of 552513 British Columbia Ltd. (552513).

At the time Skeena ran into financial difficulty, its two major creditors were the Royal Bank and the Toronto Dominion (TD) Bank. These two banks had loaned Skeena a total of $414 million, made up of a $255 million bond, other term debt of $75 million and an operating loan of $84 million. As noted in Exhibit 5.3 under “old debt,” each bank had loaned Skeena an equal amount.

When Skeena was declared insolvent, ownership of the company shares was transferred to Royal Bank and TD Bank. There were fears the company would cease to operate.

The Royal Bank did not want to be involved in operating Skeena, and was willing to sell its shares in the company. The government formed 552513 as a Crown corporation, and then 552513 and the TD Bank formed a joint venture known as SCI Ventures. 552513 eventually became the majority shareholder of Skeena, with a 65.6% interest, while the TD Bank became a minority shareholder with a 34.4% interest. See Exhibit 5.3 for a simple ownership diagram and a listing of “new debt.”

The Royal Bank’s shares in Skeena were transferred to 552513 in exchange for 552513 (via SCI Ventures Inc.) purchasing the Royal Bank’s loans to Skeena. The Royal Bank received $31.3 million for its $37.5 million term loan and $42.0 million operating loan. The TD Bank provided the funds, with a guarantee of repayment by the Province.

The TD Bank’s $37.5 million and $42.0 million loans remain payable to the bank in the financial statements of 552513.

Skeena’s $255 million debt to the Royal Bank and TD Bank was effectively written off, by exchanging the bonds, now payable to SCI Ventures Inc. and TD Bank, with deep-discount promissory notes (discounted to zero), with zero interest payable and the principal due in 99 years. It will be amortized upwards, at a rate of $2.58 million per year, until it reaches maturity in 99 years.

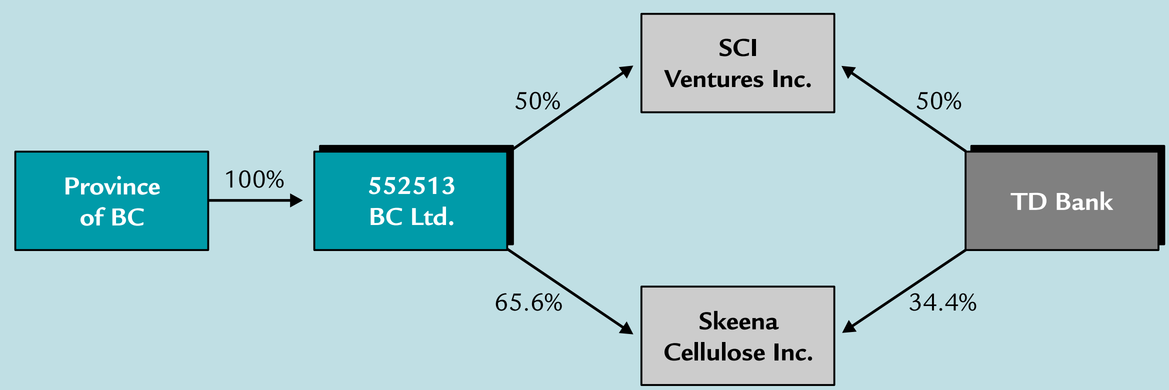
Other funds were also borrowed in order for Skeena to continue operations. These included:

- a $28.8 million line of credit from the TD Bank, which was partially guaranteed by the Province of British Columbia;

Exhibit 5.3

The Impact of Skeena Cellulose Inc. on Provincial Debt

A basic diagram of the ownership of Skeena Cellulose Inc. as at March 31, 1998. The table lists the debts owed by Skeena Cellulose Inc. to its two major creditors before restructuring ("old debt"), and the debt recorded by consolidated 552513 British Columbia Ltd. in Debt Statistics 1997/98 as at March 31, 1998 ("new debt")



"Old debt" ($ Millions)	Creditor	"New debt" ($ Millions)	Creditor
37.5	Royal Bank	31.3	TD Bank (guaranteed by the Province of BC)
37.5	TD Bank	37.5	TD Bank
42.0	TD Bank	42.0	TD Bank
127.5	TD Bank	0	TD Bank[1]
127.5	Royal Bank	0	SCI Ventures Inc.[1]
		28.8	TD Bank ($17.1 million guaranteed by the Province of BC)
		13.1	TD Bank (guaranteed by the Province of BC)
		1.3	TD Bank
		3.1	Province of BC fiscal agency loan
Total $414.0		$157.1	

(1) Deep-discount promissory note

- a $13.1 million loan from the TD Bank, guaranteed by the Province of British Columbia, in order to pay unsecured creditors;
- a $1.3 million loan from the TD Bank; and
- a $3.1 million Province of British Columbia fiscal agency loan.

As 552513 has a majority ownership in Skeena, and 552513 is fully owned by the Province of British Columbia, all of the debt of 552513 is included in the Province's total debt. This includes $3.1 million of fiscal agency loans, $61.5 million in guaranteed debt, and $92.5 million of non-guaranteed debt. The Debt Statistics 1997/98 reports 552513's debt at $157.1 million, $92.5 million of which is included in the non-guaranteed debt section.

In contrast, since 552513 is recorded by government as a modified equity enterprise, the Summary Financial Statements report $3.1 million dollars of debt on the balance sheet, while $61.5 million is disclosed in the commitments and contingencies note.

The debt of 552513 is recorded in the Debt Statistics 1997/98 report as self-supporting debt. A footnote to the Summary of Provincial Net Debt alerts the reader to the fact that "future profitability is uncertain due to the volatility of world pulp prices and their potential impact on Skeena Cellulose Inc." Our Office has accepted this presentation of debt for the time being. However we will monitor the profitability of Skeena Cellulose Inc. to determine whether it should be reclassified as taxpayer-supported debt.

As noted earlier, this section deals only with Skeena's effect on total provincial debt. It does not measure the total cost of Skeena to the taxpayers of British Columbia. For example, the increase in debt does not measure any grants or contributions paid to Skeena, nor does it measure any concessions made in the payment of Provincial stumpage fees or Municipal property taxes by Skeena. It should also be noted that if Skeena were to cease operations, the non-guaranteed debt may be borne by the minority shareholder.

Budget '99 forecasts that the debt of 552513 will increase from $157.1 million as at March 31, 1998 to $224.7 million as at March 31, 1999 (actual increase $185 million). Budget '99 also estimates that 552513's debt will increase to $319.3 million by March 31, 2000, which is more than double the amount outstanding as at March 31, 1998.

Debt Measures and Indicators

In the past few years, the government has published information on the measures and indicators of provincial debt that we believed would provide adequate information on debt. We discuss some of these below under the headings "Total Provincial Debt," "Changes in Debt," "Financial Well-being of the Province," and "Cost of Debt Servicing."

In the 1996/97 fiscal year, the government changed the composition of its reporting entity by excluding from it all health care organizations, regional hospital districts, universities, colleges and institutes, and school districts (the S.U.C.H. sectors). It is our opinion that the Summary Financial Statements should include the S.U.C.H. sectors. Currently, the Budget Process Review Panel has been asked by the government for advice on which public sector bodies should be included in government's annual budget plan and reports.

The government's debt measures and indicators exclude the S.U.C.H. sectors. However, except for the "debt to revenue" ratio (see page 104), this change has not caused a significant difference in the reporting of debt measures and indicators. For the purpose of this report, debt measures and indicators are based on the reporting entity that includes the S.U.C.H. sectors.

Unless specifically referred to otherwise, all references to debt in this report are to the debt net of sinking funds.

Total Provincial Debt

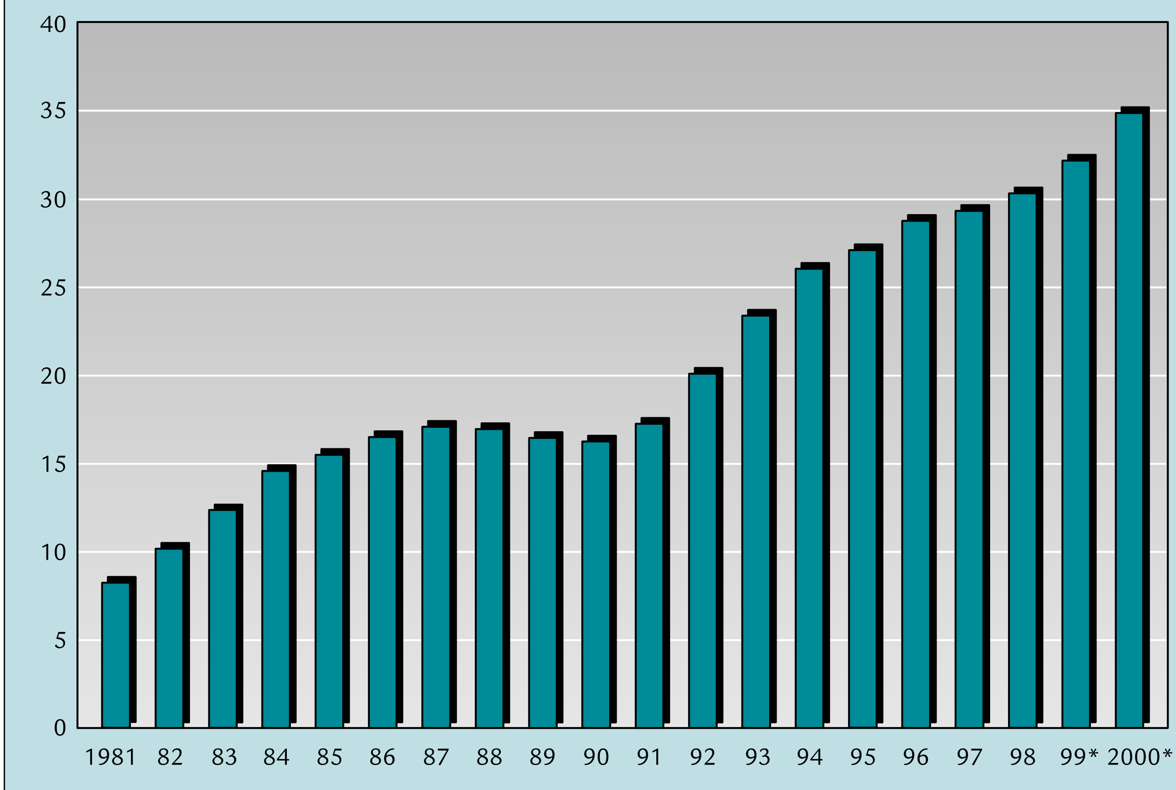
The total debt of the Province of British Columbia increased from $29.3 billion in 1997 to $30.3 billion in 1998. Exhibit 5.4 shows the total provincial debt for the 20 years ending March 31, 2000 (figures for 1999 and 2000 are from Budget '99). As mentioned previously, Budget '99 predicts total debt to increase in the fiscal years ending in 1999 and 2000 to $32.0 billion and $34.7 billion, respectively.

The total debt of the Province is composed of amounts borrowed for the operation of the central government (direct), for the warehouse borrowing program, for government agencies, and for third-party debt guaranteed by the government. Exhibit 5.5 shows a breakdown of direct, warehouse, agency, and third-party guaranteed debt as at March 31, 1998. Total provincial debt at that date was $30.3 billion, and consisted

Exhibit 5.4

Total Provincial Debt

Total debt for the 20 years 1981 to 2000 ($ Billions)



*Figures per Budget '99

Source: The Public Accounts; Ministry of Finance and Corporate Relations, Debt Management Branch

of the $29.1 billion in debt reported in the Summary Financial Statements, together with $0.8 billion in additional debt of "government enterprises," $0.2 billion in third-party guaranteed debt and $0.2 billion in debt of the S.U.C.H. sectors.

Two important indicators of trends in provincial debt are "debt per capita" and "debt to revenue."

Exhibit 5.5

Total Provincial Debt

Details of gross and net debt as at March 31, 1998 ($ Millions)

	Gross Debt	Sinking Funds & Unamortized Discounts	Net Debt	
Direct debt of Consolidated Revenue Fund	12,734	1,261	11,473	
				11,473
Debt of Warehouse Borrowing Program	210	(2)	212	
				212
Debt of government agencies[1]				
552513 British Columbia Ltd.	158	–	158	
BC Transportation Financing Authority	1,107	17	1,090	
British Columbia Assessment Authority	5	–	5	
British Columbia Buildings Corporation	899	164	735	
British Columbia Ferry Corporation	843	48	795	
British Columbia Housing Management Commission	52	–	52	
British Columbia Hydro and Power Authority	8,404	1,170	7,234	
British Columbia Railway Company	518	14	504	
British Columbia Transit	1,921	343	1,578	
Capital Project Certificate of Approval Program	174	–	174	
Columbia Basin Trust	47	–	47	
Columbia Power Corporation	48	–	48	
Educational Institutions	2,042	548	1,494	
Improvement Districts	8	4	4	
Liquor Distribution Branch	3	–	3	
Pacific National Exhibition	3	–	3	
Pacific Racing Association	6	1	5	
Provincial Rental Housing Corporation	122	–	122	
Regional Hospital Districts	2,152	672	1,480	
School Districts	3,660	741	2,919	
Victoria Line	2	–	2	
				18,452
Third–party guaranteed debt[1]				**200**
Total provincial net debt[2]				**30,337**

[1]Debt of government agencies and third-party guaranteed debt is extracted from the audited accounting records of the Ministry of Finance and Corporate Relations as at March 31, 1998, where possible, and otherwise is taken from the most recent financial statements of the agency.

[2]Debt includes regular borrowings, notes payable, capital leases, mortgages, and minority interests.

Source: The Public Accounts; Ministry of Finance and Corporate Relations, Debt Management Branch

Debt Per Capita

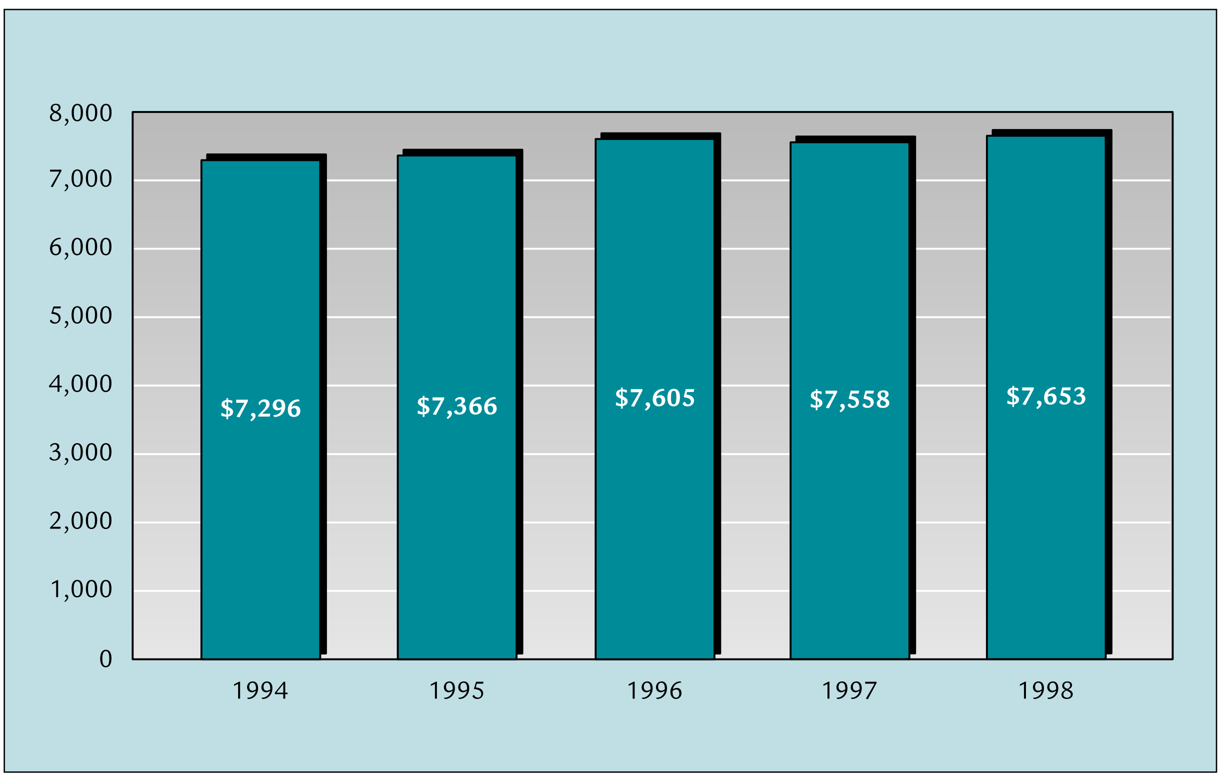
As a performance indicator, the debt per capita shows the average amount of provincial debt owing by each British Columbian. It is calculated by dividing the total debt of the Province by the population of the Province.

Each British Columbian's share of the provincial debt increased from $7,558 to $7,653 between 1997 and 1998. The explanation for this is that the rate of increase in debt is higher than the rate of increase in population. Exhibit 5.6 shows the debt per capita for the five years ending March 31, 1998.

Exhibit 5.6

Debt per Capita

Average share of provincial debt of a person living in British Columbia, 1994 to 1998



Source: The Public Accounts and Ministry of Finance and Corporate Relations for debt; B.C. Statistics for population

Debt to Revenue

Another frequently used trend indicator is debt to revenue. Calculated as the ratio of debt outstanding at year end compared to revenue from all sources for that year, it indicates how many years of revenue it would take to repay the provincial debt. Comparing this ratio for the 1996/97 fiscal year (94.6%) to that of the 1997/98 fiscal year (95.2%) shows that during 1997/98 the rate of increase in debt was higher than the rate of increase in revenue.

The total revenue figure used in calculating the above ratio for 1997/98 is approximately $1.3 billion larger than that used by the government to arrive at its 98.8% ratio. The $1.3 billion reflects additional revenue generated by the S.U.C.H. sectors.

Changes in Debt

To understand why debt has been incurred, it is useful to understand both the uses and sources of borrowing. A statement of changes in debt should explain why and from whom the Province has been borrowing.

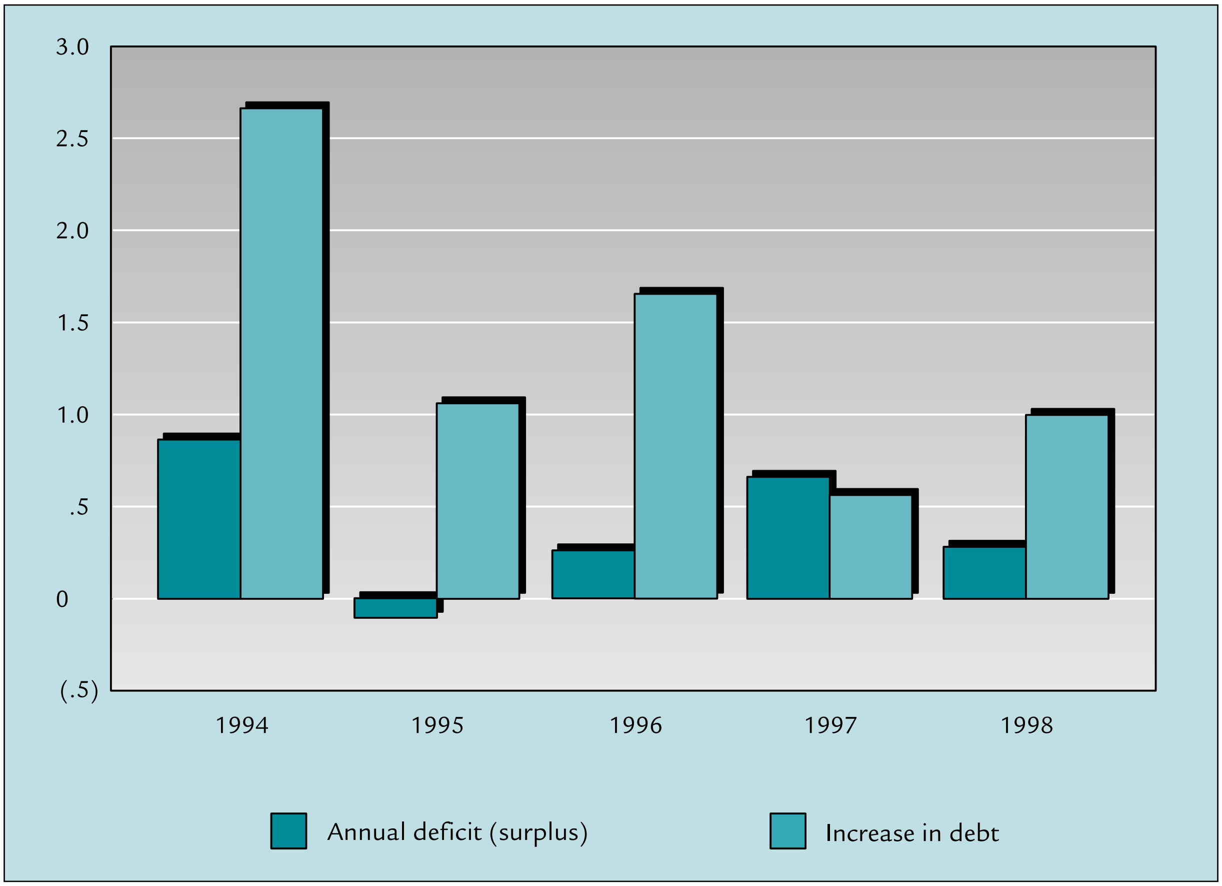
Total debt of the Province increased by $998 million during the 1997/98 fiscal year. One reason for this increase could be the financing of the annual deficit of the government. In addition, a government may borrow to finance capital asset acquisitions, new investment and lending, or simply to have funds available for future needs.

Exhibit 5.7 shows the annual change in total provincial debt compared to the annual deficit. As noted in last year’s report, during 1997 the government, in addition to borrowing approximately $555 million, drew down $795 million of funds it had borrowed and kept unused (warehouse borrowing). Warehouse borrowing increased the total debt during 1996, but was not put to use until 1997. For 1998, the increase in government debt includes $112 million that the government has borrowed and warehoused for future use.

Exhibit 5.7

Deficit Compared to Debt

Annual deficit (surplus) compared to the annual increase in total provincial debt, 1994 to 1998 ($ Billions)



Source: The Public Accounts. Deficit (surplus) figures have been restated to conform to the entity basis used in this report.

Exhibit 5.8 shows the increase in provincial debt, providing a breakdown of the changes in direct debt, warehouse debt, government agency debt, and third-party guaranteed debt during the 1997/98 fiscal year. A complete statement of changes in debt would include a listing of the sources and uses of current borrowings, such as debt repayment, financing of annual operating deficit, lending, warehousing, and capital spending. The government has started annually providing some information about changes in debt. We encourage it to continue, and to improve, the reporting of those changes.

Financial Well-being of the Province

As more money goes to pay the interest on debt, less money is left over to pay for government programs such as health care, education, and social services. This “crowding out” effect can seriously hamper fiscal decision-making and become an obstacle to government meeting its program objectives.

The government would like to pay the lowest amount possible for interest on debt. One of the programs used for this efficient management of the debt is called “warehousing.” Warehousing involves borrowing money before it is required and investing it, preferably at a higher rate of interest, until it is needed. Warehousing is most effective when the government expects borrowing costs to increase in the near future. This could be due to rising interest rates or to potential instability in borrowing markets which could make it difficult to obtain funds when required.

At the end of the 1997/98 fiscal year, the government had $212 million in warehouse debt (in 1996/97 it was $100 million). The Summary Financial Statements of the Province show the warehouse debt liability and its associated investment assets separately. This accounting treatment is appropriate because of the potential risks associated with a possible decrease in the market value of the temporary investments purchased using warehoused monies and, we think, should be continued. Though it is included in the Province’s total debt, the warehoused debt is not included in calculating the taxpayer-supported measures and indicators. We agree with the government that it is appropriate to adjust for the warehousing debt, its borrowing cost, and any income it earned while awaiting its final use. This treatment ensures that measures taken by the government to reduce the cost of borrowing are reflected accurately by the Province’s taxpayer-supported debt indicators.

Two indicators of the Province’s financial well-being are the “interest bite” and “debt to Gross Domestic Product.”

Exhibit 5.8

Changes in Total Provincial Debt

Detailed list of change in total provincial debt in the 1997/98 fiscal year ($ Millions)

	Debt as at March 31, 1998	Debt as at March 31, 1997	Increase/ (Decrease) in Debt
Direct debt of Consolidated Revenue Fund	**11,473**	**11,031**	**442**
Debt of Warehouse Borrowing Program	**212**	**100**	**112**
Debt of government agencies			
552513 British Columbia Ltd.	158	–	158
BC Transportation Financing Authority	1,090	921	169
British Columbia Assessment Authority	5	6	(1)
British Columbia Buildings Corporation	735	736	(1)
British Columbia Ferry Corporation	795	685	110
British Columbia Housing Management Commission	52	41	11
British Columbia Hydro and Power Authority	7,234	7,477	(243)
British Columbia Lottery Corporation	–	4	(4)
British Columbia Railway Company	504	412	92
British Columbia Systems Corporation	–	19	(19)
British Columbia Transit	1,578	1,538	40
Capital Project Certificate of Approval Program	174	172	2
Columbia Basin Trust	47	48	(1)
Columbia Power Corporation	48	51	(3)
Educational Institutions	1,494	1,530	(36)
Improvement Districts	4	3	1
Liquor Distribution Branch	3	3	–
Pacific National Exhibition	3	3	–
Pacific Racing Association	5	6	(1)
Provincial Rental Housing Corporation	122	111	11
Regional Hospital Districts	1,480	1,415	65
School Districts	2,919	2,789	130
Victoria Line	2	2	–
	18,452	**17,972**	**480**
Third-party guaranteed debt	**200**	**236**	**(36)**
Total provincial debt	**30,337**	**29,339**	**998**

Source: The Public Accounts; Ministry of Finance and Corporate Relations, Debt Management Branch

Interest Bite

The interest bite shows how much of each dollar of the Province's total revenue is used to pay for debt servicing costs. It is a ratio, calculated by dividing the total cost of borrowing into total revenue. Should an increasing portion of the revenues of the Province be used each year to pay interest on debt, less money would be left to provide services to taxpayers. Thus, the interest bite gives an indication of the fiscal flexibility of the Province.

We calculated the interest bite of the Province to be approximately 7.2 cents in 1998 (compared to 7.7 cents in 1997). This means that the rate of increase in revenue has been higher than the rate of increase in debt servicing costs. The government has reported the interest bite for 1997/98 as 7.6 cents per dollar. The slight difference is due to accounting for the S.U.C.H. sectors.

Debt to Gross Domestic Product

The Province's ability to service its debt relates primarily to both its economy and the magnitude of its debt. Gross Domestic Product (GDP) is a calculation of economic production. The debt to GDP indicator compares total net debt outstanding at year end to the annual GDP of the Province. Exhibit 5.9 shows the total net debt of the Province as a percentage of GDP for the 20 years ending March 31, 2000 (figures for 1999 and 2000 are from Budget '99).

The debt to GDP ratio remained at 27.7% for the fiscal years ending in 1997 and 1998, which shows that debt increased at the same rate as the provincial economy grew during the 1997/98 fiscal year. Budget '99 predicts the ratio of debt to GDP to increase in the fiscal years ending in 1999 and 2000 to 29.6% and 31.7%, respectively.

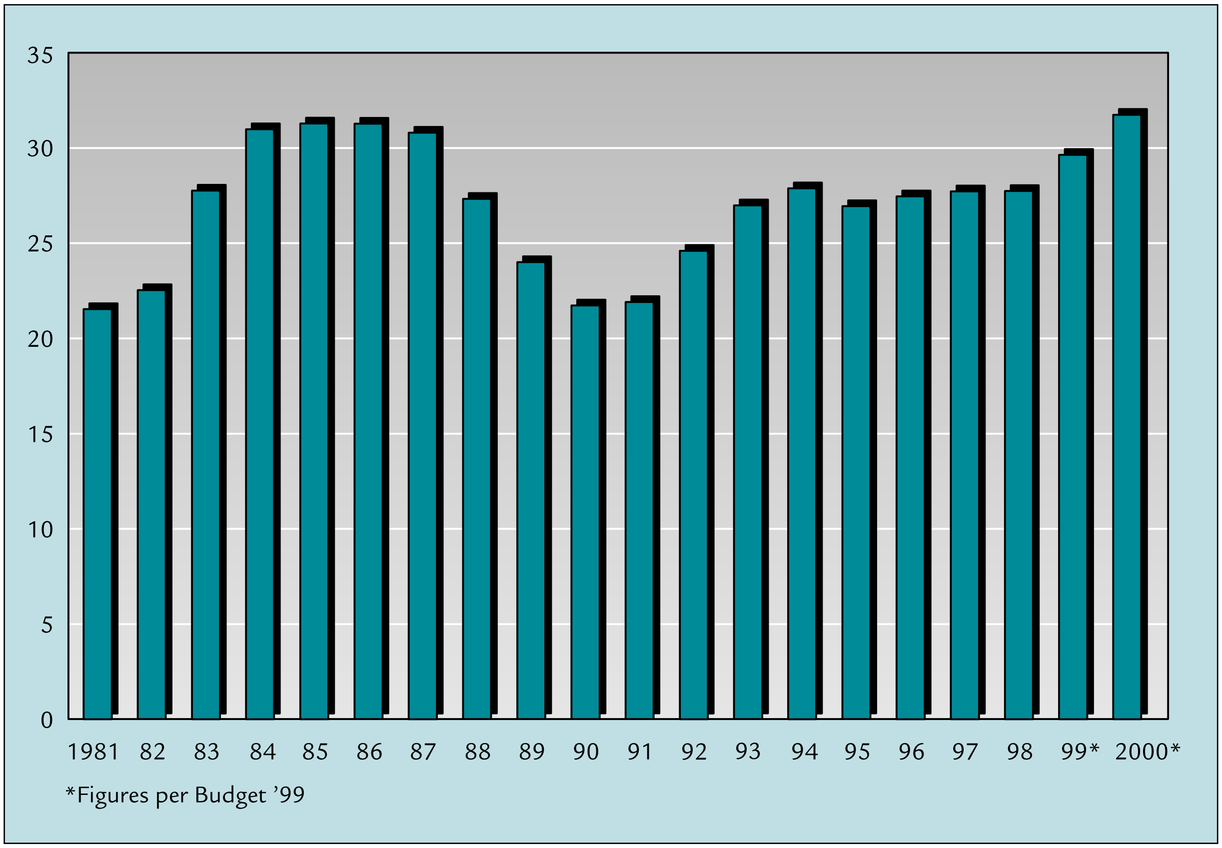
Cost of Debt Servicing

The cost of debt servicing, or the Province's cost of borrowing money, represents the interest paid on debt plus incidental costs associated with the administration of debt, less investment income from sinking funds.

Exhibit 5.9

Debt to Gross Domestic Product (GDP) Ratio

Provincial debt as a percentage of GDP in British Columbia, 1981 to 2000



Source: The Public Accounts and Ministry of Finance and Corporate Relations for debt; B.C. Statistics for B.C. GDP

The Summary Financial Statements for the 1997/98 fiscal year reported the annual debt servicing expense as $2,198 million (compared to $2,219 million in 1996/97). This is not, however, the Province's total cost of debt servicing because it does not include government enterprises and the S.U.C.H. sectors. By adding these costs to those reported in the Summary Financial Statements, the total cost of debt servicing would be $2,302 million in 1997/98 ($2,400 million in 1996/97).

Conclusion

We are pleased to note that the government intends to continue to report on the public debt, disclosing key measures and indicators on debt.

We believe that there is still room for improvement in the reporting of changes in debt.

We also believe that if the government intends to maintain the financial management plan, then it should not make frequent changes to the plan goals. Excessive modification may defeat the purpose of having a plan in the first place. The government should also provide a better explanation of the assumptions that support its financial management plan, and discuss contingencies should significant assumptions fail to be realized. As well, we believe the government should provide a financial management plan that can be measured and will be achievable in the years to come.

part 3: report on province's financial systems and controls

introduction

"Control comprises those elements of an organization (including its resources, systems, processes, culture, structure and tasks) that, taken together, support people in the achievement of the organization's objectives."

The Criteria of Control Board, Canadian Institute of Chartered Accountants

Reliance on effective controls—those established by management to support the success of the organization—make eminent sense to an auditor. Reliable controls provide the auditor with the confidence that a risk of errors occurring is low, and that if they occur they will likely be detected quickly. In an environment such as this, the auditor can usually provide his or her audit assurance with less detailed testing of individual transactions. This is the essence of an efficient audit.

In our financial auditing, we have moved increasingly away from extensive and costly transaction-based examinations to more focused, risk-based evaluations. We have been able to do this where we note that government places appropriate emphasis on controls, including those over resources, systems, processes, organizational culture, structure, and tasks.

Only by constantly familiarizing ourselves with all significant aspects of government's business, and methodically assessing the risk of errors occurring and the effectiveness of controls to prevent and detect errors, are we able to determine how much we can rely on controls. Both maintaining sufficient knowledge of government's business and evaluating controls are therefore integral parts of our financial auditing. Not all systems are reviewed annually. Instead, we plan to cover key systems on a rotational basis and as our resources permit. In an effort to enhance government financial accountability, in this section we report to the members of Legislative Assembly and the public on matters of interest resulting from these tasks.

This year we again comment on topics that have significant control implications for years to come.

They are:

corporate accounting system (CAS): update

A review of processing controls in the CAS Generic Interface and of progress in completing Phase II of the Corporate Accounting System

Overall Evaluation

We are pleased to report that, based on our review of the CAS Generic Interface (CGI), there are controls in place to ensure the authorization, accuracy and completeness of transactions processed by the interface. We note that the successful operation of these controls depends on actions and procedures carried out at the ministry level, as well as at the CAS office, and have made certain recommendations aimed at clarifying the responsibilities of each. These recommendations have been accepted by the CAS Initiative.

We are also pleased to report that the CAS Initiative has made good progress in meeting its Phase II objectives. We understand that, since the time of our review, the CAS office and a number of ministries have implemented the new accounting software successfully. The CAS office is now looking forward to the implementation of this software in all ministries over the next two years.

background

Development of the government-wide Corporate Accounting System (CAS) was approved as a project in 1989, and undertaken by the Office of the Comptroller General. In early 1993, the general ledger and accounts payable functions of CAS were successfully implemented in a small number of "pilot" ministries, using the Walker Integrated Interactive software. In the same year, however, an attempt to link the remaining ministries to the Walker system failed, at a significant cost to the government. Following this setback, little progress was made until 1996. In April of that year, a new Executive Steering Committee was formed. It initiated a review of the project—what is now generally referred to as the CAS Independent Review. With government's acceptance of the recommendations in that review, the CAS project regained momentum. This momentum received a further boost as government realized the cost-effective solution that the project offered to Year 2000 problems in some ministry systems.

Since our last update, significant progress has been made in CAS. The CAS Generic Interface (CGI), a system to link existing non-CAS ministry financial systems to CAS, was successfully implemented on April 1, 1998, replacing the 20-year-old Central Batching System. This was one of the major recommendations of the CAS Independent Review. Implementation of the CGI also marked the substantial completion of Phase I of CAS (representing the period from the release of the Independent Review in October 1996 until April 1998, when the CGI was implemented). During this phase, CAS addressed the stabilization of operations and the Year 2000 issue.

Phase II of CAS (also called the Orca project) addresses critical business requirements, including development of additional functions and the extension of CAS to additional ministries. This phase, initiated in October of 1997, has three primary objectives:

- to implement CAS in the Ministries of Forests and Transportation and Highways;
- to create a foundation for a truly government-wide financial accounting system; and
- to implement a corporate asset management application.

Implementation was scheduled for April 1, 1999. We understand the CAS management team has substantially achieved these Phase II objectives.

This is the sixth year we have commented on CAS. For this update report, we reviewed the processing controls built into the CGI and studied the progress in Phase II. With respect to the CGI, we were seeking assurance that the interface processes transactions completely and accurately and that only authorized transactions are accepted. With respect to Phase II, we have provided a summary of its status and developments since our last review. We postponed examining the internal controls built into Phase II because of project-related deadline pressures in the CAS office and ministries, and because of a risk and control review being in progress.

Our review work, for this update, took place during November and December of 1998.

Review of the CAS Generic Interface

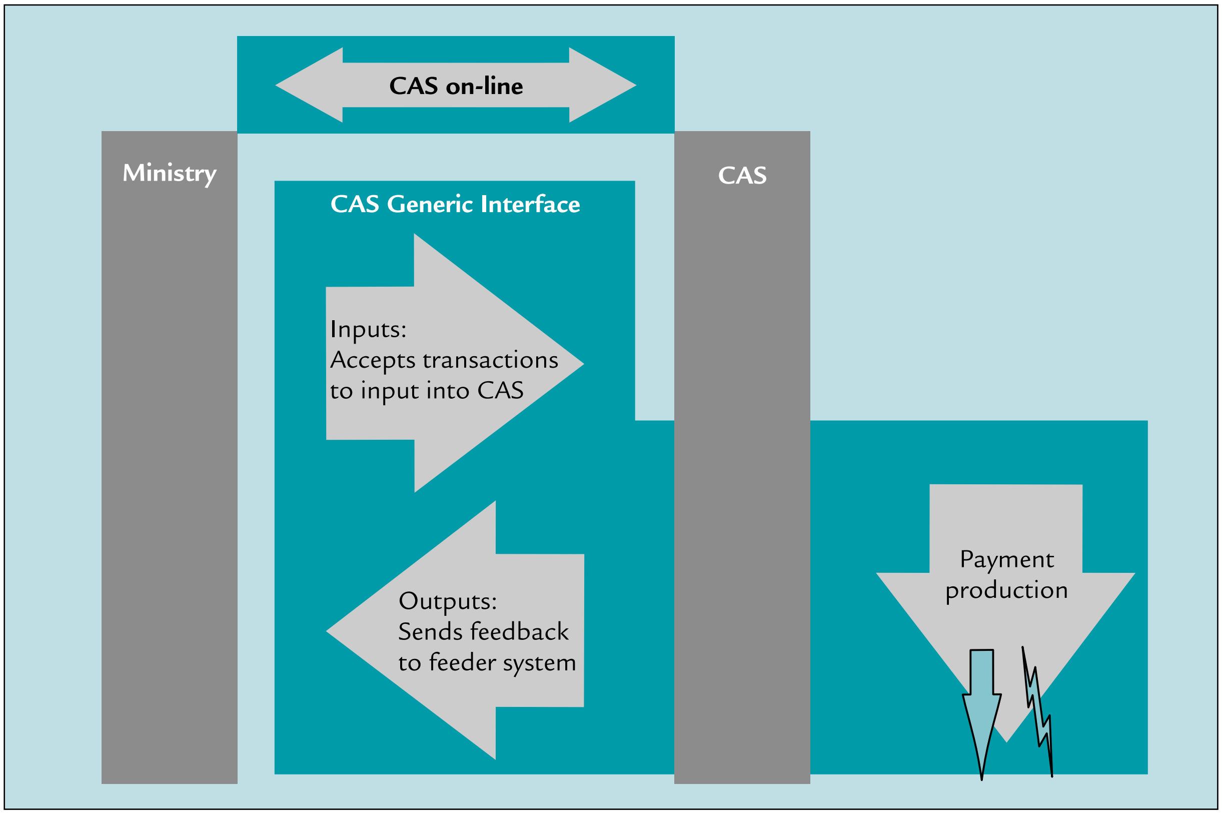
The CAS Generic Interface (CGI) was brought into operation on April 1, 1998, linking all non-CAS ministries to the government's general ledger and accounts payable functions. The CGI also generates payments for a significant amount of program expenditures. Approximately 75% of the government's transactions, representing 45% of the government's expenditures, pass through the CGI, making it a critical component of the government's financial accounting system.

How the CGI works

Ministries not currently on-line with CAS must be able to access CAS to generate payments and record their transactions in the CAS general ledger (see Exhibit 6.1). These ministries compile the data from their own financial systems, and then transfer it via the CGI to the CAS payment production facility and/or the CAS general ledger. The CGI encrypts the data for security while it is in transit. Since ministry systems do not currently use a common format for data, each ministry must have its own interface to convert its data to a single format, readable by the CGI. The format used by the CGI is an industry standard for electronic data interchange (EDI). After the data has been transferred, the CGI converts it again to the format accepted by the central (CAS/Walker) system. Once CAS has processed the transactions, reports are sent back to the ministries providing the status of all transactions. These reports are used to ensure that all the transactions have been processed as intended.

Exhibit 6.1

An Overview of the CAS Generic Interface



Source: CAS Initiative Office

Purpose of the review of the CGI

The purpose of our review was to provide assurance that the application and environmental controls around the CGI are sufficient to ensure that transactions processed through the interface are authorized, accurate and complete.

Scope of review

In this review we traced the application control procedures built into the CGI from the time a transaction is submitted by a ministry until processing is complete and the ministry has been notified of the status of the transaction. We examined the evidence indicating that all transactions submitted were authorized and processed accurately and that those rejected were reported back to the submitting ministry. Processing in this case means that the transaction data has been converted to CAS-readable format and accepted by CAS for posting. The assurance gained through our review covers only the time at which we evaluated the control procedures.

We also evaluated some environmental controls at the CAS office, but did not include other environmental controls (those common to government systems in British Columbia) in the scope of this review. Our main focus was on the application controls specific to the CGI, noted above.

Approach

In planning this review, we referred to the “Information Technology Control Guidelines” published by the Canadian Institute of Chartered Accountants and the “Control Objectives for Information and Related Technology” published by the Information Systems Audit and Control Foundation.

In carrying out the review, we relied on information obtained through interviews with, and documentation received from, both CAS and ministry staff. We tested a sample of system edit checks by reviewing ministry batches processed in the normal course of business, and by submitting a test batch of transactions containing known errors to a copy of the system in a test environment.

Findings

Application Controls

Control over Authorization

In examining control over authorization, we looked for controls that ensure only transactions duly approved by the appropriate authority are accepted or, should an unauthorized transaction be accepted, it would be detected on a timely basis.

We found that such controls are built into the process used for the encryption and transmission procedure. Data transmitted over or between networks is vulnerable to interception by unauthorized parties. To protect it from being read or manipulated, it is converted to a secure code through encryption. Encryption of data can also authenticate or positively identify the sender, whose identity is encrypted and is therefore secure. The CGI only accepts encrypted data for transmission. A unique key is provided to each ministry by the CAS office, which holds the other key necessary to decrypt or unscramble the data received. Each ministry, because it owns its data and therefore has the authority to record transactions or request payments, carries out the actual encryption, while CAS, on the other hand, as the owner of the system, controls the issuing of encryption keys giving access to the system.

The encryption process serves as a preventive control, in that it prevents any unauthorized transactions being entered. Its effectiveness is dependent on the proper control within each ministry over access to the encryption key. The subsequent review by ministries of the reports received from CAS after processing serves as a detective control, allowing the discovery of any unauthorized transactions. These reports provide information as to which transactions were processed successfully and which were rejected and why.

CAS currently seeks no assurance about the controls used within the ministries, and no service agreements exist between CAS and the ministries spelling out the responsibilities of each party. Although no specific consequences were identified during the review, this lack of clear communication of responsibility is a weakness, as either party may believe that responsibility for certain actions lies with the other.

Recommendation

The CAS office should formally sign an agreement with each ministry clearly outlining the responsibilities of each party for establishing and maintaining effective controls over data and processing. These should include the responsibilities for access to encryption keys and for reviewing reports of the transactions submitted.

Control over Accuracy

In our review, we also looked for controls which ensure that transactions are valid and data is accurately processed. For example, valid payments should be requested only for approved suppliers, and valid journal entries should be posted only to existing accounts.

Again, we found procedures in place to ensure accurate processing. There are controls over accuracy during transmission; there are pre-edits to determine whether batches of transactions are valid; and there are other system edits to determine whether the individual transactions are valid.

The encryption/transmission process provides assurance that data is transmitted accurately. Totals of dollar amounts and of data bytes (hash totals) are generated prior to encryption. These totals are also encrypted, transmitted and compared to hash totals generated after decryption. A difference would indicate that the data was corrupted or incomplete, and that the ministry will be required to resubmit the file.

Each file of data transmitted is also provided with a sequential number unique to the ministry. The encryption/

transmission software tracks these files, and if one is received with a number out of sequence, it will not be processed and the ministry will be notified. This provides assurance that duplicate files will not be accepted by the CGI, and that all data files submitted are processed.

Once accepted, the data is subjected to two levels of edit checks. A pre-edit ensures that the ministry batch can in fact be processed by the CGI. A failure at this stage causes the entire batch to be rejected. The second stage, called the main edit, performs further checks on the content of each transaction.

The main edit checks are carried out by comparing data contained in the submitted transactions to that in the master data banks. For example, these edit checks ensure that all payments made are to valid people or organizations, that account numbers exist, and that data is presented in a logical format. An example of a logical format check is ensuring that amounts consist only of numbers.

In reviewing a sample of main edit checks, we found that, except for one case, they performed as expected. For the one exception, our test was to check the connection between the supplier's name (the payee when a cheque is issued) and the supplier's identification number, by entering a valid supplier number and then deleting the supplier's description. (The system automatically enters the supplier's name when a valid number is entered.) We found the changed transaction did not fail the edit checks. From other findings, we are satisfied that there are compensating controls to prevent or detect unauthorized payments. Nonetheless, we believe that checking the supplier's description against the supplier's number would strengthen control over payments.

In performing its edit checks, the CGI relies on the data residing in separate ministry systems, created, maintained and updated by the ministries. This data is not under the control of CAS. This data includes, for example, the chart of accounts and the vendors. The edit checks can only be as accurate as the ministry data used in those checks. The CAS office states that ministries have the prime responsibility to ensure the integrity, reliability, validity or completeness of their databases and therefore it relies on the ministries to ensure that the information contained in the databases is accurate and complete.

The controls noted above are all preventive controls, designed to stop an error from occurring. The ministry review of reports after processing can also serve as a detective control over accuracy.

As is the case for controls over authorization, no formal division of responsibility for controls over accuracy exists between CAS and the ministries.

Recommendation

The proposed agreement with each ministry should include the division of responsibility between the ministry and CAS for ensuring the integrity and validity of the databases used by the CGI in its edit checks.

Control over completeness

In examining completeness, we expected to find controls to ensure that all transactions submitted by ministries are processed, and that those rejected are reported back to ministries for correction and resubmission.

The encryption/transmission process provides control over data completeness. The comparison of hash totals generated before and after transmission and the tracking of file numbers will detect any missing data before the file is accepted by the CGI.

As important as ensuring that the data submitted is complete is ensuring that any batches or transactions rejected are accounted for. All batches and transactions that fail the CGI edit checks are reported to ministries. This allows the ministries to correct and resubmit the rejected data, or not to do so, as appropriate. CAS does not track rejections. Using the reports of rejected batches, and the reports generated after processing is complete, ministries can account for all transactions submitted to CAS. However, the effectiveness of the completeness control depends on a review of the reports by the ministries.

Recommendation

The proposed agreement with each ministry should include the division of responsibility between the ministry and CAS for reviewing all rejected batches and transactions reported, and resubmitting them, if appropriate.

Environmental controls

The three types of controls discussed above are application controls specific to the CGI. The effectiveness of them—whether automated or performed manually on computer-produced information—depends largely on the reliability of the computing environment in which the CGI operates. Most of the CGI processing is carried out by the Information Technology

Services Division (ITSD) within the Ministry of Advanced Education, Training and Technology. In this review, we did not attempt to evaluate controls in the ITSD environment, but have addressed only those relating to the CAS office.

Organization and Relationships

We have commented on the need for formal agreements. Currently, the division of responsibility and service levels are dealt with at regular meetings of the CGI user group. The minutes of these meetings show that questions on these matters were still being discussed up to the time of this review.

The Financial Administration Act places the responsibility for certain aspects of control over expenditure transactions with the ministries. The Office of the Comptroller General (of which CAS is a division) is responsible for controlling other aspects of expenditures such as payment. At the same time, however, the Office of the Comptroller General provides services to ministries to help them fulfill their control obligations imposed under the Act. Because of this relationship of the Comptroller General to both parties, it is important that there be a formal agreement between the ministries and CAS to clearly define each party's requirements and responsibilities.

Recommendation

The proposed agreement between the CAS office and each ministry, in addition to clearly outlining the responsibilities of each party for establishing and maintaining effective controls over data and processing, should define the level of service to be provided by the CAS office to the ministries.

Control over changes

Any changes made to the CGI should be authorized by the users. There should also be proper segregation of duties to ensure that only authorized changes are made.

We found that in fact there is no formal approval process for changes: required changes are discussed and agreed to at the CGI user group meetings or through e-mail, and those decisions are only documented in the minutes of the meetings. To avoid misunderstandings and to ensure that changes meet the users' requirements, we believe that proposed changes should be documented and agreed to in writing. And, once complete, they should also be accepted, again in writing, by the users.

Recommendation

Changes to the CGI should be authorized and documented, and then accepted by the users, in writing, before the changes are implemented.

From our discussions with the CAS staff and from a review we made of changes, we determined that duties are properly segregated. Once a change is agreed to by the user group, an application programmer does the programming, which is then tested by a separate testing unit, with user involvement occurring where it is considered appropriate. Once testing is complete, a quality control review is performed and the change is implemented in the production version of the program by operations staff.

Physical Security

The CGI business operations are located in the CAS office. The system hardware and processing is in the care of ITSD, at another location. Any work in progress, such as programming changes, is in electronic form and is backed up regularly.

Disaster Recovery

A disaster recovery plan ensures that users of the CGI will have an alternative processing facility if a disaster, such as a fire or an earthquake, occurs. The CAS operations are incorporated in the Office of the Comptroller General's Business Continuation Plan, but specific procedures have not been developed to include the CGI.

Good practice requires that disaster recovery plans and procedures be tested at least once a year. The most recent ITSD disaster recovery test took place in November 1997. In that test, difficulties were experienced in recovering a significant number of CAS / Walker files, a result which indicates that the resumption of operations, following an interruption, might be delayed.

Recommendation

The CAS office should develop and maintain a disaster recovery plan consistent with the Office of the Controller General's Business Continuation Plan. Staff should be trained in the procedures to follow in case of a disaster or other business interruption. As well, CAS should test its plan and, with the Ministry of Finance and Corporate Relations, insist on, and participate in regular testing of the Information Technology Services Division (ITSD) disaster recovery plan.

Review of Phase II

We obtained information about the current status of Phase II and its progress since our last report in February 1998 by conducting interviews with the CAS management and reviewing internal documents.

Current status

Financial accounting within the British Columbia government currently consists of a mixture of ministry-specific systems and CAS. At the time we were writing this report, the general ledger and accounts payable modules were the only accounting functions of CAS in operation. These modules use the Walker software. When tenders were called for Phase II of CAS, Walker did not submit a tender. An Oracle Financial software was selected for the new project accounting, asset management and purchase order functions included in Phase II. CAS management intends to convert the general ledger and accounts payable modules of CAS to the Oracle Financial software. However, this will not occur until the Year 2000 challenges have been successfully met, which means that the Walker software will continue to be used for these modules until at least 2000. The existing Walker software was upgraded to version 2.3 in the spring of 1998, but no new functions were added.

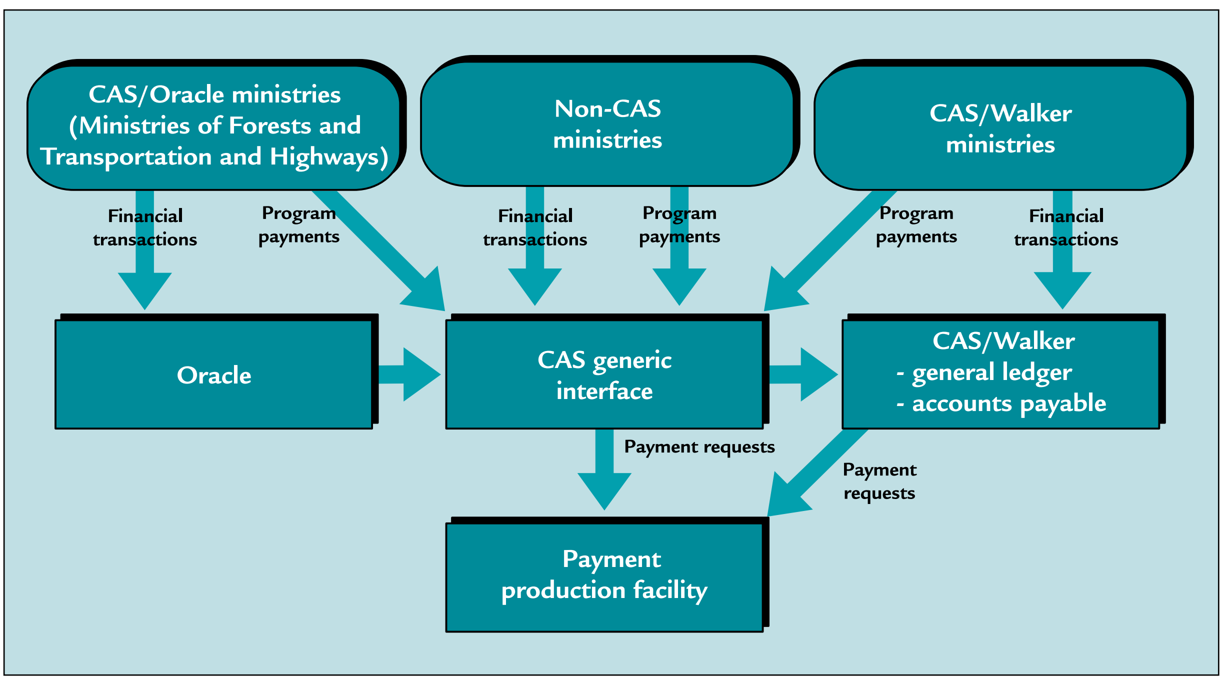
On April 1, 1998, the Ministry of Agriculture and Food, Ministry of Fisheries and Office of the Auditor General implemented CAS as their financial system. Nine ministries and eight other agencies are currently on-line users of CAS. This means that they record their transactions directly on CAS and do not have their own unique financial systems. The remaining ministries still depend on their own individual financial systems. They use the CGI to transfer their information to CAS. The Ministries of Forests and Transportation and Highways were to move on-line to CAS on April 1, 1999, when Phase II became operational. They will use the Oracle software. Other than the latter two ministries, the remaining non-CAS ministries all use a common software which has been tested and reported to be Year 2000 compliant. This means there is no immediate pressure to move these ministries to CAS.

Initially, the ministries implementing CAS / Oracle (as distinct from the existing CAS / Walker software) will use Oracle as if it were a ministry system, and will continue to update the CAS / Walker general ledger and make payments through the CGI (see Exhibit 6.2). When all ministries have implemented CAS / Oracle, then the Oracle general ledger and payables functions will replace those of Walker, and all financial transactions will be recorded directly on Oracle.

Last year we reported that the Walker Interactive software was certified by the vendor to be Year 2000 compliant. Subsequent testing carried out by the CAS office showed that although the major programs were as certified, there were some areas where the software was not fully compliant. The necessary "fixes" have now been obtained from the vendor and further testing is underway to ensure the whole system is fully ready for 2000. The Oracle software will also be fully tested to ensure its compliance. The Year 2000 issue is more fully reported in "Government Financial and Other Information Systems, and the Year 2000 Deadline," starting on page 135 of this report. Comments pertaining to CAS are found on page 169.

Exhibit 6.2

Oracle's Place in Phase II of CAS



Source: Compiled by the Office of the Auditor General

Significant developments since our last report

Selection of software for Phase II

A total of five systems integration proposals and three software proposals were received in response to the request for proposals issued by the Ministry of Finance and Corporate Relations in October 1997. To make the selection, representatives from the Purchasing Commission, the CAS office, and the Ministries of Attorney General, Forests, and Transportation and Highways evaluated the responses under the guidance of the Purchasing Commission. Sierra Systems was selected as lead systems integrator for the Phase II project, and Oracle Corporation was selected as software supplier. The role of the systems integrator is to work with the CAS initiative in planning, configuring and implementing the chosen software. In evaluating the proposals, the selection committee applied predetermined criteria to each written submission, as well as rating each company's demonstration and oral presentation.

Progress in meeting Phase II objectives

As noted earlier, the Project Charter identified three primary objectives:

1. *Implementation of CAS in the Ministries of Forests and Transportation and Highways by April 1, 1999*

The Ministry of Forests and the Ministry of Transportation and Highways plan to implement Phase II to replace their non-Year 2000 ready financial systems. The Ministry of Forests requires three applications: general ledger, purchasing and accounts payable. Transportation and Highways also requires these, plus project accounting and capital assets. All were to be implemented by April 1, 1999, except the capital asset application, which will be implemented in the fall of 1999.

On April 1, the Ministry of Agriculture and Food and the Ministry of Fisheries were to start receiving financial services from the Ministry of Transportation and Highways. This means they would also become Oracle users. The production configuration of Oracle has been completed and tested, and both ministries were to have access to the production system in early March to prepare for the implementation. They were to enter data in preparation for implementation, but not record any transactions or make any payments using Oracle until after April 1.

In January 1999, the CAS office started training the ministry trainers. The training of system users started in February, and will continue up to and beyond the implementation date.

Development of reports at the time of writing was still behind the rest of the project. CAS has addressed this by adding more staff to the team responsible for this area, working in conjunction with Sierra Systems, the systems integrator. Twelve reports have been identified as being critical, and they were expected to be ready on April 1, with the remainder to follow by April 30.

We understand that the Ministry of Forests and the Ministry of Transportation and Highways, with its client ministries, successfully implemented Oracle on April 1, 1999.

2. Creation of a foundation for a truly government-wide financial accounting system

An enterprise financial application is a single financial system serving all ministries and offices of government. To provide an appropriate foundation for such a system, Phase II must conform to government information technology standards and strategies, and have the ability to meet the needs of the ministries currently using CAS/Walker and the CGI. Thus, until Oracle is adopted by all ministries, it must coexist with the existing systems without causing disruption in service. It must also be able to accommodate changes and the re-organization of programs between ministries. The foundation should also be able to accommodate future electronic data interchange and other electronic commerce, including electronic delivery of government services.

The post implementation review, required by government policy for any significant system development or acquisition, will determine whether the success factors—and thus the objectives—have been achieved.

3. Implementation of a corporate asset management application

The provincial government is phasing in the capitalization and amortization of capital assets. Rather than expensing the cost of building or purchasing capital assets in the year of acquisition, the government will defer these costs as assets on its balance sheet and recognize the expense over the life of the asset (as is the practice in the private sector). To do this, the government needs an accounting system capable of tracking the asset cost and related amortization.

As noted above, the capital asset application is a requirement of the Ministry of Transportation and Highways, and is scheduled for implementation there on September 1,

1999. This application was also scheduled for implementation in the Ministry of Small Business, Tourism and Culture by April 1, 1999, and at the Ministry of Environment, Lands and Parks by June 1, 1999.

We understand that the Ministry of Small Business, Tourism and Culture successfully implemented the application as scheduled, but the Ministry of Environment, Lands and Parks has postponed implementation until a later date.

Risk and Control Review

A risk and control review of Phase II has been carried out under the direction of the Internal Audit Branch of the Office of the Comptroller General. The purpose of such a review was to determine what control risks exist within the system and then to develop internal controls to reduce these risks to an acceptable level. Risks considered include the possibility of incomplete, inaccurate and unauthorized transactions being processed, records being damaged or lost through unauthorized access or physical means, and of confidentiality being breached. The Internal Audit Branch is currently discussing its findings with the ministries and CAS management and its report is to be released shortly.

Future developments

In 1996, the CAS Independent Review discussed the drivers and objectives of CAS. Two major threats identified were the obsolescence of the Central Batching System and the inability of some financial systems to cope with the change over to the Year 2000. A lesser threat was the inability of financial systems to meet the anticipated requirement for asset accounting and capitalization. Opportunities identified were the potential for efficiency savings in information systems costs, more control over financial transactions, faster public reporting, and efficiency savings in business processes (that is, in administration of government's day-to-day business).

It appears to us that CAS, in its development of the CGI and Phase II, has substantially dealt with the threats noted above. However, the range of opportunities identified has not yet been realized, and will not likely be realized until all ministries are converted to the common financial application. The Comptroller General has recommended an accelerated, two-year implementation plan of Oracle across all ministries and offices, and this has been approved by the Deputy Minister of Finance, subject to Treasury Board approval. CAS management believes that over the next six years, the accelerated implementation of Oracle across government will result in substantial savings. Maintaining the status quo is not considered an option, as this alternative foregoes all future benefits identified for a common financial application.

Accelerating the implementation across government may both present the CAS office with one of its biggest challenges —obtaining and keeping the skilled staff necessary for the implementation and future operations—and help CAS meet that challenge. A significant amount of the work of Phase II has been done by contract staff. To date of our review, the CAS office was able to achieve reasonable continuity of personnel. However, there is a risk that valuable knowledge and experience related to CAS could be lost were the project to become unable to keep its contractors. The same threat pertains to the project's ability to keep its own staff, given the current competitive market for information technology resources. While the accelerated implementation adds to staffing requirements, it also helps CAS provide rewarding work for both its contractors and its staff.

In our previous updates, we have advocated the need for a long-term funding commitment for the CAS project. We reiterate this call, because it is important to maintain the momentum that the CAS project has achieved in the last two years.

summary of recommendations

The recommendations made in the section of this report titled *Corporate Accounting System (CAS): Update* are listed below for ease of reference. They should be regarded in the context of the report. In these recommendations, CAS stands for Corporate Accounting System and CGI for CAS Generic Interface.

The Office of the Auditor General recommends that:

Review of the CAS Generic Interface

Application Controls

- *The CAS office should formally sign an agreement with each ministry clearly outlining the responsibilities of each party for establishing and maintaining effective controls over data and processing. These should include the responsibilities for access to encryption keys and for reviewing reports of the transactions submitted.*
- *The proposed agreement with each ministry should include the division of responsibility between the ministry and CAS for ensuring the integrity and validity of the databases used by the CGI in its edit checks.*
- *The proposed agreement with each ministry should include the division of responsibility between the ministry and CAS for reviewing all rejected batches and transactions reported, and resubmitting them, if appropriate.*

Environmental controls

- *The proposed agreement between the CAS office and each ministry, in addition to clearly outlining the responsibilities of each party for establishing and maintaining effective controls over data and processing, should define the level of service to be provided by the CAS office to the ministries.*
- *Changes to the CGI should be authorized and documented, and then accepted by the users, in writing, before the changes are implemented.*
- *The CAS office should develop and maintain a disaster recovery plan consistent with the Office of the Controller General's Business Continuation Plan. Staff should be trained in the procedures to follow in case of a disaster or other business interruption. As well, CAS should test its plan and, with the Ministry of Finance and Corporate Relations, insist on, and participate in regular testing of the Information Technology Services Division (ITSD) disaster recovery plan.*

response of the office of the comptroller general

The latest report on CAS by the Office of the Auditor General is a comprehensive and insightful review of he Initiative. It recognizes that CAS has substantially dealt with past challenges, but that the full range of benefits to government will not be realized until all ministries are converted to a common suite of financial applications.

The CAS Initiative has evolved to the degree that it is an acknowledged leader in implementing new technology aimed at bringing about significant improvement to government accounting processes. The successful implementation of the CAS Generic Interface (CGI), the elimination of the Y2K business continuation threat deployment of the new CAS/ORCA (Oracle Financials) corporate accounting system, the complete millennium compliance of all other components of the CAS system and the beneficial changes already achieved to accounting processes, together with the significant potential for further improvement have resulted in unprecedented demand for the CAS system and approach to be rapidly extended across government.

In response to the recommendations made by the Office of the Auditor General, the CAS Initiative is committed to the following actions within this fiscal year:

- *To establish formal support and operating agreements with each ministry which will define target service levels and the responsibilities of each party. These agreements will serve to supplement the initial memorandum of understanding, which defined CAS implementation plans and stabilization activities and responsibilities.*
- *To incorporate into the proposed agreements with ministries, the validation rules and division of responsibilities for use of the CAS Generic Interface (CGI).*
- *To incorporate into the proposed agreements with ministries, adequate process descriptions for rejections and re-submissions and the appropriate division of responsibilities.*
- *To more formally identify CGI changes as either minor or major and to institute effective documentation and written approvals for all changes. Note that all major changes will continue to be subject to formal review and approval by the CAS Change Management Committee.*
- *To complete the plan for inclusion of disaster recovery mechanisms (by September 1999) within its recently updated CAS Business Continuation Plan.*

It should be additionally noted that apart from some outstanding work on systems reporting, all major points raised in the recently completed independent risks and controls evaluation have now been adequately addressed by system enhancements, process changes or administrative workarounds.

We want to take this opportunity to thank the Office of the Auditor General for this review of the CAS Initiative, and its associated recommendations. We appreciate your support for moving away from status quo and for the need for long-term funding, which we also believe to be critical to maintaining the momentum achieved with successes of the Initiative to date.

government financial and other information systems, and the year 2000 deadline: update

A review of the government's progress in preparing its financial and other information systems to handle the Year 2000 problem

About the Year 2000 Problem

What Is the Year 2000 Problem?

Historically, computer programs made use of dates represented by only two digits for the year. The century was not entered. This was an important programming technique, as it reduced data entry, storage space and processing time. However, since these programs cannot differentiate between year 1900 and 2000, incorrect results may be produced when the programs perform arithmetical calculations or comparisons based on dates.

To change all systems involving mainframe computers and microcomputers so that they accept a four-digit year format is an enormous task. Many of these systems are relatively old and are written in computer languages no longer used by modern programmers. The scarcity of skilled people to carry out the work is a worldwide concern of governments as well as private sector businesses. Further complication arises because governments and private businesses have to modify their programs while still using them to support their current activities. These challenges are often collectively referred to as the Year 2000 problem.

Why Is the Year 2000 Problem Significant to Government?

The Year 2000 problem could result in errors in calculations or possibly even in a complete failure of some government systems. For example, errors could occur when dates are used to calculate a person's age of eligibility for a pension or health care or social assistance benefit. Or, if the field that signifies the expiry date for data files is left blank, the program may interpret the blank to mean the two zeros indicating the Year 2000 and wipe off irreplaceable data. Complicating the matter is the fact that some computer systems will not recognize the Year 2000 as a leap year.

The provincial government's Year 2000 Project Office estimates that there are more than 1,200 government systems that could potentially be affected by the problem.

The deadline for modifying computer programs cannot be changed. In most cases for financial systems that meant March 31, 1999, as the government's fiscal year 1999/2000 began April 1, 1999. Date conversion should be completed in time to allow any changes made to systems to be adequately tested before the deadline.

The Year 2000 problem extends beyond mainframe and microcomputer hardware and software. Other types of date—dependent devices are affected by it too. Within government, every computing or electronic regulating device—for example, building security systems, heating and air conditioning systems, elevators, and office equipment such as printers, photocopiers and fax machines—may all be affected. Of a more serious nature are the many process control systems used in health care facilities. These include life support equipment and other critical hardware components in which date-sensitive computer chips are embedded. Many of these devices should become Year 2000 ready.

To successfully resolve the Year 2000 problem, the government must secure sufficient resources to allow ministries and other government organizations to remedy the problem and test solutions. Since the resources for this work are scarce, it is therefore important to make sure that they are applied to significant programs first. It is equally important to be realistic, and think ahead about fall-back plans if targets cannot be met on time.

Review Purpose and Scope

The purpose of this review was to assess the government's efforts in addressing the Year 2000 problem and to identify issues that require further attention. This is our third in a series of public reports commenting on how the government is doing in making the necessary system changes.

This year we once again conducted an overall review of ministry systems affected by the Year 2000 problem, and looked in more detail at systems in six major government programs. In addition, we surveyed the level of Year 2000 readiness in the "mission-critical" systems of Crown corporations, and other organizations we audit. For this purpose, a system is considered mission-critical if failure of that system could result in:

- a potential life-threatening situation;
- economic hardship for British Columbians;
- serious damage to the environment; or
- a significant loss or liability to the Province.

In this report, we describe the progress made by ministries and other government organizations.

For our review, we relied on information we gathered from a number of sources. We have not audited such information and consequently, although we report on the state of readiness of the government in dealing with the Year 2000 problem, we do not express an audit opinion on that state.

Our review is based on information we collected between October and December 1998. Dealing with the issues surrounding the Year 2000 has gathered certain momentum. Therefore, since the time we collected information for this review, significant events might have taken place. Where relevant we have tried to update this report. For information on other significant events we have asked that the government's Chief Information Officer provide an update. Clearly, the comments made in response to this request are not audited.

In this report we have not addressed the issue of government's interdependence with suppliers of goods and services to it.

Overall Assessment

Year 2000 Readiness—Centralized Government and Ministry Initiatives

Many significant financial and other information systems within government are not yet Year 2000 ready. As of December 1998, the list included such systems as the Social Service Tax system, the Medical Services Registration and Premium Billing system, the Pharmacare system, and the Forests' Harvest Database system. All of these (and many more such systems) are classified as “mission-critical,” which indicates their importance to the continuity of government operations.

In general, the government has been proactive in adopting a well-structured and organized approach to resolving the Year 2000 problem. The ministries have been working towards mitigating the potential impact of the problem by first identifying and assessing susceptible systems and then finding a suitable remedy for each. Correcting mission-critical applications is receiving particular attention, and currently the ministries seem to be confident that all mission-critical systems will be Year 2000 ready in time. However, as remediation of many of the systems is still in progress, we are concerned that the estimated completion dates leave a very short time for testing, particularly user testing.

At the time of our review, some ministries also expressed concern about the sufficiency of shared facilities and tools available for testing and validation when deadline pressures build up. As well, those with a heavy Year 2000 workload anticipate possible slippage of planned completion dates because of potential shortages in skilled personnel and funding constraints.

The Risk Management Branch of the Ministry of Finance and Corporate Relations was instrumental in each ministry appointing a business continuation planner and for training most of the appointees one-on-one. We found, however, that the ministries had completed little in the area of business continuation planning related to the Year 2000.

The Deputy Minister to the Premier has set a deadline for the Year 2000 contingency planning related to mission-critical systems. The ministries were to have their plans completed and approved by management by May 31, 1999.

To provide the government with assurance about Year 2000 readiness, the Information, Science and Technology Agency has also offered ministries the funding, on request, to have their mission-critical systems independently reviewed. It is expected that the outcomes of the reviews will assist ministries in ensuring that their systems are Year 2000 ready well before their respective deadlines.

Year 2000 Readiness—Specific Systems

We reviewed the government's progress in identifying and correcting the Year 2000 problems associated with the six major financial systems that we had looked at last year. Of the six, we found that one was completed on schedule and within budget. The remaining five systems had not achieved, and will not likely achieve, the estimated deadlines reported last year. At the time of our review, the completion date of one of these systems was very close to the ultimate deadline of January 1, 2000.

All of the six systems had incomplete Year 2000 contingency plans. In three cases, planning had not begun. Considering that, at the date of our review, three of the six projects had missed their initial completion deadline, the need for such plans is obvious.

Following is a summary of the progress for each system.

- *The Corporate Accounting System (CAS)* is the government's main accounting, reporting and financial management system. The software used by CAS has been certified Year 2000 compliant by the vendor. However, testing by the CAS team revealed that the system contained some non-compliant codes. This caused delays in the project. Compliance testing that was to be completed by July 1998 was re-scheduled for completion by the end of January 1999. We understand that the planned deadline for making CAS Year 2000 ready, April 1, 1999, has been met.
- *The Corporate Human Resource Information and Payroll System (CHIPS)* keeps track of human resource information and leave entitlements, and processes government payroll. The main application software used in developing CHIPS is certified by the vendor to be Year 2000 compliant. The Public Service Employee Relations Commission had yet to test and validate the vendor's certification. The environment within which CHIPS operates has been upgraded and testing for Year 2000 compliance was in the planning stage. The expected date for all components to be Year 2000 ready is now set for July 1999 as compared to September 1998, reported last year.
- *The Social Service Tax Systems* of the Ministry of Finance and Corporate Relations are used for collecting and recording social service tax. Many of them need to become Year 2000 ready. We reported last year that the ministry had initiated two separate projects to simultaneously satisfy the Year 2000 problem and other management information needs. The "1999 Fixes Project" was to be a contingency to patch the existing systems and so prevent failures before the Year 2000. The "CTB21 Project" was to replace existing revenue systems with a Year 2000 compliant integrated system. However, delays in the CTB21 Project resulted in it no longer being a viable alternative for Year 2000 readiness. Therefore, at the completion of the "1999 Fixes Project," the "Y2000 Contingency Project" was initiated. The project completion date of December 31, 1998, reported last year was revised to March 31, 1999.
- *The Harvest Database System* of the Ministry of Forests handles the calculation of stumpage billing and royalties earned from timber sales. We reported last year that a plan had been developed and the system was expected to be Year 2000 ready by January 1, 1999. Over the year there have been some obstacles and changes. At the time of our review, completion was scheduled for December 30, 1999, one day

before the deadline of January 1, 2000. Responding to this concern, the ministry assures us that the planned completion date is now set for September 30,1999.

- *The Claims System of the Medical Services Plan* processes over 90% of the billing for services of British Columbia's physicians and other health care providers. Last year we reported that a plan was in place for this system to be Year 2000 ready by March 31, 1999. Since then the ministry has experienced some delays and now estimates that all components of the Claims System will be ready by September 1999.
- *The BC Benefits Program System* of the Ministry of Human Resources processes payments under the BC Benefits Act. Last year we noted that a plan had been established to make the system Year 2000 ready. The project has been completed on time and within budget.

Year 2000 Readiness—Government Organizations

We surveyed the status of 55 government organizations outside the provincial ministries—including advanced education institutions and Crown corporations—with a view to determine areas needing significant attention.

We did not survey the various health authorities (HAs) now responsible for the delivery of most medical services throughout British Columbia. A consultant has been hired by the Ministry of Health for this purpose. We also noted that the ministry was in the process of reorganizing its Year 2000 Project Office to become more proactive in the HAs' Year 2000 efforts. We discussed the HAs' state of readiness with senior ministry personnel and reviewed relevant documentation. As of January 1999, the date of completion of our review, the HAs had not provided the Ministry of Health with inventories of their equipment and systems, nor with their plans to make them Year 2000 ready. As a result, the ministry did not have an accurate estimate of the funds required to address the problem.

While the HAs plan to complete the bulk of the testing and remediation of the systems and equipment in 1999, there is a risk that some will not complete their Year 2000 efforts in time. It will be the task of the Year 2000 Project Office in the Ministry of Health to ensure that mission-critical systems, at least, are Year 2000 ready.

We surveyed a number of advanced education institutions. The summary responses we received from most of them did not provide us with sufficient information to properly evaluate the state of their Year 2000 readiness. For these institutions, Year 2000 readiness would involve not only their administrative and facilities management systems, but also their academic and research systems.

Our Year 2000 survey included 28 Crown corporations. In reporting on their Year 2000 readiness, our main focus was on mission-critical systems. We asked the Crown corporations to identify their mission-critical systems and to report on their progress in making them Year 2000 ready. Of the 28 Crown corporations surveyed, 9 responded that they had systems that are considered mission-critical according to the given definition. At the time of our survey, these entities expected all mission-critical systems to be Year 2000 ready before the required deadline. Anticipated completion deadlines varied from March 31, 1999, to the fourth quarter of the 1999 calendar year.

None of the corporations had completed contingency plans for their mission-critical systems to ensure business continuation.

At the time we were writing this report, the Deputy Minister to the Premier announced that the chairs of the Crown corporations were to be contacted with regard to Year 2000 readiness. Formal Year 2000 plans were to be requested—plans that identify critical systems and that include implementation plans for Year 2000 compliance. These plans are to be assessed by the Crown Corporations Secretariat, with support from the Information, Science and Technology Agency, in order to identify critical systems that are at risk of not being ready in time.

Some of the other organizations we surveyed still had the bulk of the testing and remediation to do. In some cases, the estimated completion dates for systems left little room for slippage and appropriate user testing. In most cases, little work had been done on the preparation of Year 2000 contingency plans.

We concluded that there is a risk that some of the mission-critical systems in these entities will not be Year 2000 ready. Also, many of these entities had not confirmed the readiness of their business partners' Year 2000 readiness.

a summary of the findings from our previous review

In October and November 1997, we interviewed various levels of government staff and surveyed ministries to ascertain their progress in identifying and managing Year 2000 related risks. In general, we found that the government was proactive and had a good, well-structured and well-organized approach to resolving the Year 2000 problem. Our main findings are summarized below.

- The majority of ministries reported that they would not be Year 2000 ready by the beginning of the 1998/99 fiscal year (see Exhibit 7.7 for their expected dates for readiness as of November 1998).
- Ministries expressed concern that the existing shared facilities and tools available for testing and validation may not be sufficient when deadline pressures build up.
- The ministries with a heavy Year 2000 workload recognized possible slippage of planned completion dates as a result of anticipated shortages in skilled personnel and possible funding constraints. They speculated that many systems might only become ready for testing close to the deadline.
- The lack of skilled staff resources in the local marketplace, the shortage of funding and the difficulty in retaining current staff levels for Year 2000 work were the leading challenges for most ministries.
- Not many ministries had thought to build a contingent condition in their plan to fall back on if things did not work out as desired. There was a general optimism that everything planned would be done.

As a result of these findings, we made the following recommendations:

1. For the ministries planning to achieve Year 2000 compliance in 1999, staffing and funding demands should be reassessed, as it will be more difficult to secure appropriate resources close to January 1, 2000.
2. Ministries should secure access to adequate testing tools and facilities soon to avoid delays when their systems become ready to be tested.
3. Where it looks likely that the Year 2000 compliance may not be achieved in time, ministries should place more emphasis on developing a contingency plan to minimize the effects of systems failure.

The Objective and Scope of Our Current Review

Why did we conduct this review?

The objective of our review was to look at the government's Year 2000 efforts and highlight issues that require further attention. We surveyed all ministries to gain a broad understanding of their progress in identifying and correcting this problem. In addition to assessing cross-government initiatives, we looked at the progress being made in the same six specific program areas we selected for in-depth review last year. These are outlined in Exhibit 7.1.

Along with ministries, our survey of the state of readiness of government systems included Crown corporations, advanced education institutions and government-funded agencies. We surveyed these government organizations to get a general understanding of their progress in dealing with their mission-critical systems.

Which specific aspects of the progress did we assess?

There is no shortage of information about the Year 2000 initiatives in Canada and abroad. Our study of the literature dealing with the Year 2000 problem highlights a number of key processes that are considered part of Year 2000 project management best practices. These are:

- project management structure;

Exhibit 7.1

List of Information Systems Selected for Detailed Review

We looked into the work-in-progress on two corporate, two revenue, and two expenditure systems to examine their Year 2000 readiness

Function/Program	Ministry Responsible	$ Processed (in Billions)*	Systems Identified
Corporate Accounting	Finance and Corporate Relations	>80.0	Corporate Accounting System
Corporate Payroll	Finance and Corporate Relations	1.9	Corporate Human Resource Information and Payroll System
Social Service Tax	Finance and Corporate Relations	3.3	Social Service Tax System
Timber Sales	Forests	1.4	Harvest Database System
Medical Services Plan Claims	Health	1.8	Medical Services Plan Claims System
Social Assistance	Human Resources	1.5	BC Benefits Program System

*Source: 1997/98 Public Accounts

- promotion of awareness of the Year 2000 problem;
- assessments of risk;
- adequacy of resources;
- project planning;
- strategies for testing, validation and conversion;
- project monitoring;
- contingency planning; and
- certification.

Using the attributes of these best practices, we developed a questionnaire which we sent to each ministry. We wanted to survey ministry progress in addressing the Year 2000 problem. On a needs basis, we further contacted ministries to review the accuracy of their responses. We designed our questionnaire to assist us in measuring how well, across government, the key processes outlined above are being addressed.

In addition to the survey responses we received from each ministry, we collected information from the Project Director Action 2000, the Chair of the Year 2000 Implementation Task Force, ministry representatives on the task force, senior management in ministries, and other provincial audit offices.

We reviewed the specific program areas in more detail, again using the above key processes as a framework for our assessment.

As well, we surveyed a number of Crown corporations and other government organizations to establish whether they had any mission-critical systems that were not Year 2000 ready and, if they did, what progress was being made to get them ready.

We have not audited the information we gathered. Consequently, we do not express an opinion on the state of readiness of government systems for the Year 2000.

Part 1: Year 2000 Readiness—Centralized Government Initiatives

The Information, Science and Technology Agency (ISTA) is a central agency reporting to the Deputy Minister and Chief Information Officer (CIO), Ministry of Advanced Education, Training and Technology. Its mandate is to improve government processes through the better management of information and application technology. Its role with regard to the Year 2000 problem is to recommend a framework that will ensure service to the public is not disrupted and unwarranted expense to government is not incurred. Therefore, the majority of the centralized government initiatives originate from ISTA.

Findings from Our Previous Review

Last year we reported that, in dealing with the Year 2000 problem, the government had established the following roles and responsibilities:

- The Chief Information Officer is responsible for overseeing government efforts to ensure systems are Year 2000 compliant.
- ISTA is to provide a corporate perspective on government Year 2000 activities.
- The Advisory Council on Information Management is to collect Year 2000 testing and processing requirements on shared platforms, and pass on the information to the Information Technology Services Division of ISTA.
- The Information Technology Services Division is to provide ministries with adequate testing and production operating environments, along with available conversion tools.
- The ministry Executive Financial Officers are to provide leadership and take responsibility for Year 2000 initiatives in their ministry.
- The ministry Information Systems branches are to carry out initiatives to make all ministry systems (and forms) Year 2000 compliant.
- Treasury Board is to provide fiscal advice and support to ensure that ministry systems become Year 2000 compliant in a timely manner.

In 1996, ISTA established a Year 2000 Implementation task force (Task Force) to address all aspects of the problem and serve as a primary contact for Year 2000 information and support. The Chair of the Task Force has responsibility for:

- coordinating government's plans and activities for the Year 2000;

- identifying the common information technology infrastructure across government;
- identifying tool requirements; and
- monitoring and reporting, through the Chief Information Officer, to government senior management on overall government progress in solving the Year 2000 problem.

A project coordinator from each ministry represents the ministry in the Task Force. The Task Force members regularly share information and lessons learned about their ministry's Year 2000 projects.

Since being established, the Task Force has undertaken the following initiatives:

- A Year 2000 compliance definition and a uniform "date" standard have been adopted for government.
- A government-wide inventory of computer applications has been taken to determine the scope of the government's Year 2000 problem (see Exhibit 7.2).
- A preliminary estimate of costs and workload has been made (see Exhibit 7.3).
- "Quarterly Task Force Reports" have been distributed to senior management within government.
- Year 2000 Testing Guidelines have been developed to provide ministries with guidance on how to ensure that software is Year 2000 compliant.

Current Developments in Centralized Initiatives

Creation of the Action 2000 Project Office

In June 1998, the Year 2000 Implementation Task Force was given a new mandate. As a result, more emphasis was placed on the monitoring of mission-critical applications and on public and private communications. To meet this objective, ISTA established the following new initiatives:

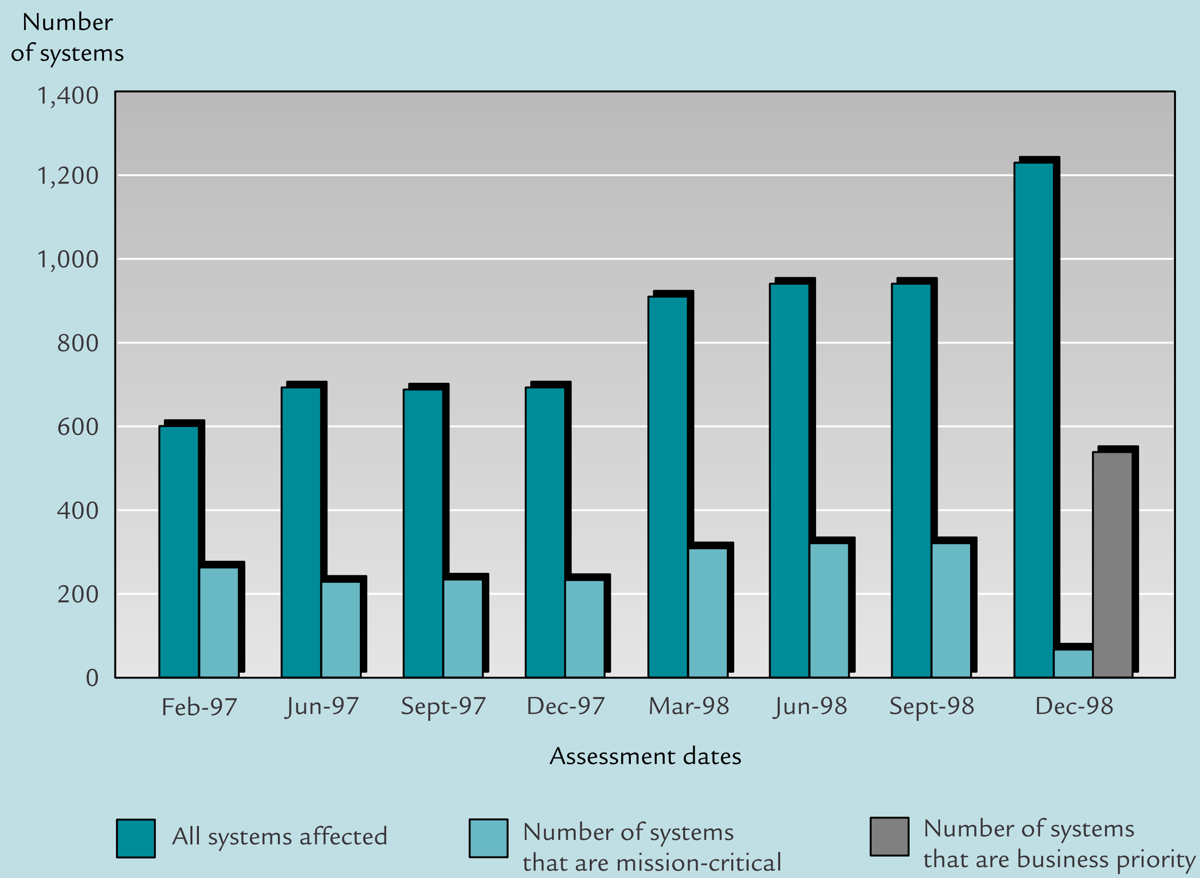
- The Action 2000 Project Office (Project Office) was set up to take leadership in the facilitation of the Province's most mission-critical applications.
- A communications network was formed to manage the recording and dissemination of Year 2000 information.

The Deputy Ministers rather than the Executive Financial Officers are responsible for ministry Year 2000 compliance programs. The Project Office has assumed responsibility for

Exhibit 7.2

Government Systems Affected by the Year 2000

As of December 1998, the government had identified 1,230 systems that could potentially be affected by the Year 2000 problem



Up to December 1998, systems were identified as either mission-critical or "other."

The Task Force now classifies the systems as either:

mission-critical (system failure could lead to loss of life, personal hardship to citizens, major damage to the environment or significant loss in revenue);

business priority (system failure could lead to the loss of a major business function); or

other.

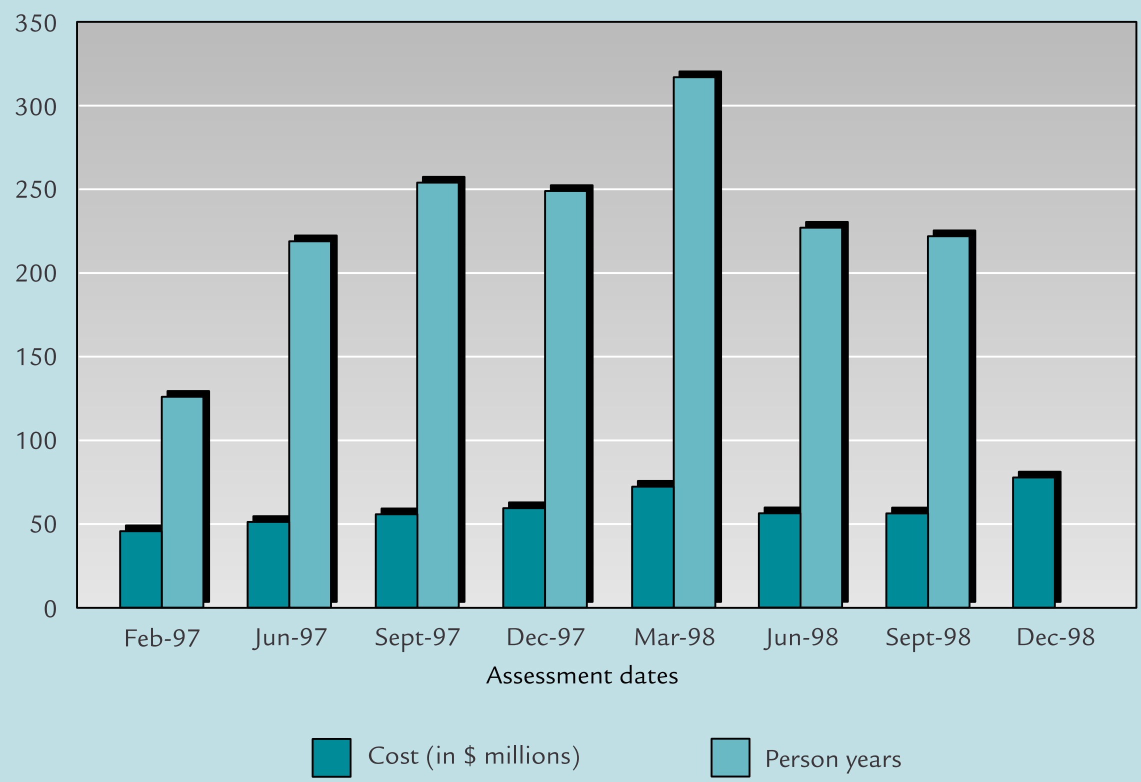
Source: Year 2000 Implementation Task Force

coordinating and monitoring overall efforts and advising the Deputy Ministers where further remedial action may be necessary to meet goals. Exhibit 7.4 shows the new organizational structure.

As of January 15, 1999, ministries have been asked to report more often—monthly rather than quarterly—to ISTA on their Year 2000 progress. The Chief Information Officer will then be reporting monthly to the Deputy Ministers' Council.

Exhibit 7.3

Estimation of Resources Required to Correct the Year 2000 Problem



The decrease in June 1998 resulted from the removal of the resources required for three major business re-engineering projects, which will not be in production prior to December 31, 1999. Instead, the lesser costs associated with fixing the existing systems so that they can process information up to and beyond the Year 2000 have been included.

The number of person years for December 1998 was not tabulated by the Task Force.

Source: Year 2000 Implementation Task Force

ITSA's expansion of responsibilities

Through the Project Office, ISTA has expanded its responsibilities related to Year 2000 to include communications and coordination with the public, the media and the Provincial Emergency Preparedness initiative. The Project Office has partnered with various government bodies to address the following issues:

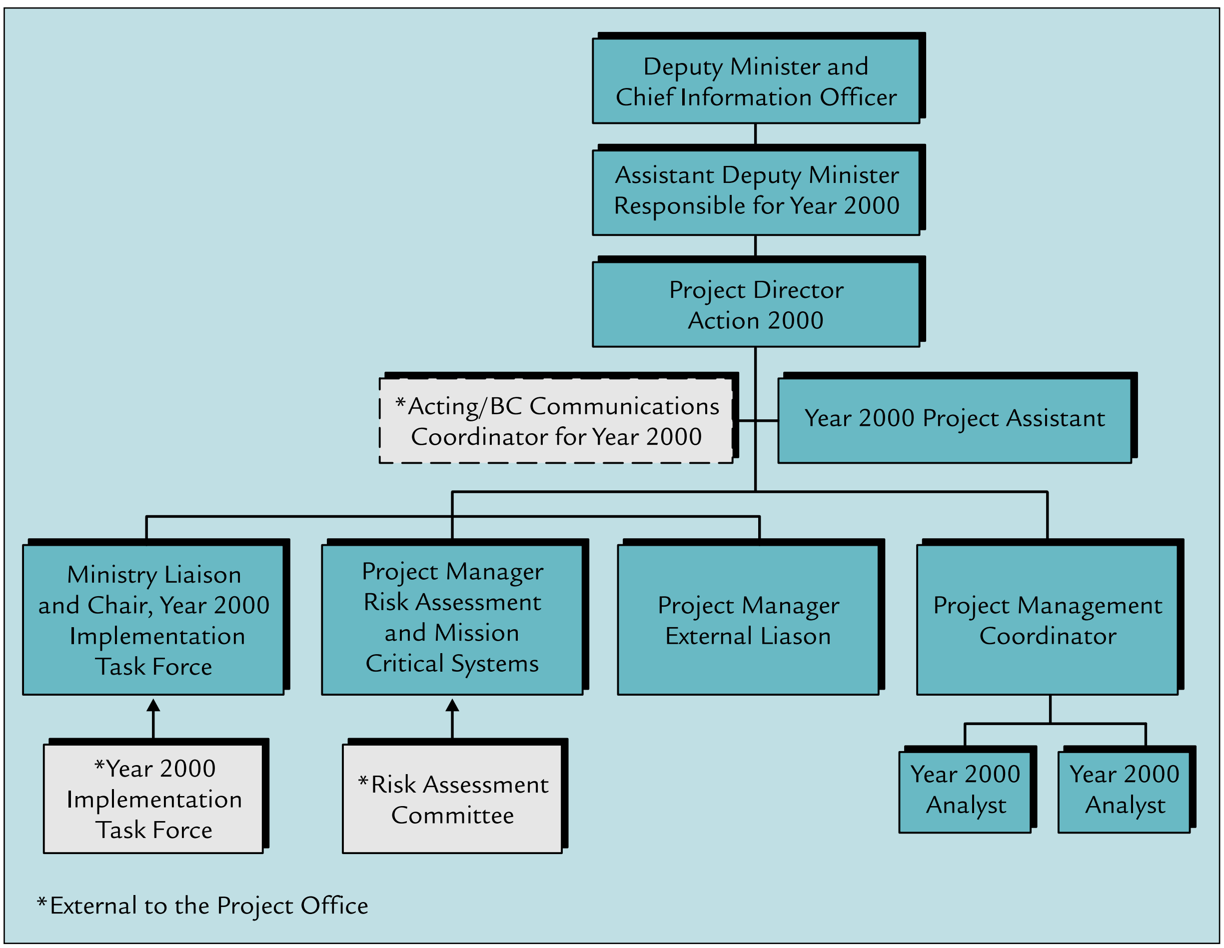
- Legal issues:

  The Legal Services Branch of the Ministry of Attorney General provides legal advice to provincial government ministries and to the Task Force. This advice is on:

  – the possible legal implications of the Year 2000 problem to the provincial government; and

Exhibit 7.4

Organizational Chart for the Action 2000 Project Office



Source: Action 2000 Project Office

– the practical steps ministries may take to minimize any potential legal exposure of the provincial government as a result of the Year 2000 problem.

- Embedded systems:

  Some equipment used by the government is controlled by computers whose embedded operating systems may be affected by the Year 2000 date. Such equipment is used for a variety of purposes, and its failure could threaten public health, public safety and the environment.

  British Columbia Buildings Corporation (BCBC) has accepted Year 2000 responsibility for embedded systems in buildings under its management. The corporation is responsible for correcting Year 2000 problems associated with systems such as fire alarms, lighting, heating, ventilation and air-cooling. As of June 1998, BCBC staff had completed an inventory of embedded systems within 3,300 buildings, noting the compliance status of each system. Staff is working with facilities' managers to ensure that all systems in buildings under the management of BCBC are ready for the Year 2000.

  Ministries are responsible for correcting the Year 2000 problem associated with systems used for access control, intrusion and building security control. Where the ministry building is under BCBC management, the corporation has assisted the ministry by including these systems in its inventory and identifying the problem areas. Ministries have also been asked for an assessment of the costs to make their business equipment Year 2000 ready.

- Acquisition issues:

  In December 1998, the Year 2000 Implementation Task Force started to develop a Year 2000 procurement database and accelerated procurement method. The centralized database was developed to allow the Task Force to monitor the state of the Year 2000 contracting marketplace and help forecast and plan for shortages. Suppliers can register with the centralized database and ministries can select from the database to use the accelerated process for professional service and project requirements within established limits.

  Year 2000 purchasing guidelines prepared by the Purchasing Commission have been used by the Task Force to provide guidance on warranty wording.

- Microcomputer analysis:

  A Request for Proposal was issued for a Master Standing Offer to purchase a product that will analyze microcomputer hardware and ministry applications for date-related problems. In September 1998, concerns were expressed over the priority and cost of the proposed central initiative for the Year 2000 remediation of personal computers. In response, a PC strategy report was released in November 1998. This report indicated that although a centrally managed approach was not widely supported, the Project Office should facilitate a cooperative effort across government by encouraging the sharing of evaluation information and the development of a government-wide communication strategy.

- Provincial Emergency Preparedness program:

  The Ministry of Attorney General is leading the Provincial Emergency Preparedness program in consultation with the Project Office, ministries, essential service providers, regional and community emergency coordinators and federal agencies such as the RCMP and Department of National Defence. By creating and testing contingency plans, the government will be in a better position to respond to possible disruptions resulting from the Year 2000.

- Risk management:

  The Risk Management Branch of the Ministry of Finance and Corporate Relations distributed a Business Continuation Plan Planning Guide and Outline to the ministries in the fall of 1996. Ministry planning coordinators were trained, by Branch personnel, in the application of these documents to Year 2000 issues in the fall of 1998.

- Small business impact:

  Since September 1998, the Project Office has made presentations to various organizations outside the provincial government on aspects of the Year 2000 problem, particularly the issue of embedded systems. The first such presentations were to the chambers of commerce of several British Columbia cities.

  In November 1998, the Project Office started the Community Outreach Program by visiting the Comox Valley. In addition to a public forum, a session was held with the municipal representatives of Comox, Courtenay and Cumberland. An objective of these sessions was to convey assurance of Year 2000 readiness from Crown corporations such as BC Hydro. As well, business representatives were given the names of contacts within their local government (for example, the local emergency coordinator) should they require more information.

Several other communities were visited in mid-January 1999 as part of the Community Outreach Program.

A number of items have also been prepared by the Project Office for distribution to the public and small business owners. These include a booklet titled "RU Y2K OK, BC? You, Your Business and the Year 2000 Problem" and a "Millennium Bug Readiness Quiz." The booklet provides a quick overview of the problem and some of the steps to take in fixing it. It contains worksheets for scheduling, taking inventory of equipment, software and embedded systems, and budgeting for repairs and testing. It also includes a list of Internet sites that can provide further information.

Increased focus on ministry mission-critical systems

According to the Project Office, more than 1,200 government systems must be made ready to handle the Year 2000 problem. However, not all these systems are considered mission-critical.

ISTA initiated an assessment of ministry mission-critical systems in September 1998 to determine the top priorities across government. These are systems that could place the government at risk at a corporate level. In the fall of 1998, a Risk Assessment Committee was formed to oversee the process. To establish mission-critical systems, it ranked applications based on whether the potential impact of their failure could cause:

- loss of life (safety);
- personal hardship to citizens;
- major damage to the environment; or
- significant loss in government revenue.

As of January 15, 1999, 27 of the 67 mission-critical projects identified by the Risk Assessment Committee were considered Year 2000 ready. "Ready," which is the term used by ISTA instead of "compliant," means that "identified Year 2000 problems have been fixed where required and / or Year 2000 business contingency plans and work-arounds are in place to ensure that no disruption to normal business operations will be expected."

The latest available status report for mission-critical projects, as of May 15, 1999, is included in Exhibit 7.13. We have not reviewed all these systems, and accordingly do not comment on the accuracy or completeness of the government's list of mission-critical systems. However, we did note that some of the systems included in the list—for example, the "traffic court system" and the "automated land titles system—

do not seem to fall within the stated definition of mission-critical, while the "pension payment system," whose failure could cause personal hardship to citizens, is not included in the list.

Below the mission-critical level, ISTA has also identified 539 "business priority" projects. A "business priority" project has been defined as a project involving a system which, although not mission-critical, could lead to the loss of a major business function were it to fail. As of December 15, 1998, 46% of these systems were Year 2000 ready.

At the time we were writing this report, the Deputy Minister to the Premier directed Deputy Ministers to submit an action plan for their ministry to the Premier's Office. According to this directive, the action plans should contain:

- a report on steps taken to address the Year 2000 issue;
- an assessment of the work that remains; and
- an identification of any risks, and a description of the Year 2000 business continuation plans that will be put into place to address those risks.

A separate report has been requested on the ministries' plans to deal with mission-critical systems. The plans should meet the following guidelines:

- the Year 2000 ready version should be fully implemented by June 30, 1999; and
- business continuation plans for all critical programs should be completed by May 31, 1999, and all external interfaces addressed.

To provide the government with assurance about Year 2000 readiness, ISTA has also offered ministries the funding, on request, to have their mission-critical systems independently reviewed. It is expected that the outcomes of the reviews will assist ministries in ensuring that their systems are Year 2000 ready well before their respective deadlines.

We support independent reviews of mission-critical systems, and recommend that the Information, Science and Technology Agency (ISTA) continue to encourage ministries to perform such reviews.

Changes to government computer operations

During 1998, the government entered into an agreement with IBM for the latter to provide managed computing operation services for two major operating environments. Before this, these services were provided directly by the

Information Technology Services Division as a government utility. The IBM agreement specifically outlines what hardware, software and firmware products it must make Year 2000 ready, and what materials remain the responsibility of the Province.

The mandate of the Information Technology Services Division requires it to supply cost-effective information technology infrastructure services to ministries and other government agencies. Accordingly, it now oversees the delivery of the MVS and VM computing services by IBM, and provides for the other operating environments, such as VMS, along with much of the government's network and security services. The division is ultimately responsible for ensuring that the mainframe computers and their operating software are Year 2000 ready. None of the operating platforms were Year 2000 ready as of January 1999. All had an estimated completion date of March 1999.

As well, the division must ensure that ministries have an adequate testing environment and proper conversion tools when their systems are ready. Ministries need this environment for testing existing systems when they become Year 2000 ready, as well as for testing purchased applications.

The Information Technology Services Division has made testing arrangements for programs that are run in the MVS computing environment. It is referred to as the MVS Year 2000 Isolated Test Platform, or Year 2000 ITP. This allows testing in a computing environment—or platform—where the system date can be moved forward to key dates such as December 31, 1999, January 1, 2000 and February 29, 2000. The "Year 2000 Isolated Test Platform Reference Guide" has been issued to provide information about the platform, such as hours of service, service levels, security issues, products supported and storage management. The division's Year 2000 Project Group coordinates with the ministry Year 2000 project offices to ensure that sufficient processing and data storage facilities are provided. However, responses to our ministry survey indicated that there are some concerns over the capacity of this testing environment. We discuss this in more detail under "Strategies for Testing, Validation and Conversion" in Part 2.

Expanded focus to include essential services provided by government organizations other than ministries

As shown in Exhibit 7.5, ministries, other public sector organizations, local government and the private sector all provide essential services such as health care, electrical power and water purification.

Exhibit 7.5

The Provision of Essential Services

Ministries, other public sector organizations, local government and the private sector all provide essential services to the public

British Columbia Ministries	Crown corporations, municipalities, universities and colleges, schools and health authorities	Private Sector
Income assistance benefits	Electrical power	Oil & natural gas
Family bonus payments	Water purification	Food processing
Court services	Sewage treatment	and distribution
Senior supplements payments	Meteorological	Financial
Pension payments	Air/ground traffic & control	News service
	Marine navigation & shipping	Radio
		Television

Health care
Prisons
Continuity of government
Telecommunication

Emergency broadcast
Postal/courier
AirPolice/emergency
Rail

←Telecommunication→

Source: Year 2000 Implementation Task Force Second Quarter Report 1998/99

In December 1998, plans were underway to initiate a review of Year 2000 activities and progress across municipalities, universities and colleges, schools, and health authorities. The participation of Deputy Ministers responsible for these areas will be key in defining a strategy for their Ministers addressing the programs within their authority.

In his September 1998 quarterly report the Chief Information Officer also stated that, with the assistance of the Crown Corporations Secretariat, the scope of his review of Year 2000 readiness would be expanded to include Crown corporations. He anticipated regular status reporting and independent risk assessments from the Crown corporations that provide essential services. A target date of early March was set for the Crown corporations to submit the Year 2000 status reports.

Part 4 of this report provides details on the Year 2000 readiness of some of these government organizations.

Part 2: Year 2000 Readiness—Ministry Initiatives

Many significant financial and other information systems in ministries are not yet Year 2000 ready. As of December 1998, the list included such systems as the Social Service Tax system, the Medical Services Registration and Premium Billing system, the Pharmacare system, and the Forests' Harvest Database system. All of these (and many more such systems) are classified as mission-critical, which indicates their importance to the continuity of government operations.

According to the government's definition, Year 2000 compliance would include the ability of a system to correctly process date/time values beyond the Year 2000, with no practical limitation on the range of dates supported (see Exhibit 7.6). Based on legal advice, this requirement (which was, until recently, the goal of the government in dealing with the Year 2000 problem) has been restated. The goal is now to make systems Year 2000 "ready." The Year 2000 Implementation Task Force defines Year 2000 readiness in systems to mean that system problems have been remedied and tested and/or business continuation plans and procedures have been put into place to allow normal business operations with no disruption.

In general, the government has been proactive and has adopted a well-structured and organized approach to resolving its Year 2000 problem. Currently, the ministries seem to be

Exhibit 7.6

Year 2000 Compliance Definition for the Government of British Columbia

To be "Year 2000 Compliant" the system must correctly process date/time values beyond the year 2000 with no practical limitation on the range of dates supported. Specifically, the following criteria must be met:

1. Correctly processes all valid date/time values of the form "YYYYMMDD" (British Columbia government date standard).
2. All stored date/time values will provide an explicit indication of the century. All date/time values read and written will provide an explicit indication of the century in each instance. A four digit year is to be used in all interfaces, including user interfaces (data entry screens, reports, etc.). Processing to logically infer the century is not sufficient. However, it is acceptable to use a two digit year for data entry, providing that the century can be determined with 100% accuracy during the anticipated lifetime of the system.
3. External interfaces (e.g. to and from other systems) will prevent dates with no explicit indication of century from entering the system.
4. The year 2000 must be correctly treated as a leap year (e.g., February 29, 2000 is accepted as a valid date).

Source: Year 2000 Implementation Task Force

confident that all mission-critical systems will be Year 2000 ready in time. However, as remediation of many of the systems is still in progress, we are concerned that the estimated completion dates leave a very tight time frame for testing, particularly user testing. In our last year's report on the Year 2000 problem, we indicated that, for most financial systems, the desirable deadline to be Year 2000 compliant would be the beginning of the 1998/99 fiscal year. In our review this year, we found that many systems had not met this desirable deadline. The expected date for each ministry to be Year 2000 ready is shown in Exhibit 7.7.

The ministries have been working towards mitigating the potential impact of Year 2000 computer problems by first identifying and assessing susceptible systems and then finding a suitable remedy for each. Correcting mission-critical applications receives particular attention, and specific Year 2000 ready dates have been established for them. In this regard, although a great deal has been accomplished, much remains to be done.

Last year we reported that some ministries had expressed concern about the sufficiency of shared facilities and tools available for testing and validation when deadline pressures build up. Those ministries with a heavy Year 2000 workload also predicted possible slippage of planned completion dates as a result of anticipated shortages in skilled personnel and possible funding constraints.

Our current review confirmed that these concerns continue to exist, primarily in the areas of:

- staff vacancies in the information technology departments;
- the uncertainty of funding availability;
- the sufficiency of shared facilities and tools available for testing and validation; and
- the availability of program staff to perform the significant amount of user testing required.

The Risk Management Branch of the Ministry of Finance and Corporate Relations was instrumental in each ministry appointing a business continuation planner and for training most of the appointees one-on-one. At the date of our review, however, ministries had completed little in the area of business continuation planning related to Year 2000.

Exhibit 7.7

The Expected Date for Each Ministry to be Year 2000 Ready

For many ministries, the expected date for Year 2000 readiness has been delayed from the date reported last year

Ministry	Expected Date for Compliance as of October 1997	Expected Date for Readiness as of November 1998
Aboriginal Affairs	1998/99 fiscal year	All critical systems are currently ready.
Advanced Education, Training and Technology	1998 (was Ministry of Education, Skills and Training/Labour)	Various dates to February 1999
Agriculture and Food	Second quarter of 1999 (was Ministry of Agriculture, Fisheries and Food)	March 31, 2000 Ministry has concerns with adequacy of staffing and budget.
Attorney General	Mid-1999	March 31, 1999
Education	1998 (was part of Ministry of Education, Skills and Training/ Labour)	Various dates to August 1999
Employment and Investment	1998/99 fiscal year.	Spring 1999
Energy and Mines	1998/99 fiscal year (was part of Ministry of Employment and Investment)	Spring 1999 Priority systems by January 1999
Environment, Lands and Parks	Not available (to be defined in the 3-year plan being developed)	Testing of corporate applications and director sign-off scheduled from January to March 1999 One priority system by May 1999
Finance and Corporate Relations	Dec. 1998 (Varies, depending on priorities and resources available)	Many critical functions are ready; however, there are areas of concern given volumes of work, competing priorities, and potential lack of testing facilities Most priority systems by March 1999 One priority system by July 1999
Fisheries	Second quarter of 1999 (was part of Ministry of Agriculture, Fisheries and Food)	Completion dates range from December 1998 to March 1999
Forests	Mid-1999	Many critical functions are ready, however, there are areas of concern given staffing losses, availability of user staff for testing purposes, and competing priorities. Most priority systems by January 1999 One priority system by September 1999
Health	March 31, 1999 (priority financial systems) June 30, 1999 (priority non-financial systems) Dec. 31, 1999 (low priority systems)	September 30, 1999, but this date may not include full program area testing, as there are concerns about sufficiency of staffing and access to testing facilities. Most priority systems by March 1999. One priority system by June 1999

Ministry	Expected Date for Compliance as of October 1997	Expected Date for Readiness as of November 1998
Human Resources/Children and Families	End of 1998 (Aug. 1998 for major financial systems)	February 1999
Labour	1998	Second quarter of 1999; however, concerns exist about the adequacy of staffing, funding and testing facilities.
Municipal Affairs	Dec. 1998 (was Ministry of Municipal Affairs and Housing)	January 1999
Small Business, Tourism and Culture	Dec. 1998 (priority systems, 80-90% of total systems affected)	Fall 1999 Priority system by March 1999
Transportation and Highways	Dec. 31, 1999 (however, some of the systems may not be compliant if resources are not sufficient)	September 30, 1999 Most priority systems by March 1999 One priority system by June 1999 One priority system by September 1999
Women's Equality	March 31, 1998	Conversions, required as a result of switching to a Windows infrastructure, will be completed by the end of February 1999.

Source: Office of the Auditor General surveys, October 1997 and November 1998

Detailed Analysis

Project Management Structure

Our intent in examining the project management structure was to determine:

- if the ministries had infrastructure to promote, lead and monitor Year 2000 activities; and
- if there was executive sponsorship of the activities and high-level ownership and direction.

Specifically, we looked for the existence of a Year 2000 Steering Committee. We expected such a committee to comprise senior ministry management, key stakeholders and technology experts. The presence of senior management would indicate that the committee had authority and influence over the entire ministry for the Year 2000 issue. Key stakeholders and technology experts would ensure that critical functions were handled appropriately.

We found that each ministry, with the exception of nine of the smaller ones, has indeed created its own Year 2000 Steering Committee. The role of the committees in all cases is to direct the Year 2000 projects and review the progress. Membership of the committees is generally senior ministry management, with authority and influence over their ministries.

Each ministry has representation on the central Year 2000 Implementation Task Force. Quarterly reports outlining the status of the individual projects, estimates of work still to be performed and the resource requirements to complete the work are filed with the Task Force by the individual ministries.

Most ministries also have a Year 2000 Project Management Team headed by a Project Manager (usually a full-time position) who reports to the steering committee (or to ministry management in the cases where no committee exists). These teams are the technical leaders of the Year 2000 projects and are involved in such matters as strategies, standards, change management, testing and certification.

In two of the larger ministries, the Year 2000 projects are completely managed at the division level. In these cases, there are several project managers, each responsible for forwarding summary information about their own areas to the steering committee. Ministries have found that with the complexity and variety of programs, this is the most practical way of addressing the issues.

It is apparent that infrastructure does exist in ministries to promote, lead and monitor Year 2000 activities, and that these activities are directed and supported by senior executive of respective ministries.

Promotion of Awareness of the Year 2000 Problem

The Year 2000 problem is as much a business and managerial problem as it is a technical challenge. There needs to be an awareness and commitment by management and non-management staff to the Year 2000 issue, with an understanding of the potential impact and the need to address it on time. We inquired about the means ministries used to promote awareness to management and non-management staff.

We found that all ministries actively provide information to their staff and management. The normal methods used are: briefings to ministry executive; e-mail broadcasts to employees; newsletter articles; postings to ministry Web sites; postings to other bulletin boards; presentations to staff; circulation of minutes; and publication of status and update reports. For those ministries where the user departments are responsible for technical areas such as “embedded systems,” technical information is provided to the users as needed.

Assessments of Risk

An inventory and subsequent assessment of all systems are necessary to allow sound decisions to be made on how to achieve Year 2000 readiness. The inventory should capture information on programs and their programming languages. It should also state whether the program is custom-designed or off-the-shelf software; it should list hardware with internal clocks, archived data, and other date-dependent equipment; and it should specify users of each application, including any external users.

In addition to their own inventory, we expected ministries to have recorded all external data exchanges. Even if a ministry has made its own systems Year 2000 ready, its operations may fail if incorrect data entering from external sources contaminates the systems. The ministry may have to develop appropriate filters to maintain the integrity of systems and the data within them.

We also expected that, once the inventories were completed, the ministries would have decided whether each system was Year 2000 ready or needed to be converted, replaced or retired. The possible effect of failure and the anticipated failure date of each system must be established and verified. Those systems considered the most critical should then be given the highest priority in the conversion schedule.

We found that all ministries have completed inventories of their systems and have ranked them in accordance with the risk associated with their failure. The September 1998 report of the Chief Information Officer lists 941 ministry systems, of which 363 were complete. By the time the December 1998 report was issued, the number of ministry systems affected by the Year 2000 problem had increased to 1,230, of which approximately 516 were considered ready. The report is accumulated from the quarterly reporting by the ministries.

With a few exceptions, ministry inventories cover all the significant elements. One exception was a ministry that excluded embedded systems from the inventory because those systems were looked after separately by support staff. Also, three ministries mentioned that software applications in the program areas were unknown and were to be covered by special projects to begin shortly.

The inventories include systems of external entities upon which the ministries rely. External entities with which the ministries are working include: federal government departments and regulatory and other public agencies; banks and other types of private companies; care and other service providers; the RCMP; and firms that provide software for industries, which in turn use the software to report to government. Confirmation of these external systems has been (or will soon be) obtained from the entities responsible for them. In one case, the user ministry is going to place a “filter” on the data being exchanged to avoid Year 2000 problems.

In our survey, we asked the ministries to quantify and describe systems that are not likely to be converted before the required deadline. In all but one case the ministries answered that there would be no such systems. The one exception was the response from a ministry that indicated that no formal plans had been submitted for the Year 2000 work, and therefore the question could not be answered. This ministry is one of the smaller ones in which no system is designated as “priority.” It could be assumed that any risk to the public associated with the lack of formal plans should be minimal in this case.

Legal advice is provided, as needed, on all aspects of the Year 2000 issue, by the Legal Services Branch of the Ministry of the Attorney General.

Adequacy of Resources

Projects to address the Year 2000 problem require considerable resources in terms of dollars and people. We obtained ministry assessments as to the adequacy of funding and human resources to complete the planned work. We also asked if there were any instances where it appears the staffing was insufficient to complete the required tasks within the deadline.

At the time of our review, few ministries had encountered problems with lack of funds. However, significant funds would be requested before the Year 2000 readiness deadlines, and the ministries would be relying on these funds forthcoming. To the ministries, a bigger concern than funding has been staffing resources. Some ministries reported key vacancies in their Information Systems Branches. Only two small ministries have not used contractors in their Year 2000 activities. Of these, one has the intention to use them if it receives funding.

A few of the ministries have concerns about the availability of program area staff to perform user testing of their systems. This is an area that is difficult to cover off by the use of contractors. When asked if there was a shortage of staff resources, five ministries said there was. The option of redirecting other resources to make up the shortfall was raised by some ministries, but clearly such action could hurt program delivery. Most staffing shortfalls in the ministries are being, or are expected to be, met through the use of contractors. However, if the availability of program staff for testing and certification of systems is less than what is planned for, critical shortages could still arise.

Another area of staffing concern in some ministries is the review of in-house software and the evaluation of compliance of personal computers. As well, conflicting priorities have the potential for limiting staff's availability to do what is planned. Among the conflicting priorities the ministries have faced to date are a Corporate Services merger between two ministries, ongoing legislation and rate changes and preparation for the introduction of the Eurodollar.

The whole issue of staff availability, particularly from the program area, should be one of the focuses of management of the Year 2000 work.

Another resource-related concern of ministries is the adequacy of the testing capacity for systems operating in the MVS technology mainframe environment. This is discussed in more detail under "Strategies for Testing, Validation and Conversion," below.

We recommend that staffing and funding demands in each ministry be reassessed by ministry management to ensure that all mission-critical systems are adequately resourced.

Project Planning

The complexity and scope of the Year 2000 problem makes it crucial that comprehensive plans be developed to deal with it. The plans should have schedules and milestones for all required projects. These plans should be comprehensive and realistic and there should be processes in place to ensure that all unique costs are accounted for and reported to the Year 2000 Project Management Team. In some cases, these plans will become "moving documents" as circumstances dictate changes in priority or approach (e.g., a decision to replace a system that was originally scheduled for modification).

As reported earlier, all ministries but one have prepared detailed plans for their Year 2000 projects. These plans include schedules and milestones for all the projects. The Year 2000 Project Management teams, if applicable, and the Year 2000 Steering Committees are responsible for ensuring the plans are comprehensive and realistic.

The project plans are constantly evolving, but major changes are not common. Some of the unique reasons for the more significant changes are: the creation of new ministries with reassigned responsibilities for Year 2000 work; the expansion of the original plans to include additional areas (embedded systems, workstations, etc.); decisions to replace rather than repair systems and vice versa; and the early retirement of the Mark IV at the Information Technology Services Division which necessitated rescheduling of some work.

Strategies for Testing, Validation and Conversion

According to an independent consultant working on the Year 2000 problem, validation and testing of converted or replaced systems may consume up to 40-50% of the time and resources dedicated to the overall initiative. The significant commitment involved in the testing process is illustrated by the following excerpt taken from a guide that one ministry sent to specific program directors: “It is generally recognized that all critical programs need to be fixed by the end of fiscal 1998 to have a full fiscal year to test and run the programs through a full business cycle, and to allow transactions containing dates after January 1, 2000 (such as delivery dates on sales orders) to be processed before then.”

Some ministries will be using their own Year 2000 tools and facilities for testing. Others will be sharing tools and test facilities, such as those provided by the Information Technology Services Division (ITSD). Careful coordination of testing schedules is clearly important to ensure that ministries have time available to meet planned deadlines.

The MVS is a major information technology mainframe environment. Approximately 38% of the high-risk ministry systems run in this environment. ITSD has built a Year 2000 isolated test platform (Year 2000 ITP) for the forward-date testing that ministries must do to ensure their systems are Year 2000 ready. However, at the time of our review, neither the ministries nor the division were confident of the platform’s testing capacity. Any shortage in the testing capacity could result in increased costs and a growing risk of failure for these systems.

Our review of the 1999 Year 2000 ITP testing schedule, issued in January 1999, revealed that only four ministries had scheduled time. These four ministries had identified 10 applications to be tested, of which 7 are on the government’s mission-critical list. A further look revealed that 2 of the mission-critical applications scheduled were shown as “ready” on the government's list. Discussion with the ministries confirmed that the systems had been deemed Year 2000 ready, but testing on the Year 2000 ITP was still to be performed.

During our review, we encountered other instances where future date testing is being deferred until after the updated programs have been moved back into production. The Year 2000 ITP is then to be used for final integration testing. We note that there is a risk that this integration testing may reveal Year 2000 problems.

Also of concern are two mission-critical projects that operate in the MVS environment and were in the testing stage at the time of our report, though they were not scheduled on the Year 2000 ITP.

User involvement in systems testing varies greatly by ministry. Some of this variance is the result of certain ministries being farther along than others. As discussed in "Adequacy of Resources," the availability of program area staff to perform the user testing is a concern.

We recommend that monitoring the capacity of the testing facilities in the Information Technology Services Division be a priority of the Province's Year 2000 efforts to ensure that the resources are sufficient.

Project Monitoring

The progress made to date in implementing the project plan should be monitored against the relevant plans and milestones. Any slippage or any unexpected developments may require amending the plan. The status of the ministry's readiness should be reported regularly to senior management.

Also, project monitoring should ensure that only authorized and documented changes are made to programs or systems. To prevent inappropriate or undocumented changes requires that there be effective controls in place to ensure that change management standards are being followed.

All ministries have reporting procedures in place to monitor Year 2000 projects, and their senior management receives project updates. In two very small ministries the reporting is only on an as-needed basis.

All but one ministry indicated that the management team had ensured that vendor products and services were assessed and being monitored for compliance on time. In the one exception, we were told that an effort was being made to have all vendors document their products' Year 2000 compliance, but that no independent formal assessment was being done.

Eight ministries indicated that the management team did not validate inventories, assessments, plans, budgets, resourcing, status reporting and certification of all program areas. In one instance, this was the responsibility of each of the ministry's divisions. In three other cases, peer reviews were used to assess completeness and accuracy. The other cases were related to small ministries with no mission-critical systems.

The costs of the projects are tracked through normal ministry project tracking means. In some ministries, only external costs are tracked - not the cost of the time of ministry employees. Although this means that the "true cost" of the Year 2000 work is not recorded, there is no effect on the performance of the project work.

The Chief Information Officer receives quarterly reports from the Task Force. Those reports are also distributed to all Assistant Deputy Ministers, members of the Advisory Council on Information Management, and the Treasury Board Secretary. The Task Force prepares the reports based on the inventory of systems and the progress report submitted by each ministry. Each report provides an account of government-wide Year 2000 activities, describes ministries' accomplishments in the last quarter and problems encountered, outlines activities planned in the next quarter and includes Task Force recommendations.

At the time of our review, we found that projects were generally progressing according to plan, although there had been some slippage from planned deadlines (see Exhibit 7.7). One ministry rated some of its applications as "cause for concern due to volume of remaining work, or magnitude of risk." A look at the ministry compliance/readiness dates suggests there is a distinct likelihood that more than one other ministry may have projects that would deserve the same rating. Somewhat offsetting any concerns is the continued confidence across government that all "priority" systems will be compliant in time.

Contingency Planning

Even in the most optimistic situations, it is unlikely that all systems will be Year 2000 ready in time. The importance of the services offered, the risks of disruption and the potential impacts to services must all be considered when a ministry is determining what is reasonable contingency planning. While each ministry's plan and effort will be different, the goals of each ministry should be the same—namely, to allow:

- no disruption of vital public service; and
- no loss of accountability for public resources.

Contingency plans should identify alternatives that would ensure the continuation of core business processes even if a system failed. The alternatives should be subject to cost/ benefit analysis and then the best contingent strategy identified for each core business process. Year 2000 business contingency plans should also be subject to the same identification, risk assessment, testing and certification process as any other plan.

Each ministry should establish its contingency plans for solutions to be developed within the ministry as well as products and services to be provided by vendors. Possible system failures in the operation of service providers and key customers should also be considered and dealt with in the plans.

At the time of our review, only three ministries stated that contingency planning is complete. It was not clear to us how detailed their planning had been. Seven ministries stated that the plans were under development or were completed in some areas and would be completed soon in others. Five ministries reported that no contingency planning had been done. One of these ministries has systems that have been identified as “priority.” In this ministry, the owners of the mission-critical systems have been advised of their responsibility for completing the plans. Two ministries stated that the conversions and fixes they were doing would mitigate all identified risks and, in any case, their projects were on target. Two others stated that their Year 2000 business contingency plans consisted of reverting to manual procedures.

We were encouraged to learn that:

- with the exception of the one ministry mentioned above, all ministries with mission-critical systems had begun the contingency planning process;
- all ministries with projects falling behind schedule had begun the process; and
- contingency planning has been identified by the central Year 2000 Implementation Task Force as a priority and steps are scheduled to ensure that all ministries address the issue and that the process followed is thorough and complete.

Shortly after our survey, the Deputy Minister to the Premier set deadlines for mission-critical systems, which included the development of plans by March 1999, and executive endorsement of these plans by May 31, 1999.

We recommend that the program areas in ministries place more emphasis on developing Year 2000 contingency plans to minimize the effects of system failure.

Certification

There should be procedures to ensure that the Year 2000 readiness of ministries is verified. Certification should be by both the information technology expert and the applicable senior management of the user organization. Appropriate certification would ensure that:

- a user acceptance test plan was developed;
- comprehensive testing was carried out;
- all applications that interface with the Year 2000 ready system are also ready;
- the ready system has been successfully implemented into a Year 2000 ready production environment;
- management processes are in place to ensure continuing readiness after certification; and
- Year 2000 contingency plans have been developed to ensure business continuation.

At the time of our survey, many more systems were still in progress than had been certified. Not all ministries had completed the development of user acceptance test plans.

From the certification information provided to us, we found a wide variance in who the ministries designate to certify a system. In the case of the large ministries where the management of the Year 2000 process is decentralized, the certifier can vary within the same ministry. Typical examples of the positions that would certify a system as Year 2000 ready are the system owner, the Project Manager, the program area sponsor, the lead technical person, information technology management or some combination of the above.

The certifications are reviewed by the Steering Committees, where applicable. The ministry Deputy Ministers are ultimately responsible for the completion of the Year 2000 efforts.

Part 3: Year 2000 Readiness—Specific Systems

We selected six major ministry financial systems and reviewed the progress made in identifying and correcting the Year 2000 problems associated with them. Because each system is extensively automated and reliant on information technology, the Year 2000 problem poses a potential threat to the continued delivery of their respective business processes. Our review covered a three-month period to the end of December 1998.

The Corporate Accounting System (CAS)

CAS is the government's main accounting, reporting and financial management system. It currently processes general ledger, accounts payable and commitment management transactions. The government would not be able to process payments if this system failed.

Last year, in our Report on the 1996/97 Public Accounts, we noted that the government's plan to make CAS Year 2000 ready included the elimination of the Central Batching System. The government stopped using that system on April 1, 1998.

CAS uses a purchased software called "Walker," which last year the vendor had certified Year 2000 compliant. However, the CAS team's independent testing later revealed that it contained some non-compliant code. Subsequent to our review, the vendor provided "fixes" for the non-compliant code and the testing and certification of the revised software was completed prior to April 1, 1999.

Detailed Analysis

Project milestones had changed since our last review, though the final deadline for making CAS Year 2000 ready (April 1, 1999) remained inflexible because April 1 is the start of the 1999/2000 fiscal year.

The initial plans for Year 2000 readiness were to eliminate non-compliant components and to have all ministries come on-line with CAS by April 1, 1998. The CAS Generic Interface (CGI) was implemented to cover ministries that were not on-line by this date. The CGI was developed to enable ministries to process transactions through CAS after the elimination of the Central Batching System. Testing of CGI was complete at the time of our review and it had been certified as Year 2000 ready.

Ministry program systems that interface with the CGI were required to be Year 2000 ready by April 1, 1999. The CAS team worked with ministries in the testing of these systems and interfaces.

The implementation of phase II of the CAS initiative was planned to start on April 1, 1999. Phase II will see additional functions added to the accounting system. These will be designed using software from Oracle Financials and a date standard that is Year 2000 compliant.

The vendor has certified the Oracle software Year 2000 compliant. As with the Walker software, this claim will be verified as part of the project testing. Because the most up-to-date release of the Oracle software is being used, we expect the testing to confirm the software's compliance.

Management communicates its plans, and their potential impacts on government operations, to all affected stakeholders through the Ministry of Finance's internet site and through regular status meetings of the CAS Executive Steering Committee and the Senior Financial Officers (SFO) Council.

The CAS Year 2000 project leader is responsible for coordinating resources, resolving issues, making status reports, monitoring project progress and certifying applications. The Year 2000 project staff meets weekly to discuss project status and resourcing issues. Meetings are also held on an informal basis as needed. The project team must collect accurate information on activity status, achievements and difficulties in order to assess project progress and redirect activities if necessary. The project leader is the liaison between management and project staff and is responsible for verifying all information reported to senior management.

Resource allocation continues to be a challenge. The availability of Ministry staff is critical, as they will complete the remainder of the CAS Year 2000 work. At the time of our review, staff availability was limited as a result of both competing branch priorities and the delay in receiving Year 2000 revised coding for the Walker software. However, the ministry remained confident that the required work would be completed by the April 1, 1999, deadline.

The funding to complete Year 2000 work is being taken from the CAS initiative operations budget. Ministry management reported to us that they would consider making further allocations to Year 2000 work if additional funding is required.

The CAS team follows standardized procedures to control system changes. Such procedures require that only approved changes are made to the system.

At the time of our review, the CAS initiative team had started to prepare Year 2000 contingency plans for unexpected system failures.

We recommend that the CAS initiative team formalize and seek management approval of its Year 2000 contingency plans.

We have commented on the development of the CAS system itself on page 115 of this report.

We have included the Ministry of Finance and Corporate Relation’s response on actions taken since the beginning of the year (see page 213).

The Corporate Human Resource Information and Payroll System (CHIPS)

CHIPS processes payroll for government, tracks employee leave entitlements, and maintains human resource information for approximately 36,000 government employees. The Ministry of Finance, Public Service Employee Relations Commission (PSERC), is responsible for managing CHIPS. Failure of this system could result in the government’s inability to produce pay cheques and would contravene labour standards legislation.

We reported last year that PSERC had installed a new version of the CHIPS application software and Year 2000 testing was underway. The results of these tests indicated this purchased application software was Year 2000 ready. Since our last report, the commission has installed a newer version of the software, designed to enhance the technical performance of the system. While the application software vendor, Peoplesoft, has certified its software to be Year 2000 compliant, PSERC has yet to test and validate the vendor’s certification.

We also reported on the CHIPS operating system last year, noting that it was not Year 2000 ready. Since then, PSERC has upgraded its operating environment and testing of the upgrade is in the planning stage.

An inventory of all PSERC applications and systems identified 11 of the 13 interfaces as not being Year 2000 ready (see Exhibit 7.8). These interfaces provide data from CHIPS to other government and external systems, such as the data to produce employee cheques and advices, to process employee pension benefits, and to report information to Revenue Canada. Currently, some of the data output has two digits for the year.

Exhibit 7.8

CHIPS Interfaces

CHIPS interfaces provide data to government and external systems. At the time of our review, PSERC determined that 11 of the 13 interfaces were not Year 2000 ready

CHIPS Interfaces

1. Cheques and Advices
2. Electronic Funds Transfers
3. Superannuation—pension data
4. PSERC Reporting Interface
5. Medical Services Plan
6. Corporate Accounting System
7. Employee Chargebacks
8. British Columbia Government Employees Union/Professional Employees Association
9. BC Statistics
10. Revenue Canada—T4 Information
11. Public Accounts Reporting
12. Saving Plans—Bank of Canada
13. Workers' Compensation Board

Source: Payroll Operations and Information Management Division of PSERC

It is anticipated that many of the receiving systems will require the date in a four-digit format. The commission will be coordinating the timing of the new format requirement with the data recipients and then providing a compatible date field.

PSERC plans to provide certification that the CHIPS application and its data are ready for the Year 2000. Legal advice should be sought to determine:

- PSERC'S legal exposure, should CHIPS fail to operate once the date changes to 2000; and
- the implications of PSERC's certification on CHIPS and its data.

The commission has not developed a Year 2000 contingency plan.

Detailed Analysis

Because the CHIPS employees working on the project also have other duties, the Year 2000 project fell marginally behind schedule over the past year. However, since the assignment of a project manager in November 1998, a comprehensive project charter has been prepared, inventory has been assessed and a detailed project plan has been developed.

PSERC has established a comprehensive inventory of all systems, programs, modules, code modifications and interfaces. An impact analysis is being done to determine how critical the effect is on system processing if an individual component is not Year 2000 ready. Modification and testing of the components will be based on priority.

Working groups and management meet weekly to discuss and coordinate the project's goals and results. To monitor the status of the project and ensure that issues are identified and resolved quickly, management receives a bi-weekly report. The progress and issues are reported to the executive management quarterly.

The commission is aware that computer applications, hardware and operating systems used for CHIPS must be Year 2000 ready to avert business disruption, financial loss and—more seriously—potential litigation. External parties, such as ministries, will be placing reliance on PSERC for data produced by CHIPS and data received through PSERC's interfaces.

PSERC has committed to posting the test results on the Internet to allow users to evaluate the results. It will also be providing certification that hardware, software, data and interfaces may be relied on to operate effectively with respect to Year 2000 concerns. As well, the commission has identified that CHIPS will be subject to failure should external resources outside its control fail (such as electrical power), and it is committed to developing a Year 2000 contingency plan. We note, however, that at the time of our review, no contingency plan had been developed.

We recommend that PSERC establish a Year 2000 contingency plan to minimize the effects of failure of CHIPS.

As at the end of March 1999, PSERC's legal counsel had not reviewed the software and hardware vendor's Year 2000 certification to ensure that legal recourse is available to PSERC should unforeseen problems result. In our view, it is important that PSERC'S legal exposure be determined.

We recommend that PSERC seek legal advice to determine recourse should CHIPS not operate as anticipated at the turn of the century.

The project management team has ensured that it has executive support for its Year 2000 initiative. In 1998/99, funding of $143,000 was obtained through regular budgetary allocation. To complete the project, PSERC estimates that an additional $214,000 will be required for 1999/2000. The commission believes that adequate in-house resources are available, and that the personnel required to complete the necessary tasks have been assigned.

The project has been divided between two independent units. Each unit, however, will use the same project methodology, reporting structure and project management. Roles and responsibilities of team members are clearly defined and communicated. PSERC is committed to applying adequate control procedures for any modifications made to software and hardware. (We have reported on the change management process at CHIPS separately in this report, on page 228.)

The primary effort of the Year 2000 project is to validate the vendor certification of the application and operating systems. Although the satisfactory results of last year's testing of the earlier version of the application software may provide some comfort, PSERC plans full testing on the current version. The commission is also focusing its efforts on the source codes that it modified in order to conform to its contract requirements, because these modified codes represent a higher risk of Year 2000 non-compliance.

Testing will be performed by the commission's own business experts and developers, in an independent environment from the normal payroll production. This will ensure the integrity of the existing system and data, and prevent inadvertent modification during testing.

We have included PSERC's response on actions taken since the beginning of the year, relating to CHIPS, on page 214.

The Social Service Tax System

The Consumer Tax Branch of the Revenue Division of the Ministry of Finance and Corporate Relations is responsible for administering and enforcing the Social Service Tax Act. The Act imposes a tax on all tangible personal property and specified services purchased within British Columbia or imported for use. There are approximately 96,000 social service tax vendor accounts, with about 65,000 tax returns filed each month. In the fiscal year 1997/98, the Province collected $3.3 billion in revenue from social service tax.

Many of the computer applications used by the branch for collecting and recording social service tax are not Year 2000 ready.

Last year, we reported that the Revenue Division had established the following projects:

- the "CTB21 Project" to replace the existing systems with a Year 2000 compliant integrated information system; and
- the "1999 Fixes Project" to prevent failures in the existing systems before the Year 2000.

We also reported that the deadline for the CTB21 Project was such that any project delays would impair the ability of the project team to meet the December 31, 1999, deadline.

Since then, delays have resulted in the discontinuation of the CTB21 Project, which could no longer be a viable alternative for Year 2000 readiness. Therefore, at the completion of the 1999 Fixes Project, the "Y2000 Contingency Project" (Y2000 Project) was initiated. This project, which includes preventing failures in the existing systems beyond 2000, was made part of the division-wide Year 2000 project managed by the Information Systems Branch of the Revenue Division.

The original cost estimate of the Year 2000 project of $1.2 million remains unchanged from our last report. The project completion date, however, has been revised to March 31, 1999, from December 31, 1998. At the time of our review, the project appeared to be on track to meet the revised deadline.

The Y2000 Project appears to have established an effective infrastructure to manage Year 2000 initiatives within the Revenue Division. Our review of work performed indicates that reasonable project plans are in place and that the project has adequate resources. There is still a risk that problems could occur, but we believe that sufficient time will be available to correct, test and implement identified problems before December 31, 1999.

Detailed Analysis

The objective of the Y2000 Project is "to mitigate, in a cost-effective manner, the impact of Year 2000 on the operations at the Revenue Division, and to ensure that the Division will be able to remain in business." The scope of the project includes all information systems used for the administration of taxation by the Revenue Division. Responsibility for the successful completion of the Year 2000 efforts of the Revenue Division resides with the Project Manager.

The project has a formal communications plan that outlines the forms, frequency and audiences of communication. The Y2000 Project management believes that stakeholders' understanding of the Year 2000 problem is key to achieving project success. Therefore, communication about the problem will continue throughout the project to maintain stakeholder support.

The project team prepared a complete list of the business elements to be attended to and estimated the effort and resources needed to do so. The inventory includes various application software, external interfaces, operating systems, application languages and tools, and hardware.

Keeping existing staff remains a challenge as outside opportunities for skilled technology personnel continue to grow as we approach December 31, 1999. To address this concern, the Revenue Division hired a contractor to supply required personnel and another contractor to repair and regularly maintain the systems until the CTB21 Project is implemented. This maintenance contract expired March 31, 1999. We understand that the Revenue Division has secured the resources for future maintenance requirements by renewing the contract.

Critical for the administration of the revenue legislation are the older mainframe applications. The project is addressing these applications first. The contractor deals with individual modules of the system, implementing each module into the production environment as the work on it is completed. Therefore, until work is completed, the Year 2000 ready modules and existing modules are functioning simultaneously in the production environment.

The project deadline for completion of the mainframe applications was March 31, 1999. At the time of our review, 49% of the required fixes to the mainframe applications had been put into production. We understand that this work is now nearing completion. The testing and implementation of modules is proceeding with slight variation from the planned project dates. Lower priority applications will be completed by September 1999.

Monitoring is a key component of the Y2000 Project management. The project team holds weekly meetings to discuss scheduling, the current status of the project, and potential issues or problems. The direction of the Y2000 work is guided by steering committees that must authorize all major project decisions.

The mainframe applications for consumer tax systems are divided into 57 modules. Authorization is required before each module can proceed from the development stage through to testing and then implementation in the production environment.

Although modules are to be individually tested, the functionality of the whole system was not to be looked at until April 1999, when testing would be performed on the MVS Isolated Test Platform at ITSD. We believe, as does the division, that this should leave sufficient time to correct, test and implement any identified problems before December 31, 1999.

The CTB21 Project initiated contingency planning in October 1997. However, delays in that project have diminished its use as a viable alternative for Year 2000 readiness. The revised project set the completion date at early 2000. Because an alternative to a working system was not possible to produce before the turn of the century, fixing the existing systems became the Consumer Tax Branch's primary solution. Therefore, the Revenue Division does not have a Year 2000 contingency plan. However, contingency planning was scheduled to begin once high-risk areas were identified.

We recommend that the Revenue Division begin Year 2000 contingency planning as soon as possible to minimize the effects of system failure.

Given that the method of fixing the consumer tax systems is insufficient to ensure the consumer tax systems are Year 2000 compliant (see Exhibit 7.6), the Revenue Division's legal advisors have recommended that the division not certify the systems as such. However, on completion, the Y2000 Project intends to affirm that the tested systems are Year 2000 ready.

We have included the Ministry of Finance and Corporate Relation's response on actions taken since the beginning of the year, relating to the Social Service Tax system, on page 215.

The Harvest Database System

The Ministry of Forests is responsible for managing British Columbia's wood fibre resources. As part of doing this, it is responsible for billing and collecting stumpage revenue on behalf of the Province. Calculation of stumpage billing and royalties earned from timber sales of about $1.2 billion is handled by the ministry's Harvest Database System. If not ready in time, a significant loss in interest revenue may occur.

We reported last year that the Harvest Database System was expected to be Year 2000 "capable" by January 1, 1999. At the time of our review, however, the deadline for final completion of all software was postponed to December 30, 1999. In our view, this estimated completion date is troublingly near the ultimate deadline of January 1, 2000.

The system is a joint project of the ministry's Information Management Group and its Revenue Branch. The Information Management Group is responsible for the software changes, and the Revenue Branch for the user testing. This approach to managing the project is blamed for delays due to increased decision-making time.

Resources have also been a challenge for the project. With high staff turnover, the ministry had to turn to contractors for project completion. As well, staff shortages prompted a decision to use contract resources to do the user testing. The total costs to convert and test the system have been estimated at $1.4 million, as compared to the estimated $400,000 reported last year. At this stage, we believe that adequate funding is essential for the timely completion of the project. Otherwise the knowledge and skills needed to carry out the conversion could be lost, a situation that could seriously hamper finishing the project. So far, major milestones have been achieved, but there is uncertainty surrounding the sufficiency of the remaining time for the user acceptance testing.

The ministry does not have a complete Year 2000 contingency plan in place. It has considered certain options, but none in detail.

Detailed Analysis

A detailed inventory of the Harvest Database System was developed specifying the 250 business processes and 4,500 modules in the 12 business streams. The Information Management Group identified all fields and program instructions that needed to be changed. The conversion project started programming in May 1997 and testing in April 1998.

At the time of our review, final completion of all software was scheduled for December 30, 1999, which is significantly later than the original date of January 1, 1999, indicated in the project charter.

We recommend that the Ministry of Forests' senior management closely monitor the Harvest Database System project to ensure that it will be Year 2000 ready in time.

The software for the first business stream was being tested during our review. This business stream is to be used as a benchmark against which to determine how long the complete testing process will take.

We found that the ministry is relying largely on contractors to do this conversion work. With the attractive earnings potential outside government, the ministry has not been able to maintain the in-house resources required for this task. This is an ongoing problem for which management has no immediate solution.

The ministry budget covers the costs of the Year 2000 conversion. However, although the programming team has received adequate funding, this has been a challenge for the user acceptance testing team, which is made up mostly of contractors. Total costs to convert the system have been estimated at $500,000 for the remediation side, compared to $400,000 reported last year for that purpose. An additional $435,000 for 1998/99 and $500,000 for 1999/2000 will be required for the user acceptance testing, for which funding was not anticipated last year. The total current estimate of cost, therefore, is $1,435,000 compared to the estimated $400,000 reported last year.

The project leaders feel they will have adequate resources under contract to deal with the Year 2000 problem. Although, at the time of our review, no contracts extended past the 1998/99 fiscal year, we understand there is a commitment by the contractors to complete the project. Because the ministry relies on contractors to complete the conversion, we believe it is essential that funding be approved to cover the contract costs.

The Year 2000 conversion of the Harvest Database System is led by two project managers jointly, one for the programming and the other for the user acceptance testing. A project office coordinates communication between the project teams. Groups meet weekly, and senior management is informed of progress or problems in the same interval.

The project charter governs the conversions of the system, outlining the plan to make the system Year 2000 capable. The project team leaders distribute standards, strategies and guidelines to teams, in accordance with the project charter and conversion plan. Risks were initially assessed as part of the project charter. Revenue Branch continues to complete a weekly risk assessment, which allows the project groups to stay current with any issues and follow them to resolution.

A conversion plan has been developed, based on the priority of business processes. There is also a detailed schedule of when each business process will be converted, tested and implemented.

The ministry's plans for the testing and implementation of the software are based on the ministry's test standard, referred to as "Test For Failure," which is an approach commonly used for Year 2000 remediation projects. Its strength lies in comparing the output of the remediated application to the output of the existing non-remediated application, and reconciling any differences.

The Information Management Group does not make any changes until ownership of the software has been transferred to it. Once the changes are complete, the software is transferred to the user acceptance testing team, which does a quality review by ensuring that proper documentation is in place, that the conversion covered all software, and that there is only one version in existence. Any problems are communicated to the Information Management Group programming team for resolution before testing begins. These important control procedures ensure that all software is changed, and that no changes are lost due to multiple versions in existence. At the time of our review, approximately 75% of the software had been delivered to the user acceptance group for testing (see Exhibit 7.9).

The user acceptance team also does a quality assurance review of the remediated software to ensure that it adheres to ministry standards. There have been several cases when the

Exhibit 7.9

Status of the HDBS Project as at November 1998

At the time of our review, approximately 75% of the software had been delivered to the user acceptance group for testing

Project Phase	Percent Complete
Planning Phase	100
Conversion and String Testing	95
Delivery for User Acceptance	75
User Acceptance Testing	15
Implementation	<1

standards were not followed, as the Information Management Group believes these standards are not appropriate for a conversion project of this scale. Therefore, with early completion as a goal, the Information Management Group is using them only as guidelines. This has raised concerns within the user acceptance team that the lasting ability to maintain the system may be compromised.

Certification of the Year 2000 capability of the software will occur when the testing is complete and all required changes are made and re-tested. Revenue Branch will provide a final sign-off.

The Harvest Database System obtains its date information from the MVS operating system and other information from other operating platforms. The VM operating system and other systems linked to the Harvest Database System are not within the scope of the project team. The ministry is relying on the Information Technology Services Division to make sure that both the MVS and VM systems are Year 2000 ready. To this end, the ministry is including elements of these interfaces in their testing to ensure no problems exist.

The ministry has developed options for dealing with the Year 2000 problem if the system is not Year 2000 capable on time. However, no work has been done to determine whether the alternatives are reasonable, nor have Year 2000 contingency plans been completed and tested.

We recommend that the Ministry of Forests develop and test its Year 2000 contingency plan for the Harvest Database System.

We have included the Ministry of Forests' response on actions taken since the beginning of the year, relating to the Harvest Database System, on page 215.

The MSP Claims System

The Medical Services Plan (MSP) pays health care providers for most of the medical services provided to the residents of British Columbia. MSP operates under the Medical and Health Care Services Act and is administered by the Medical Services Commission of British Columbia. The MSP Claims System is one of the Ministry of Health's more critical projects, encompassing 14 sub-systems and 47 applications.

The claims system processes over 90% of the services billed through the plan, approximately $1.8 billion annually. Most medical practitioners input service and billing information by means of a computer network called Teleplan. Claims for payment of services, received from over 3,600 locations around the province, are processed centrally at the Ministry of Health. All claims are validated electronically and, if accepted, are paid semi-monthly. Year 2000 began to affect the operations of the claims system in June 1998 when subscriber eligibility dates began to fall past the end of 1999.

Last year, the Ministry of Health estimated that all 47 applications in the claims system would be compliant by March 31, 1999, and that the estimated cost of compliance would be $1.3 million. However, several key staff left the project during 1998, resulting in project delays. The Year 2000 Project Management Office now estimates that 26 of the 47 applications will be signed off as Year 2000 ready by the end of January 1999. Fourteen additional applications are in progress and scheduled to be Year 2000 ready by May 1999. The remaining seven applications are scheduled to be ready by September 1999 at the latest. Because of the need for the project to be done primarily by contract staff, the estimated cost of the project has risen to $2.3 million. This estimate does not include the cost of testing by ministry program area staff.

The ministry has hired a Year 2000 contingency planning manager to address the additional planning that should be done.

Detailed Analysis

The MSP claims system project start date was September 1997. At that time, the infrastructure and the applications for the system were frozen for analysis and development purposes. However, changes resulting from day-to-day operational issues and legislative revisions—all of which are beyond the ministry's control—still had to be addressed. Actions were prioritized to address critical applications first and then financial applications. At the time of our review, the project was in the conversion and testing phase and on schedule. Separate test environments with sufficient hardware for the Year 2000 projects and sufficient test time, had been scheduled.

Staffing has always been an issue. Several key staff have left the project, resulting in project delays. The estimated completion date for 40 of the claim system's 47 applications was May 1999. The remaining applications will likely be completed by September 1999 (rather than March 31, 1999, as reported last year).

The project is being managed by a Year 2000 project coordinator, whose functions include:

- setting standards and guidelines, with the assistance of the ministry Information Management Group, and distributing them to the MSP project team, vendors, businesses and any other groups related to the claims system;
- establishing, with the Information Management Group, a comprehensive inventory of all the business elements, internal and external, that could be affected by the Year 2000 issue in the claims system;
- validating inventory assessments, plans, budgets, resourcing, status reporting and application certifications for the claims system;
- monitoring progress, taking corrective action, and documenting and tracking deviations in project activities and work products; and
- reporting to the Year 2000 project manager in a timely manner. Written status reports are prepared by the manager, reviewed by the manager of computer services and then submitted in a monthly status report to senior management.

The operations of the claims system are dependent on operational suppliers of data and software. The suppliers are working with the project team to address potential issues. The system also electronically interfaces with other claims systems, such as those at the Workers' Compensation Board and the Insurance Corporation of British Columbia. Confirmation is being sought from these other entities that the interfaces are Year 2000 ready. The out-of-province interfaces were to be ready by April 1999. Integrated testing with the interfacing entities has been considered.

The project plan contains changes for all date references, date routines, and special date usages. The required bridges have been designed and the work has been completed. All key systems have also been documented, and the documentation is sufficient to identify all users of date information.

A user acceptance test plan is in place. It has test cases for Year 2000 readiness and for confirmation of the original systems' functionality. The test cases include details on expected results and pre-conditions, clearly identified test data, and detailed procedures so that a tester can follow them without the risk of misinterpretation. Acceptance tests were approved by the project leader and began December 1997.

Other findings from our review:

- The Ministry of Health has asked the vendor of purchased software to confirm the software's compliance in writing.

Customized code has been tested to verify that it is Year 2000 ready.

- Test results are documented and users are involved in the testing process. User sign-off of Year 2000 ready systems has been slow, but the ministry has confirmed that all applications that were ready at the end of 1998 have been signed off.
- Management of the MSP Claims System has effective controls to ensure that only authorized changes are made.
- The ministry's programming and configuration management standards have been used in the claims system project. Test plans and test cases comply with these standards. The Year 2000 assessment and conversion tools are also being shared with other program areas in the ministry.
- Legal counsel has reviewed all professional service contracts to ensure that the ministry's interests are properly protected. Year 2000 warranty clauses have been included in software and hardware maintenance contracts.
- Year 2000 contingency plans are lacking. To ensure this critical part of the project process is addressed, a Year 2000 contingency planning manager has recently been hired through the newly structured Year 2000 office.

We have included the Ministry of Health's response on actions taken since the beginning of the year, relating to the claims system, on page 216.

The BC Benefits Program System

The BC Benefits Program, administered by the Ministry of Human Resources, makes in the order of 200,000 payments per month to persons and families in British Columbia. This includes payments under the BC Benefits Act for income assistance and disability benefits and payments to child care providers.

The computer system that processes these payments is referred to as the BC Benefits Program System. It is used by over 2,000 ministry staff and controls approximately $115 million in payments per month. This is the most vital system within the ministry in terms of share of the ministry budget, the number of clients, and overall visibility. Failure of the benefits system would be a serious matter, not only to the people who rely on the BC Benefits Program, but also to the public's confidence in the government.

The Ministry of Human Resources, in partnership with the Ministry for Children and Families, has established this system as Year 2000 compliant, as defined in Exhibit 7.6. This conversion was completed on time and within budget as set out in a master project plan.

One concern we had noted in last year's report was that a system-wide Year 2000 contingency plan had not been initiated. Since our review, a senior director has been appointed to manage the business continuation planning function within the ministry and to specifically address the requirements around Year 2000. The ministry has informed us that a Year 2000 business continuation plan involving all areas of responsibility in the ministry now has been created and approved by ministry executive.

Detailed Analysis

The effort to ensure the BC Benefits Program System is Year 2000 compliant in time began in May 1996. In June 1996, a high-level assessment was performed by the Application Integration Group in the Information Technology Branch of the Ministry of Human Resources. The purpose of this assessment was to estimate the person effort and funding required to achieve Year 2000 compliance by the deadline date of March 31, 1999. Exhibit 7.10 indicates the proportion of the ministry's Year 2000 resources required to achieve compliance.

A consulting group was contracted in January 1997 to implement a Year 2000 project plan for the benefits system. The first step performed was a "high-level impact assessment." This was completed in April 1997, and included the development of:

- a communication plan;

Exhibit 7.10

Proportion of the Year 2000 Resources in the Ministry of Human Resources Allocated to the BC Benefits Program System

	Estimated lines of code	Funding Requirements	Person Effort (in weeks)
Ministry of Human Resources	3,451,000	3,914,000	1,396
BC Benefits Program System	2,177,000	3,660,000	1,313
% of total	63%	93%	94%

Figures are estimates from the Year 2000 Information Resource System

- an impact analysis;
- Year 2000 compliance guidelines;
- an application portfolio, including initial inventories; and
- conversion, release, migration and testing strategies.

A master project plan for the conversion phase was produced by the end of June 1997.

A Steering Group Committee, consisting of the ministry executive and chaired by the Assistant Deputy Minister, Finance and Management Services, was formed in November 1997. Meetings were held on an ad hoc basis and this group was responsible for executive decisions affecting the entire ministry. Similarly, a Working Group Committee consisting of directors of each of the divisions was formed during November 1997. Meetings were held more frequently and decisions regarding the day-to-day running of the project were tabled. Senior management was updated on the progress of the project through briefing notes, the budgeting process, Treasury Board submissions and monthly status reports summarizing progress, status and issues associated with the project. A bulletin board facility was also established to enable all ministry staff to express concerns and ask questions of the people directly involved in the process.

All major milestones were completed by their target date.

All manufacturers, vendors and third-party suppliers of products that are integrated with the benefits system have been identified and assessed, and a bridging approach has been agreed upon. In all, 137 interfaces were identified: 59 were already compliant, and the remaining 78 were implemented before July 1998.

The Ministry of Human Resources had Treasury Board approval to spend $3,660,000 for Year 2000 compliance of the MVS system. The cost to complete the work was within budget. Staff retention was a concern throughout the project and turnover was high. However, appropriate staffing levels were maintained because the contractor brought on extra staff in November 1997 to reduce the burden of staff turnover. Management has indicated that retaining information technology staff will continue to be difficult, with demand for them increasing as the Year 2000 approaches.

Final Year 2000 compliance testing was the last test before data conversion and changing to the new date format. This testing was performed in two streams, end-to-end testing and batch testing. This testing phase, which included the involvement of system end users, was completed on June 16, 1998, allowing 25 days for contingencies before the system was put in production. Once testing was completed, senior analysts and programmers within the ministry reviewed the system. The various managers and directors involved in the project and the Deputy Minister obtained the sign-offs as required by Treasury Board policy.

The benefits system was brought to production on July 11, 1998, as scheduled.

We noted that the ministry has appropriate change management, programming and test standards in place, to ensure that no unauthorized changes are made to the relevant applications. It appears also that the ministry has adequate controls in place for introducing changes to its information systems.

Since our review, the ministry has appointed a senior director to develop, test and implement a Year 2000 business continuation plan. The Project Management Office, which has been established within the ministry, is responsible for the ongoing monitoring of compliance of both the system and outside interfaces. The ministry also has the ability to draw on the contractor’s resources to assist in fixing any problems that are found through the Year 2000.

Although the benefits system is in production as a compliant system, it is impossible to be 100% confident that all parts will function as designed once the Year 2000 begins. Subsequent to our review, we were told that the ministry has, as part of its Year 2000 continuation planning, designed and executed test scenarios as a planning defense against possible failures.

Part 4: Year 2000 Readiness—Government Organizations

The government delivers its services through ministries and various government entities such as Crown corporations, health care organizations, universities and colleges. Although it may not directly be involved in the daily operations of these entities, the government, through its ownership and control, has a responsibility to the public to ensure that the organizations will be Year 2000 ready.

The Summary Financial Statements of the Province for the 1997/98 fiscal year included the results of the financial activities and operations of the Consolidated Revenue Fund and 50 other entities. The Auditor General is the auditor of the Consolidated Revenue Fund and 22 of these entities. As well, he audits 57 of the 238 government entities that are not included in the Summary Financial Statements.

This year, our Year 2000 review included a survey of 55 government organizations—including advanced education institutions and Crown corporations—with a view to determine areas needing significant attention. We also looked at the progress being made by health care organizations in addressing the Year 2000 issue.

Year 2000 and the Health Authorities

Responsibility for the delivery of certain health programs and for the management of the province's hospitals was decentralized in 1997 and delegated to various health authorities. Included in the delegated responsibility was that of ensuring that the systems and equipment under the agencies' authority were Year 2000 ready.

Initially the role of the Ministry of Health in the Year 2000 projects of the health authorities was to be limited to advice and support. Towards the end of the year 1998, however, the ministry had decided that its role must change; and it has since reorganized its Year 2000 Project Office to become more proactive. These actions were taken in response to concerns raised about the readiness and progress of the health authorities by a management consulting firm. After a November 1998 survey, the firm concluded that the bulk of remediation and testing had not been done yet, and that there was a significant risk that some health authorities would not be Year 2000 ready.

The ministry has set up reporting procedures for the health authorities to follow on a regular basis. It has also designed a funding application process for them. Funding requests must be appropriately justified and supported. At the same time, the ministry has pursued securing funding approval from Treasury Board.

The short time available to complete the Year 2000 preparations and the urgent need for funding make the issue of health authority readiness for 2000 a source of major concern.

Detailed Analysis

As of April 1997, the responsibility for the delivery of certain public health programs and for the management of the province's hospitals was delegated to various health authorities (HAs), including:

- Regional Health Boards;
- Community Health Councils; and
- Community Health Service Societies.

Given their jurisdiction—particularly the responsibility for hospitals—for HAs, the ability to handle the Year 2000 issue is crucial. A complication is the presence of numerous embedded systems in medical equipment, such as pacemakers, infusion systems to dispense medications and food substitutes, and stimulators for chronic pain. High-risk equipment includes, for example, anesthesia and heart-lung bypass units, ventilators, defibrillators, incubators, apnea monitors, fetal monitors, radiographic units and ventilators.

In August 1997, the Ministry of Health informed the HAs of Year 2000 issues and provided them with background material. In May 1998, the Deputy Minister of Health wrote to all the HAs recommending actions and requesting the submission of financial assessments of the impact of Year 2000.

By the time our review had started in late 1998, the ministry had identified concerns with the preparedness of the HAs and had received requests for assistance. Accordingly, the ministry decided to become more pro-active in coordinating the activities of the HAs regarding Year 2000 readiness and monitoring progress.

In November 1998, the ministry's Year 2000 Project Office was expanded. Its role includes:

- defining the minimum steps that must be performed by every HA to deal with the Year 2000 challenge;
- designing the regular reporting process that the HAs will be required to provide to the ministry to confirm progress and show that deadlines will be met;
- providing the HAs with timely and appropriate information through the use of two on-line clearing houses; and

- making recommendations for ministry action on behalf of a HA (with full consultation with the HA) if there is evidence to suggest that the action is warranted.

The HAs would be asked to report their inventory of equipment and systems in three categories:

- those where failure could be life-threatening;
- those where failure could cause service disruption; and
- those where failure could cause administrative disruption.

Along with the inventories, the HAs are to report the action required to make the equipment and systems Year 2000 ready. The consequences of not being Year 2000 ready and the estimated cost of readiness are also required.

The ministry must secure funding to cover the assessed requirements to make the HAs Year 2000 ready. Applications for funding will be assessed by a review committee. The costs are estimated to exceed $100 million.

The ministry has hired a consulting firm that will provide a quality control function to the ministry’s Year 2000 projects. Included among the firm’s duties is a review of the performance of the ministry’s Year 2000 Project Office. The consultants have conducted a survey of the HAs to ascertain the status of their internal Year 2000 projects. The survey did not include any procedures to validate the accuracy of the responses provided by the HAs. Though we reviewed the consultants’ report, we have not performed any procedures to validate their findings.

Among the high-level findings resulting from the consultants’ survey:

- The HAs were generally well aware of the Year 2000 problem and had established projects to become Year 2000 ready.
- Several HAs’ Year 2000 initiatives were lagging behind their project plan.
- Not all the smaller HAs established a formal project plan or assigned a project team to address the Year 2000 problem.
- The majority of HAs did not directly involve a legal counsel on their project team.
- The majority of HAs did not establish a specific budget to fund their Year 2000 project.
- The bulk of remediation and testing work would occur in 1999.
- The majority of HAs did not develop contingency plans to address potential failures in their mission-critical systems or in their supply-chain relationships.

- Some HAs encountered problems with consultants and vendors which might affect their remediation efforts.

The consultants concluded that it was “clear that a significant portion of the project effort is planned for completion in 1999. Until the remediation and testing of mission-critical systems and business relationships is complete, there will remain a significant risk that some health authorities will not be Year 2000 Ready by December 31, 1999.”

We support the decision of the ministry to become more pro-active in the Year 2000 related efforts of the HAs. We urge the government to fully fund the assessed requirements of the HAs at the earliest possible time.

Given the very tight deadlines for completion of some of the Year 2000 projects, we recommend that attention be directed by the Health Authorities toward developing effective, detailed contingency plans to minimize the effects of failure of mission-critical systems.

We have included the Ministry of Health’s response on actions taken since the time of our review, relating to the HAs, on page 217.

Year 2000 and the Advanced Education Institutions

In order to determine what needed significant attention, in the work related to getting the advanced education institutions in the province ready for the Year 2000, we surveyed the following entities:

- British Columbia Institute of Technology
- Kwantlen University College
- Royal Roads University
- Simon Fraser University
- Technical University of British Columbia
- University of British Columbia
- University of Northern British Columbia
- University of Victoria

Only one institution responded completely to our survey questionnaire. The other institutions responded in a summarized way and not in a manner that would allow us to report on their achievements and weaknesses properly. Almost all responses came from the administrative side of these institutions. Considering the extent to which these institutions are involved in research, it is not clear to us whether failure of any computer-controlled environment in these institutions could be a health-hazard or life threatening. Therefore, we cannot report on the research or facilities aspects of the work of the advanced education institutions we surveyed.

We analyzed responses we received from these institutions and highlighted the following main observations and concerns.

The purpose of the advanced education institutions is to offer career, vocational and academic programs, as well as continuing education courses and research. To deal with all aspects of their business these institutions have generally created up to three teams to deal with the Year 2000 issues. The teams have each been assigned specific responsibilities:

- administration—to deal with finance, human resources, student records and library systems;
- facilities management—to deal with elevator, fire, security and heating systems; and
- academic and research—to deal with technical systems, such as those of laboratories.

In most cases, the vice-presidents of each of these areas have been assigned to lead their teams. One of the universities has a communication team that is in regular contact with other post-secondary institutions in British Columbia and across the country.

A number of institutions we surveyed have indicated a target date of September 1999. This timeline is extremely close to the established deadline of December 31, 1999. Any delay may result in insufficient time for the entities to test their systems. Compounding the problem is the general lack of completed Year 2000 contingency plans. Another factor hindering the potential success of the Year 2000 project in these institutions is the inability of most to secure sufficient funding to support the work.

Other points noted in our survey response:

- As of the end of 1998, one of the universities had yet to complete a comprehensive inventory of all its major systems.
- Only one of the respondents indicated that it has secured sufficient funding for the Year 2000 project.
- The respondents were generally entering the testing phase of their Year 2000 projects. One university projected that this phase will account for up to 60% of its total project budget.
- One of the respondents indicated that it intends to implement its own systems during 1999. In the past, it has used the systems of another respondent. When change

occurs, this institution will need to ensure that its new system is Year 2000 ready.

- All respondents reported that Year 2000 business continuation planning had only recently begun.

Year 2000 and the Crown Corporations and Agencies

Our Year 2000 review was expanded to include a survey of a number of Crown corporations and agencies. We targeted our survey of Crown corporations and agencies to two groups depending on whether the Auditor General or the private sector firms audit them.

We selected 19 corporations and agencies we audit, 10 of them large organizations. We also selected 28 corporations and agencies that we do not audit. We asked these organizations, amongst other questions, to describe their mandate, identify their mission-critical systems and tell us what will happen if those systems were not Year 2000 ready in time.

For the purpose of this survey, mission-critical systems have been defined as those systems whose failure could result in:

- a potential life threatening situation;
- economic hardship for British Columbians;
- serious damage to the environment; or
- a significant loss or liability to the Province.

The Organizations and Agencies We Audit

Exhibit 7.11 indicates the mandate of each of the 10 large corporate entities surveyed, as well as their identification of mission-critical systems and their assessment of what will happen if those systems are not Year 2000 ready.

Overall, the entities reviewed have well-established Year 2000 plans and appear to have sufficient human and technical resources to complete their projects on schedule. The inventory process has been completed in most of the entities and testing is well underway. All decisions and results are documented, summarized and reported to senior management on a regular basis.

A major assumption made by these entities when they are assessing their Year 2000 readiness is that both the power and phone services will be available on and after January 1, 2000.

Exhibit 7.11

A Sample of Government Organizations and Agencies We Audit and Their Mission-critical Systems

Government organizations indicated the impact of their mission-critical systems not being ready in time

Government Organization or Agency	Mandate	Mission-critical Systems As Identified by the Organization	Impact of Non-compliance of Mission-critical Systems According to the Organization
BC Transportation Financing Authority	Plan, acquire, construct or improve transportation infrastructure throughout British Columbia	No mission-critical systems	
British Columbia Assessment Authority	Establish and maintain assessments that are uniform in the province	Computer Assisted Property and Assessment System has been changed to be Year 2000 ready; however, testing is still required	Significant loss or liability to the Province
British Columbia Buildings Corporation (BCBC)	Provide accommodation and real estate services to the provincial government Assume Year 2000 responsibility for embedded systems in buildings under their management	BCBC has no mission-critical systems Mission-critical embedded systems have been identified in buildings under the corporation's management	Impact for embedded systems: significant loss or liability to the Province
British Columbia Liquor Distribution Branch (branch of the Ministry of Small Business, Tourism and Culture)	Purchase liquor for resale and reuse in the province	Product Flow System is expected to be Year 2000 ready by June 1999 Store Data Collection System is expected to be Year 2000 ready by June 1999	Significant loss or liability to the Province
Columbia Power Corporation	Enter into joint ventures to develop hydroelectric power projects	No mission-critical systems	
Forest Renewal BC	Renew the forest industry of British Columbia, enhance the productive capacity and environmental value of forestlands, create jobs, provide training for forest workers and strengthen communities	No mission-critical systems	
Legal Services Society	Ensure that services ordinarily provided by a lawyer are afforded to individuals who would not otherwise receive them because of financial or other reasons, and that education, advice and information about law are provided for the people of British Columbia	Case Management System (takes applications from legal aid clients and grants referrals to lawyers) is Year 2000 ready At the time of our survey, the JDE Financial System (handles payments to lawyers and other suppliers) was in the process of being upgraded to a Year 2000 ready version	Economic hardship for British Columbians

Government Organization or Agency	Mandate	Mission-critical Systems As Identified by the Organization	Impact of Non-compliance of Mission-critical Systems According to the Organization
Public Trustee of British Columbia (branch of the Ministry of Attorney General)	Protect the legal rights and financial interests of children, vulnerable adults and deceased and missing persons	The Computerized Office for the Management of Estates & Trusts System is largely Year 2000 ready, with minor changes to be completed in March 1999	Economic hardship for British Columbians
Superannuation Commission	Administer superannuation funds	The Universal Contributor System is expected to be Year 2000 ready by March 1999. The Pension Payment System is anticipated to be Year 2000 ready; however, testing is still to be done	Economic hardship for British Columbians
Workers' Compensation Board of British Columbia	Promote occupational health and safety; compensate for occupational injury, death or disease; and rehabilitate injured workers	Wage Loss System (pays individual claimants) is expected to be Year 2000 ready March 1999 Pensions System (pays individual claimants) is expected to be Year 2000 ready May 1999 Criminal Injury System (pays individual claimants) is expected to be Year 2000 ready April 1999 Claims Registration (registers new claimants) is expected to be Year 2000 ready March 1999 Health Care Benefits (pays medical practitioners) is expected to be Year 2000 ready March 1999 Medical Aid (pays medical practitioners) is expected to be Year 2000 ready March 1999 Payroll system is expected to be Year 2000 ready June 1999.	Economic hardship for British Columbians

In all the large entities we surveyed, we noted two main weaknesses:

1. the lack of a formalized and tested Year 2000 business continuation plan; and
2. the inability to obtain confirmation of readiness from key external interface partners.

We believe these entities should be developing Year 2000 business continuation plans that:

- identify business risks;

- provide options to deal with the risks;
- delegate responsibility for the required actions to address the risks; and
- can be tested to ensure their effectiveness and feasibility.

Most of the entities are confident about their internal Year 2000 readiness. However, many are unaware of the status of their key business partners. If these partners are not Year 2000 ready, the operations of the entities could be affected. The entities have started to address the readiness of their partners, by seeking confirmation from software vendors that their programs are Year 2000 compliant and by including Year 2000 clauses or language in their purchase orders and contracts.

Our November 1998 survey indicated that the work on the mission-critical systems was on schedule to meet the identified milestones. There are a few low priority systems that may not be converted on time, but none of them is expected to affect the operations of the entities.

With the exception of one, all of the remaining entities reported that they have secured sufficient human resources to fully implement the conversion project. The one exception may need to bring in more contractors to assist with the workload. Also, one of the entities identified problems with obtaining the necessary funding to complete the conversion process. The Board of Directors has since approved additional funding and the entity has also received a donation to assist with the completion of this project.

Some of these entities are already dealing with transactions based on the Year 2000, though the bulk are expected to occur in April 1999 and January 2000. Two of the entities have indicated that they are dealing with competing critical projects that cannot be deferred.

We also surveyed the following 9 organizations we audit:

- British Columbia Assets and Land Corporation (formerly W.L.C. Developments Ltd.)
- BC Society for the Distribution of Gaming Revenue to Charities
- British Columbia Securities Commission
- Cedar Lodge Society
- Creston Valley Wildlife Management Authority Trust Fund
- Highway Contracting Ltd. (subsidiary of BC Transportation Financing Authority)
- New Forest Opportunities Ltd. (subsidiary of Forest Renewal BC)

- Provincial Capital Commission
- Tourism British Columbia

The majority of these entities use stand-alone PC-based systems, and they have spent minimal time and money to address Year 2000 issues. One entity does have a non-compliant mission-critical system that was to be replaced by May 1999, with testing to be completed shortly after that.

As most of these entities are on schedule with their Year 2000 projects, we expect that their focus should now be shifted to the readiness of their key business partners.

The Organizations and Agencies We Do Not Audit

Exhibit 7.12 indicates the mandate of each of the nine corporate entities (out of the 28 we surveyed) that indicated they had mission-critical systems. It also describes what those systems are and the corporations' assessments of the impact if the systems are not Year 2000 ready in time.

These entities expect all their mission-critical systems to be Year 2000 ready before the required deadline. Most of the entities are planning to modify, or are in the process of modifying, existing non-compliant systems. Anticipated completion dates vary. Two entities said they were planning to have their critical systems signed off by March 31, 1999. Another three respondents expect to complete the project in the fall of 1999. The remaining entities estimate that project completion will be in the fourth quarter of calendar 1999.

With the exception of one corporation that is in the process of completing planning, all of the entities have established critical milestones. Most of the entities reported that their project is on schedule. Two entities responded that conversion of some systems was behind schedule by a few months, but they expected that these elements would be completed on time.

While two of the larger entities have not completed the budgeting process, they estimated that the cost to address the Year 2000 problem exceeds $45 million. Sufficient human resources (staff and contractors) are available in Crown corporations to deal with the problem.

Even if an entity's systems are made Year 2000 ready, its operations may fail if contaminated by incorrect data entering from external sources. Therefore, the entities must also examine the Year 2000 readiness of the external data exchanges that are essential to daily operations. Four entities have received written confirmation of Year 2000 readiness from external parties. In

Exhibit 7.12

A Sample of Crown Corporations and Their Mission-critical Systems

Corporations indicated the impact of their mission-critical systems not being ready in time

Crown corporation	Mandate	Mission-critical Systems As Identified by the Corporation	Impact of Non-compliance of Mission-critical Systems According to the Corporation
British Columbia Ferry Corporation	To provide safe, efficient, effective and reliable ferry transportation services	Various mission-critical systems related to the vessels and the ramps	Failure of these systems would only cause inconvenience, as the systems are backed up by manual, or other compliant systems.
British Columbia Housing Management Corporation and Provincial Rental Housing Corporation	To develop, administer and manage social housing	In-house systems and Shelter Aid For Elderly Renters (SAFER) system	Failure in these systems could result in economic hardship for clients.
British Columbia Lottery Corporation	To contribute significantly to government revenues and economic growth by providing top-quality entertainment to the public in a socially responsible manner	Four gaming systems: Lottery, Casino, Electronic Bingo and Linked Bingo (along with the attached business and networking systems)	Failure of any of these systems could result in a significant loss or liability to the Province.
British Columbia Railway Company	To provide efficient and integrated services in transportation, real estate and related services	20 mission-critical systems–including systems such as internal dispatching and equipment tracking, rail traffic control, electronic data interchange applications	Failure of any of these systems would result in a significant loss or liability to the Province, reduction in efficiency of services, and/or a potentially life-threatening situation.
British Columbia Transit	To provide a broad range of public transportation systems throughout the province	Skytrain Vehicle Control Computer and Vehicle On-board Control Systems and Skytrain Integrated Alarm Notification System	Failure of these systems would lead to a shutdown of the transit system with possible economic hardship for commuters and/or safety issues for commuters.
Insurance Corporation of British Columbia	To provide universal auto insurance to BC motorists; also responsible for all driver and vehicle-related services	51 mission-critical systems–These systems are used for the issuance of driver's licences, the sale of vehicle insurance, the indemnification of accident victims, and the collection of revenue and management of investments.	Failure of 34 of these systems would result in a significant loss or liability to the Province and reduction in efficiency of services; and failure of 20 of these systems would lead to economic hardship for British Columbians.

Crown corporation	Mandate	Mission-critical Systems As Identified by the Corporation	Impact of Non-compliance of Mission-critical Systems According to the Corporation
West Coast Express Limited	To provide faster, friendlier, more convenient, more comfortable and less expensive peak hour commuting than that provided by the private automobile	Five General Motors Locomotives, Canadian Pacific Signal and Switching Systems and Bombardier Cab Cars and Passenger Cars and revenue generating systems	Failure of these systems would lead to a shutdown of the system and possible economic hardship for commuters and/or safety issues for commuters.
British Columbia Hydro and Power Authority	To provide energy to customers	Four business systems: Customer Information System, Transmission Billing System, Work Management System, Production Facilities Management System Numerous operational control systems	Failure of any of these systems could result in a significant loss or liability to the Province. It could also affect the safety of British Columbians.

other cases, the entities will test the products in their own environment to determine Year 2000 readiness. One entity, in addition to obtaining written confirmation from external partners, is also future-date-testing key software and joint-testing with key partners to assess their Year 2000 readiness.

Four of the respondents have had legal advisors review their major contracts with vendors. Most of the entities now include a Year 2000 compliance declaration in their important contracts. This declaration requires key vendors and suppliers to confirm they are Year 2000 ready or will be before the deadline.

After the conversion has been completed, testing and integration tasks must be performed. Most of the survey respondents estimated that testing would take 40–50% of the time required for the project. One entity scheduled 75% of the time for testing.

The entities plan to perform testing on isolated test platforms and on the production computer. Most of the entities also plan to have the individual business areas perform acceptance testing. Two entities have contracted independent quality assurance firms to perform this quality assurance function; another one plans to have the external auditors provide some assurance. All of the entities will maintain testing and certification documentation for future reference.

None of the corporations surveyed reported that they have completed contingency plans for the mission-critical systems.

We recommend that Crown corporations place adequate emphasis on developing Year 2000 contingency plans to minimize the effects of failure of their mission-critical systems.

The final step in the Year 2000 process is certification of Year 2000 readiness. At the time of our survey, most of the mission-critical systems had not been certified as Year 2000 ready.

The following 19 entities reported that they do not have mission-critical systems:

- BC Cancer Agency
- BC Community Financial Services Corporation
- BC Festival of the Arts Society
- BC Games Society
- British Columbia Health Research Foundation
- BC Health Care Risk Management Society
- British Columbia Heritage Trust
- BCIF Management Ltd.
- BC Pavilion Corporation
- BC Racing Commission
- British Columbia Rapid Transit Company Ltd. (BC Transit is responsible for ensuring Year 2000 compliance)
- British Columbia Systems Corporation
- Columbia Basin Trust
- Credit Union Deposit Insurance
- Discovery Enterprises Inc.
- First Peoples' Heritage, Language and Culture Council
- Okanagan Valley Tree Fruit Authority
- Pacific National Exhibition
- Science Council of British Columbia

Exhibit 7.13 presents the latest status report for mission-critical projects we received from the Action 2000 Project Office. We have not reviewed all the systems included therein, and accordingly do not comment on the accuracy and completeness of the list.

Exhibit 7.13

Details on Ministry Mission-critical Projects as at May 15, 1999, as Prepared by the Action 2000 Project Office (Unaudited)

A Year 2000 project has been defined as an identified unit of work on a system or collection of systems which deals with assessing, remediating, testing and determining that the system(s) is Year 2000 ready

Ministry/Project	Description	Risk	Estimated Completion Date
Attorney General			
Electronic Monitoring System	Used as an alternative form of adult custody. The system electronically monitors a person's presence or absence at a specific location 24 hours a day.	Safety	Ready
Building Security Control System	Used to control security doors and lock-up in BC Corrections facilities.	Safety	May 1999
Protection Orders System	Provides access to civil and criminal protection orders 24 hours a day, 7 days a week for police officers throughout BC.	Safety	Ready
Family Maintenance Enforcement Program	Enrolls, monitors and enforces Maintenance Orders that require separated or divorced partners to continue providing financial support to their families.	Hardship	June 1999
Computer Assisted Trial Scheduling	Used by Supreme Court Trial Coordinators in scheduling Supreme Court trials.	Safety	Ready
Crown Counsel System	A case tracking and charge approval system for the Crown Counsel Offices.	Safety	Ready
Canadian Police Information Centre Interface	Used by law enforcement agencies to query driver's licence and vehicle information from ICBC.	Safety	May 1999
Justice Information System	A case tracking and charge approval system used by law enforcement agencies, Crown Counsel and Court registry staff to track the progress of criminal cases through the justice system.	Safety	Ready
Corrections Case File	Integrated Corrections Branch operational system that supports the management of inmates and offenders who are under custodial or community supervision, or assessment for court purposes.	Safety	May 1999
Automated Case Tracking	Used by law enforcement agencies, Crown Counsel and Court registry staff to track the progress of criminal cases through the justice system.	Safety	Ready
Traffic Court	Used to track traffic charges and fines and to assist in scheduling traffic court cases.	Revenue	Ready
Accounts Receivable and Collection	Used to record assessment and collection of fees, fines and court charges against individuals and corporations who owe a debt to the Province.	Revenue	May 1999
Jury Administration	Used to summons citizens for jury selection.	Hardship	Ready

Ministry/Project	Description	Risk	Estimated Completion Date
Attorney General– continued			
Risk Needs Assessment	Used to identify an offender's likelihood to re-offend, the appropriate custody or supervision level, the factors contributing to criminal conduct, and a focused offender management plan.	Safety	May 1999
Automated Land Titles System	System by which the Crown guarantees title to the land.	Revenue	Ready
Children and Families/Human Resources			
BC Benefits	Provides income assistance benefits to residents of BC who are eligible.	Hardship	Ready
Daycare	Provides a subsidy for child care services to qualifying parents for the Child Care Subsidy Program.	Safety and hardship	Ready
MIS Social Workers System	Three subsystems that provide different functions for social workers.	Safety	Ready
After Hours/Community Information	Enables ministry and agency staff to formally alert After Hours staff about a situation with a child or family that may require their attention after the office is closed or over the weekend.	Safety	Ready
Energy, Mines and Northern Development			
Resource Revenue	Ensures that coal and mineral taxes are calculated and verified, and that payments are collected.	Revenue	Ready
Mineral Land Tax	Ensures that mineral land tax is calculated, collected and verified.	Revenue	Ready
Royalty Management	Ensures that petroleum and natural gas royalties and freehold production taxes are calculated, collected and verified.	Revenue	Ready
Environment, Lands and Parks			
Water Quality Data Management	Captures and stores water quality data from automated monitoring stations established around the province.	Environment	Ready
Environmental Monitoring	A data capture and retrieval system, designed to store results of physical, chemical and biological analysis performed on air, water and solid discharges at waste discharge sites and monitoring locations throughout the province.	Environment	Ready
Air Data Management	Automated retrieval and messaging system for continuous data gathered from air quality monitoring stations.	Environment	May 1999
Water Rights Information	Provides the ability to issue, locate, report and bill water licences.	Revenue	June 1999

Ministry/Project	Description	Risk	Estimated Completion Date
Finance and Corporate Relations			
Cash Flow Management	Facilitates the cash management process.	Revenue	Ready
Investment Portfolio	Records the investments of the Province and various pension clients.	Revenue	Ready
Liabilities Management	Manages the debt servicing payments associated with the debt portfolio.	Revenue	Ready
Loan Administration and Mortgage Assistance Program	Provides load administration functions for various government loan portfolios.	Revenue	Ready
Revenue Income Tax	Registers companies and collects taxes for corporate capital, fire, insurance, logging, mining and corporate income tax.	Revenue	Ready
Real Property Tax	Administers rural area property taxation, billing and receipts for the Province and local governments.	Revenue	Ready
Seniors Supplement	Issues payments to supplement the income of seniors receiving Old Age Security and the Guaranteed Income Supplement.	Hardship	Ready
School Tax Accounting	Administers provincial school taxation levied within municipalities.	Revenue	Ready
Corporate Accounting System's – Central Generic Interface (CGI)	Single point of entry into government's accounting system for ministry programs. The majority of government's program payments are made through this interface.	Revenue	Ready
Corporate Accounting (CAS)	Government's accounting, reporting and financial management system. It currently processes general ledger, accounts payable and commitment management transactions.	Revenue	Ready
ORACLE Corporate Accounting	The foundation for an enterprise-wide financial information system.	Revenue	Ready
Returns	Generates monthly returns to more than 90,000 vendors and operators registered under the Social Service Tax and Hotel Room Tax Acts.	Revenue	Ready
Personnel– CHIPS	Government-wide system that processes payroll for government employees and maintains human resource, leave and benefits information.	Hardship	June 1999
Family Bonus	Used to determine the income assistance monthly payment to families with children.	Hardship	Ready
Electronic Deposit Interchange	A monthly electronic tax filing and remittance program.	Revenue	Ready
Universal Contributor	A computer application used by the BC Superannuation Commission in tracking contributions and calculating pension benefits.	Hardship	Ready

Ministry/Project	Description	Risk	Estimated Completion Date
Forests			
Forests Tenure and Administration	Maintains and provides online support management of forest tenures and other land-based information.	Revenue and Environment	Ready
Integrated Silviculture Information	Captures, organizes and processes land-based information required for silviculture management in each district office throughout the province.	Environment	Ready
Account Receivable Management	Manages accounts receivable for the ministry.	Revenue	Ready
Stumpage Appraisal and Scaling Administration	Determines stumpage rates to be charged on harvest lumber.	Revenue	Ready
Harvest Billing–VM–HBS	Transmits data between government systems. The system must be operational to prevent a breakdown of the harvest database and billing.	Revenue	Ready
Harvest Billing–VM–MBQ	Important system to stumpage collection.	Revenue	Ready
Harvest Database and Billing–MVS	Tracks harvest billing.	Revenue	Sept. 1999
Health			
Medical Services Plan Revenue and Premium Billing	Assesses eligibility for benefits, enrolls BC residents for publicly funded health care, bills beneficiaries, maintains an accurate registry of clients and responds to queries.	Revenue	June 1999
BC Ambulance Service	Applications that support service delivery, management information, and financial functions. Vehicles, emergency communications, medical monitoring and treatment equipment are also used.	Safety	June 1999
Pharmacare	Pharmacare and PharmaNet link community pharmacies, hospital emergency departments and physician offices to a centralized database. They also interact directly with pharmacies to determine the contribution for eligible prescription drugs and designated medical supplies.	Safety	July 1999
Liquor Distribution Branch			
Stores Data Collection	Supports the collection and processing of liquor store sales data.	Revenue	June 1999
Small Business, Tourism & Culture			
Government Agents Revenue Management	Essential link in Government Agents delivering hundreds of services to British Columbians in communities across the province.	Revenue	Ready

Ministry/Project	Description	Risk	Estimated Completion Date
Transportation and Highways			
Development Approvals	Investigates and issues approvals for property development on ministry right-of-ways.	Revenue	Ready
Coquihalla Management Information/Point of Sale	Highway toll collection system used on the Coquihalla Highway.	Revenue	Sept. 1999
Oracle Corporate Accounting	The main financial system used by the ministry.	Revenue	Ready
Contract Risk Management Riskmaster	Software package that manages the ministry's insurance and claims operations.	Hardship	Ready
Information Technology Services Division			
NT Platform	Server for main desktop PC operating system.	N/A	June 1999
Network Services	Operates the government data network.	N/A	Ready
Voice Services	Government voice telephone system.	N/A	Ready
Electronic mail	Government e-mail system.	N/A	June 1999
Electronic Commerce	BC OnLine provides businesses with electronic access to essential government information. Electronic Data Interchange enables the electronic exchange of essential commercial transactions	N/A	Ready
MVS Platform	Central MVS data processing computers supporting mission-critical and business priority systems.	N/A	Ready
VM Platform	Central VM data processing computers supporting mission-critical and business priority systems.	N/A	Ready
VMS Platform	Central VMS data processing computers supporting mission-critical and business priority systems.	N/A	Ready
UNIX Platform	Central UNIX data processing computers supporting mission-critical and business priority systems.	N/A	Ready

Source: Action 2000 Project Office

summary of recommendations

The recommendations made in the section of this report titled *Government Financial and Other Information Systems, and the Year 2000 Deadline: Update* are listed below for ease of reference. They should be regarded in the context of the report.

The Office of the Auditor General recommends that:

Part 1: Year 2000 Readiness—Centralized Government Initiatives

- *The Information, Science and Technology Agency (ISTA) continue to encourage ministries to perform independent reviews of mission-critical systems.*

Part 2: Year 2000 Readiness—Ministry Initiatives

- *Staffing and funding demands in each ministry be reassessed by ministry management to ensure that all mission-critical systems are adequately resourced.*
- *Monitoring the capacity of the testing facilities in the Information Technology Services Division be a priority of the Province's Year 2000 efforts to ensure that the resources are sufficient.*
- *The program areas in ministries place more emphasis on developing Year 2000 contingency plans to minimize the effects of system failure.*

Part 3: Year 2000 Readiness—Specific Systems

The Corporate Accounting System (CAS)

- *The CAS initiative team formalize and seek management approval of its Year 2000 contingency plans.*

The Corporate Human Resource Information and Payroll System (CHIPS)

- *PSERC establish a Year 2000 contingency plan to minimize the effects of failure of CHIPS.*
- *PSERC seek legal advice to determine recourse should CHIPS not operate as anticipated at the turn of the century.*

The Social Service Tax System

- *The Revenue Division begin Year 2000 contingency planning as soon as possible to minimize the effects of system failure.*

The Harvest Database System

- *The Ministry of Forests' senior management closely monitor the Harvest Database System project to ensure that it will be Year 2000 ready in time.*
- *The Ministry of Forests develop and test its Year 2000 contingency plan for the Harvest Database System.*

Part 4: Year 2000 Readiness—Government Organizations

- *Given the very tight deadlines for completion of some of the Year 2000 projects, attention be directed by the Health Authorities toward developing effective, detailed contingency plans to minimize the effects of failure of mission-critical systems.*
- *Crown corporations place adequate emphasis on developing Year 2000 contingency plans to minimize the effects of failure of their mission-critical systems.*

response from the action 2000 project office

On behalf of the provincial government, the Action2000 Project Office is pleased to respond to the report by the Auditor General on government preparedness and progress on the Year 2000 problem.

The Auditor General has presented a thorough, detailed assessment of government's progress on the Year 2000 (Y2K) problem as of late 1998. However, given this review timeframe, it is based on information that—at the time of this response—is outdated by four months or more. As with other jurisdictions, the BC government is making significant progress throughout 1999 in all areas of Y2K including remediation, testing and contingency planning. Therefore, this response seeks to update some of the information supplied in the report, clarify outstanding issues, and address recommendations made in the report.

Current Status of Government Progress

Protecting Essential Services First

Overall, the BC government has identified more than 1,200 ministry computer systems affected by the Y2K bug. All have been assessed with repairs well underway. But like other governments in Canada and around the world, BC is putting essential services first.

Throughout government ministries, 67 mission-critical systems have been identified—all are on track to be Y2K-ready by September or sooner. In fact, as of the May 15 reporting date, 97 percent of the mission-critical systems were either Y2K-ready (50 systems) or in final testing (15 systems). It is expected that more than 60 systems will be fully Y2K-ready by the end of June.

The Auditor General's report assessed six major financial systems in depth—all are included on the mission-critical list. Three of those systems—BC Benefits, the Corporate Accounting System, and the Social Service Returns System—are ready now. According to the current schedule, MSP will be ready in June, CHIPS in July, and the Harvest Database System in September.

Other important financial systems used for Seniors Supplements, Daycare and Superannuation are now Y2K-ready. Also, it should be noted that the Corporate Accounting System and other key Ministry of Finance systems passed the first Y2K deadline by successfully rolling over to the new fiscal year on April 1, 1999.

Business-Priority Systems

One of the BC government's chief concerns is that the Province be able to run smoothly at a financial and business level. Therefore, the provincial government has also identified 543 business-priority systems that, although necessary to continue smooth government operations and service delivery, are not considered essential under the guidelines for mission-critical systems.

These systems are also being made Y2K-ready by government ministries. As of the May 15 report, 87 percent of these systems were either Y2K-ready or in final testing.

Current Emphasis

With six months to go before year end and with the completion of work on mission-critical and business-priority systems in sight, the emphasis across government is moving toward readiness in the broader public sector, partnerships with essential service providers, supply chain issues and development, evaluation and testing of business continuation plans (BCPs). A dedicated Assistant Deputy Minister has been appointed in ISTA to oversee all Y2K activity.

Business continuation planning is being coordinated by the Risk Management Branch of the Ministry of Finance in partnership with the Action2000 Office and the Provincial Emergency Program. A new director level position has been created at Action2000 that will focus on BCPs and the transition period at year-end. A central process is under development to review and test these plans.

Senior executives have been appointed in each ministry to lead a team that will develop the BCPs for their organizations. BCPs for mission-critical applications are being filed now with plans that cover business-priority systems due later in the summer. By September 30, it is expected that all BCPs will have been tested, adjusted where necessary and be ready for implementation.

In addition efforts are being escalated in investigation of provincial government supply chains. Government procurement policies were amended in January, 1998 through the issuance of Year 2000 Warranty Guidelines that are designed to provide remedies to Year 2000 concerns in different purchasing circumstances. A process is in development to involve the Purchasing Commission in examining key government contracts for potential vulnerabilities in supply chain issues. As well, technical interfaces with other governments and organizations are under review.

Minimizing the impact of Y2K on the citizens of British Columbia involves many partners and the provincial government is working with organizations throughout the province to plan the year end transition. A committee of assistant deputy ministers has been formed among the Ministries of Attorney General and Finance, and ISTA to produce a comprehensive plan to coordinate and manage rollover activities.

Why Y2K-Ready, not Y2K-Compliant?

In the report, the Auditor General refers to the change in the stated goal of the BC government from seeking Y2K-compliance to Y2K-readiness. Essentially, that change provides ministries more flexibility in addressing Y2K, especially with regard to embedded systems, by allowing them to work around a system rather than repair it—most often done when it means a cost-savings for taxpayers. For example, the traffic counter-flow signs in the Fraser tunnel in the lower mainland are not Y2K-compliant. But by applying a work-around (in this case, resetting the internal dates), the signs will continue to operate safely after 1999. That way, the signs can be phased out at the end of their life-cycle rather than before, so no additional costs are incurred by the taxpayer. Many organizations, including other Canadian jurisdictions, have adopted this approach.

Response to Part 1 and 2: Year 2000 Readiness—Centralized Government and Ministry Initiatives

The report makes four main recommendations—these are addressed as follows:

The Auditor General recommends that staffing and funding demands in each ministry be reassessed by ministry management to ensure that all mission-critical systems are adequately resourced.

Existing vacancies in government ministries are not having a major impact on ministries' ability to do the job required. Between employees and contractors, ministries are working both on mission-critical systems and routine systems.

Where possible, ministries are hiring additional staff to facilitate in-house testing of systems. Action2000 has also set up a procurement database, which streamlines the process of hiring contractors, helping ensure more time is spent on repairs.

Subsequent to the Auditor's observations, Treasury Board has allocated $100m to Y2K for health authorities. This allocation recognizes the extra-ordinary impact of health care on citizens.

In a February 1999 survey, no significant funding or staffing issues were reported by ministries.

The Auditor General recommends that monitoring the capacity of the testing facilities in the Information Technology Services Division be a priority of the Province's Year 2000 efforts to ensure that the resources are sufficient.

Concern among ministries has prompted the establishment of an Advisory Committee for the MVS Isolated Test Platform (ITP). Comprising representatives from ministries and the Information Technology Services Division, this committee deals with capacity, scheduling and contention issues. Currently, sufficient capacity exists based on demand projections from ministries. Demand and capacity will continue to be monitored by this committee.

In addition, the Information Technology Services Division (ITSD) has made the following enhancements to the ITP:

- *Added 30 Gigabytes of disk storage to the ITP to meet a specific demand. The ITP capacity (disk and MIPs) now in place will satisfy all known demand.*
- *Established a standing order process with IBM for the rapid deployment of additional disk storage if necessary (two week installation).*
- *Provided web access to all ITP users about schedules, capacity requirements, the ITP Users Group (meets monthly), and the ITP Sub-Committee (currently meets bi-weekly), as well as all related documentation.*

In addition to work on the ITP issues, ITSD is currently engaged in developing a Y2K Transition Plan that will guide our activities prior to, during and following the Y2K rollover.

The Auditor General recommends that the program areas in ministries place more emphasis on developing Year 2000 contingency plans to minimize the effects of system failure.

In addition to repairing and testing all mission-critical systems, ministries are targeting the completion of business continuation plans for mission-critical program areas by May 31, 1999; business-priority program areas by June 30, 1999; and, all remaining program areas by September 30, 1999. A strategy for the review, exercise and evaluation of these plans is under development.

The Auditor General supports independent reviews of mission-critical systems, and recommends that the Information, Science and Technology Agency continue to encourage ministries to perform such reviews.

The Information, Science and Technology Agency (ISTA) has partnered with the Internal Audit Branch, Office of the Comptroller General, to establish a service to ministries for the conduct of independent (private-sector) reviews of Y2K mission-critical projects. Quality control *is provided by the Internal Audit Branch, while funding is provided by ISTA. A number of ministries are taking advantage of this service.*

In April 1999, the Deputy Minister to the Premier advised deputy ministers that organizations, which extend ready dates of mission-critical projects past June 30, 1999, will be subject to mandatory independent reviews.

Reviews on other mission-critical systems may be ordered by the Deputy Minister to the Premier on the advice of BC's Chief Information Officer.

Beyond the above recommendations made to government, the Auditor General's report raised other issues of concern or recommendations for public sector entities. The following addresses those issues.

The Auditor General comments that ITSD is ultimately responsible to ensure that (government) mainframe computers and their operating software are Year 2000 ready…as of January 1999, none of the operating platforms were Year 2000 ready.

Current status of operating platforms:

- *MVS Platform—ready*
- *VM Platform—ready*
- *UNIX Platform—ready*
- *VMS Platform—ready*
- *NT Platform—June 1999*

During the Auditor General's review, instances were encountered where future date testing is being deferred until after the updated programs have been moved back into production. The Year 2000 ITP is then used for final integration testing. The Auditor General noted that there is a risk that this integration testing may reveal Year 2000 problems.

Much of the time-based testing is done on the regular platform with a tool that "fools" the application with a virtual date. This process is faster, more flexible, and less expensive than using the ITP and enables projects to be completed on target.

There is an advantage, however, to getting a system into production sooner rather than later as the application will be more fully exercised than it would be if ministries waited until testing on the ITP is complete. Integration testing may indeed reveal Year 2000 problems, but it is more likely that these can be fixed if ministries are confident that other "normal" bugs are not lurking in the code. Clearly, more testing is better, and putting a system into production can provide code verification.

Government will be addressing the issue of verification and validation of remediated code through the evaluation of automated code analysis software tools.

Response to Part 3: Year 2000 Readiness—Specific Systems

From October to December 1998, the Auditor General reviewed the progress in identifying and correcting the Year 2000 problems associated with six major financial systems and reviewed progress in these areas. The following are the detailed responses to the draft report prepared by the ministry responsible.

The Corporate Accounting System—Response Prepared by the Ministry of Finance and Corporate Relations

The Corporate Accounting System (CAS) Initiative is pleased to respond to the report by the Auditor General on its preparedness and progress on the Year 2000 (Y2K) problem.

The Auditor General has presented a thorough, detailed assessment of progress of CAS on the Year 2000 problem, as at January 31, 1999. Since the Auditor General's review, the Corporate Accounting System has made significant further progress throughout 1999 in all areas of Y2K including remediation, testing and contingency planning. As at April 1, 1999, all CAS systems are ready.

Essential Corporate Accounting Systems

Overall, CAS has identified five applications that are critical to the corporate success of financial transactions within the Government of British Columbia. These are:

- *Walker Interactive*
- *CAS Generic Interface*
- *CAS Open Data Exchange*
- *Integrated Chart of Accounts and Budgeting Module*
- *Oracle Financials*

All are Y2K ready.

Oracle Financials are Y2K ready as of April 1, 1999. All other systems have been Y2K ready since January 31, 1999.

The Corporate Accounting System continues to seamlessly process Fiscal 2000 transactions.

Ministry Systems

One of the BC government's chief concerns is to be able to maintain accurate records of all pertinent financial activity. To this end, CAS has made itself available for Y2K testing of ministry systems, to ensure that government financial transactions continue to flow unimpeded into CAS during the Year 2000. Two testing windows have been provided: January 1999 and June 1999. All ministries have been invited to participate. Of those ministry systems requesting Y2K testing, all have been accommodated.

The Auditor General recommends that the CAS initiative formalize and seek management approval of its Year 2000 contingency plans.

As of April 1999, CAS has formalized its disaster recovery and business continuation planning activities. A project manager has been assigned. The first milestone of this project, a Y2K Business Contingency Plan, was successfully delivered in May 1999 to the ministry executive. Design and development on the broader disaster recovery and business continuation plan for CAS in the event of an interruption of service, is continuing and will be finalized in the fall of 1999.

The Corporate Human Resource Information and Payroll System (CHIPS)—Response Prepared by the Ministry of Finance, Public Service Employee Relations Commission (PSERC)

The Auditor General recommends that PSERC establish a Year 2000 contingency plan to minimize the effects of failure of CHIPS.

PSERC has completed the Business Continuation Plan for CHIPS.

The Auditor General recommends that PSERC seek legal advice to determine recourse should CHIPS not operate as anticipated at the turn of the century.

PSERC has retained legal counsel to review the certification statements from PeopleSoft.

The Auditor General comments that subsequent to his last report, PSERC has installed a newer version of the software designed to enhance the technical performance of the system. While the application software vendor, PeopleSoft, has certified its software to be Year 2000 compliant, PSERC has yet to test and validate the vendor's certification.

The Payroll Operations and Information Management office (POIM, formally the "CHIPS Office") has completed:

- *Full system level Y2K testing of all server hardware and system level software.*
- *On-line testing of the CHIPS application.*
- *One complete Production Payrun Process with minor, corrected issues encountered.*
- *A follow up Production Payrun process test*

The Auditor General comments that PSERC has also performed an inventory of all its applications and systems. As a result 11 of the 13 interfaces were identified as non-Year 2000 compliant.

PSERC has received direction from the recipients of the interface information in regards to their Y2K requirements. It should be noted that the 11 non-compliant interfaces are not critical in the production of employee pay cheques. Only one of the interfaces is considered a business priority (the Electronic Funds Transfer interface), and it will be Y2K ready by the June 30 deadline.

The Auditor General comments that while some comfort may be taken from the satisfactory results of the prior year's testing on the earlier application software version, full testing will be performed on the current version.

Integrated testing has been performed with minor, corrected issues.

The Social Service Tax System—Response Prepared by the Ministry of Finance and Corporate Relations

The Auditor General recommends that the Revenue Division begin Year 2000 contingency planning as soon as possible to minimize the effects of system failure.

The Revenue Division Year 2000 Project has made significant progress since the review, to ensure Y2K readiness.

The following outlines the progress:

- *Business Continuity Planning for Y2K was initiated in February 1999 and is currently on schedule.*
- *Y2K remediation and testing is 100% complete for the Social Tax System. The Social Tax System has also been successfully tested on the ITP (Independent Test Platform) and signed off by business program area.*
- *The Year 2000 Project ensured that skilled support exists within the Division by enlisting the services of external contractors. The Project has secured Vendor warranties through Year 2000 and also Maintenance Contracts until December 2000 (Emergency Maintenance Operations).*

The Harvest Data Base System—Response Prepared by the Ministry of Forests

The Auditor General recommends that the Ministry of Forests' senior management closely monitor the Harvest Database System project to ensure that it will be Year 2000 ready in time.

Currently this project is monitored through regular meetings of the Director, Revenue Branch, the Chief Information Officer and Director, Information Management Group (IMG) and the Assistant Deputy Minister, Revenue and Corporate Services; monthly reporting to the Deputy Minister; bi-weekly within the IMG by the Year 2000 project *group; by ISTA on a monthly basis and is also subject to periodic reviews by the Auditor General's office. The ministry believes this provides monitoring to the degree recommended by the report.*

The Auditor General's recommendation for monitoring was prompted by the then-scheduled completion date of December 1999. This concern is shared by the ministry. Since the Auditor General's review in November 1998, the project plans have been reviewed and revised taking into consideration the results of the benchmark testing. The planned completion dates are now June 30, 1999 for all high priority components and September 30, 1999 for the balance of the system. Several key components have already been successfully implemented, meeting critical pre-January 2000 dates. The remaining high priority components are in the final stages of testing and it is anticipated that the planned dates for implementation will be met.

The Auditor General recommends that the Ministry of Forests develop and test its Year 2000 contingency plan for the Harvest Database System.

Rather than immediately develop a detailed Year 2000 contingency plan for the Harvest Database System, the ministry decided to proceed first with a conversion plan, which allowed for components to be installed as soon as they became ready. As parts have been placed into production, the need for contingencies against a failure to deliver for these parts has been reduced to a minimum.

This item continues to be monitored and the ministry has recently completed the review of the Business Continuation Plan. The Plan has been updated to specifically address mission-critical Year 2000 requirements.

The MSP Claims System—Response Prepared by the Ministry of Health

There were no recommendations specific to this project. The following comments are made to issues raised in the report.

The Ministry has reviewed the report and concurs with the status information represented therein with respect to Health. The status of mission-critical and business-priority projects is correct as per information provided in our monthly status reports to the Action2000 Office.

The Ministry has addressed staffing and funding issues to ensure that mission-critical projects are adequately resourced. Two of the Ministry's mission-critical projects are scheduled for readiness by June 30 and the third by July 31, 1999.

The Year 2000 Business Contingency Planning Guide has been adopted by the Ministry. The Ministry's Contingency plans are well in progress with planned completion dates on schedule.

The Ministry has contracted KPMG to perform quarterly independent reviews from December 1998 until March 2000.

The report completed for MSP Claims for Health has been reviewed and any related issues identified at the time of the report have been addressed. The project is progressing well and on schedule with 1642 sites in production using the revised Y2K Teleplan specs and 68 vendors completed testing for Year 2000 with a data acceptance cutoff date set for October 4, 1999. Data Entry PC software and new NT computers are fully integrated as of May 1999. Adjudication Year-end Jobs are completed and in production as well as the completion of interface testing. Other sub-systems are in the final testing stage and on schedule.

The BC Benefits Program System—Response Prepared by the Ministry of Human Resources

There are no recommendations specific to this project in the report.

The Ministry of Human Resources supports the content of the report as it relates to that ministry.

Response to Part 4: Year 2000 Readiness—Government Organizations

Year 2000 and the Health Authorities—Response Prepared by the Ministry of Health

Since the report on Health Authorities was prepared, significant activity has been undertaken by the Ministry, including:

- *securing and distributing $100M to Health Authorities to assist in their Year 2000 remediation;*
- *issuing detailed "Roadmaps" as guides to Health Authorities on the activities to undertake for Year 2000 remediation, contingency planning and supply chain; and*
- *detailed status reporting and risk assessment process for all Health Authorities which has been reviewed and endorsed by KPMG.*

Year 2000 and the Crown Corporations—Response Prepared by Crown Corporations Secretariat

In the spring of 1999, the provincial government's Crown Corporations Secretariat established and coordinated a reporting mechanism on Y2K readiness with the 13 Crown corporations under the Secretariat's oversight. The Secretariat worked with the Information, Science and Technology Agency of government to assess the status of those organizations.

According to plans submitted to the Secretariat, all 13 corporations have project teams and offices in place and are progressing well with their Y2K repairs and testing.

In particular, work on mission-critical systems is scheduled to be completed well before the new year. For example:

- *BC Hydro announced in June that its 223 "high impact" devices were fully Y2K-ready, providing greater assurance that service to consumers will not be greatly affected by Y2K.*
- *The Insurance Corporation of BC is able now to issue insurance policies and vehicle licenses with expiry dates in 2000—and process claims arising from these policies—and manage debts and revenue collection with Year 2000 due dates.*

With regard to the Auditor General's recommendation, the focus in the Crown sector is shifting to contingency and disaster recovery plans, including:

- *Determining potential liabilities;*
- *Developing back-up plans for mission-critical projects; and,*
- *Assessing and working with suppliers to determine their Y2K-readiness and develop joint contingency strategies.*

corporate human resource information and payroll system (CHIPS): update

A review of the status of government efforts in response to the findings and recommendations made in our 1997/98 Report

Overall Evaluation

We are pleased with the progress made by the CHIPS office (recently renamed as the Payroll Operations and Information Management Division of the Public Service Employee Relations Commission [PSERC]) and ministries in addressing the findings and recommendations we made in our *Report on the 1996/97 Public Accounts, 1997/98: Report 2*. Most of the urgent control issues have been or are in the process of being addressed. Some, however, which must be developed at the ministry level, may take longer to implement. Examples include:

- policies and procedures required to address unique business control risks, and
- procedures required to reduce the risk of errors in manual calculations.

Both the CHIPS office and ministries must continue their efforts to ensure the remaining control weaknesses are addressed. Effort to regularly monitor and review data through CHIPS reports is improving across government. As ministries continue to develop further expertise in customizing their reports, they will be in a better position to monitor CHIPS data. This may also improve controls.

Background

CHIPS was designed to:

- maintain human resource information;
- track leave management entitlements and transactions; and
- process payroll for government employees.

The CHIPS office provides business and technical support, training and centralized processing of data. Individual ministries are responsible for all data entry, reporting and the review and monitoring of transactions. The CHIPS office is part of PSERC.

Comments from Our Last Report

In 1997, a post implementation review of CHIPS was conducted jointly by the Internal Audit Branch of the Office of the Comptroller General and KPMG, Chartered Accountants. This review focused largely on financial and processing controls incorporated into the payroll system.

We reviewed the work done by the Internal Audit Branch, carried out tests and other work needed to assess the conclusions reached by it, and reported the results. We also reported on control procedures in place to ensure the validity and accuracy of non-routine payroll transactions in ministries. Non-routine transactions would normally have a higher risk of error than routine transactions, as they are generally manually initiated and entered by different people at different ministries.

We concluded that the overall control framework was adequate for managing risk effectively, although improved control procedures were needed at the ministry level to ensure that errors are detected and prevented. We recommended that ministries strengthen their authorization, monitoring and review procedures, and develop policies and procedures that specify functions and responsibilities as they relate to CHIPS.

Our testing of non-routine transactions found instances of unauthorized transactions, coding errors, data entry errors and inconsistent practices. We voiced our concern over the potential for larger errors to occur and, since our last report, two significant errors did occur. Both errors would have been detected had the established CHIPS control procedures been followed at the ministry level to ensure that transactions entered in CHIPS were accurate and authorized.

Developments Since Our Last Report

In this report, we describe the status of government efforts, to the end of 1998, in response to our findings and recommendations from last year. We interviewed PSERC personnel and reviewed documentation received by them from ministries. Concerning the latter, we evaluated ministry comments for reasonableness, but did not audit them.

General Application Controls

Last year, we reported that human resource functions and payroll leave functions were not always segregated in ministries.

Some ministries have made a conscious decision to assign the human resource and payroll leave functions to the same staff for operational efficiency reasons. Though it may be efficient, we noted that this would allow the same person to create an employee record and receive a payment.

Status:

The CHIPS office has reviewed security profiles to ensure that inappropriate access is denied. As well, the office has developed a “security administration” information package to be used for training all ministry security administrators and to provide direction in ensuring that incompatible functions remain segregated.

A few smaller ministries, however, are still not segregating human resource and payroll leave functions. Consequently, they had to obtain special approval from the Commissioner of PSERC and the Comptroller General to continue this practice. This approval was granted after these ministries demonstrated that they have adequate manual compensating controls in place. As well, the government has consolidated payroll departments in a number of the smaller ministries and this will improve the segregation of duties between payroll and human resources.

Conclusion:

The segregation of human resource functions and payroll leave functions within ministries has improved.

Last year, we reported that ministry management relied on a review process to prevent and detect unauthorized transactions, however, staff received limited guidance on how to apply this process.

Control procedures within applications (such as CHIPS) can either be manual or automated:

- Manual control procedures can be preventive controls, such as the authorization and review of data before it is entered into the system, or detective controls, such as the review of reports generated by the system to ensure that the data processed is accurate, authorized and complete.
- Automated control procedures are those contained within computer programs. They are normally preventive controls, such as limit and validity checks and electronic approvals, aimed at preventing inaccurate or invalid data from being processed.

Increased reliance on manual controls is occurring throughout industry where generic software packages are used. Generic software is developed to perform specific functions applicable to the needs of many organizations. Purchasing this software is usually less expensive than developing a customized program. Another advantage is the lower cost of implementing the software initially and updating the program. Software upgrades are made regularly by the supplier, and their cost is often included in the annual maintenance fee of the software.

CHIPS is a generic software package. For the government to implement automated controls specific to its business practices, it would have to make extensive modifications to the software, and commit to maintaining these modifications each time the generic software package is upgraded - both time consuming and costly undertakings. Instead, the CHIPS office plans, as a measure of economy, to increase the use of manual rather than automated controls. It is therefore important that proper preventive and detective manual control procedures be used. This means that data should be reviewed and monitored regularly by staff who are adequately trained to do so.

In our report last year, we found that only limited guidance was provided to staff reviewing data entry. As a result, exception reports were not being reviewed completely and consistently to detect unauthorized transactions. This represents a significant risk, because clerks have the ability to modify data and transactions after data is reviewed and approved.

Status:

The CHIPS office offers several training courses for payroll, leave and human resource personnel, as well as for management staff who approve and review transactions. The objective of these courses is to improve the quality and consistency of review by providing users with an understanding of how CHIPS operates, what controls are in place, and who is responsible and accountable for the controls.

While these courses provide the knowledge and skills that staff need to improve controls, they do not focus on specific authorization and review policies. These aspects of control are the responsibility of ministries and are determined, in part, by ministry business requirements. At the time of our review, approximately one-third of direct payroll staff had been trained, but only a small fraction of program managers had taken advantage of the course.

Ministries have indicated that they understand and appreciate the need to improve controls, and some have indeed established certain detective controls. Senior Financial Officers, who are responsible for implementing adequate financial controls within their respective ministries, are now responsible to act on our recommendation to increase the training of the ministry personnel who handle payroll, human resources and leave functions.

Conclusion:

Some initiatives started by ministries have improved the quality and consistency of manual controls. We support this effort, but note that additional work on developing review policies is required.

Last year, we reported that because many processes and calculations in CHIPS must be performed manually, there was a risk of data being inaccurate.

When pay processes and calculations are performed manually, there is an increased risk of error. The CHIPS office believes that a program to check data can be installed at the front end of the existing software. Last year we were told that this program, if implemented, would increase the accuracy of data entry, because it has automated edits and therefore reduces manual entry errors. However, in the interim, we recommended that human resources and payroll personnel reduce the risk of errors, by consistently reviewing data entered against source documents to ensure the validity, accuracy and completeness of transactions.

Status:

The CHIPS office is studying the feasibility of adding a front end program to capture employee time. At present, there is concern that such a module will not be as effective as was first hoped. CHIPS operates on a negative pay process—that is, it pays an employee unless there is a requirement not to do so. The available front end program operates in a positive pay process—it pays an employee only if a time sheet is entered. The requirement of a time sheet to effect pay would cause significant difficulties.

As the comments received from ministries show, the consistency, methodology and quality of review continues to vary in ministries. We noted that some ministries perform detailed reviews on all calculations, while others perform only high-level reviews, testing just the reasonableness of calculations. This is partly because some payroll expenditure reports simply list dollar amounts and can only be reviewed for obvious anomalies.

Whether to add a front end program or enhance review procedures depends on the risk of errors in manual processes and calculations. In some cases, it appears that ministries have not performed a risk analysis to determine which calculations have a greater risk of significant error. Such an analysis, we believe, could provide guidance to ministries about which calculations should be reviewed, and would increase the efficiency of the process.

Conclusion:

Not all ministries have adequately assessed the risks associated with their CHIPS manual processes and calculations.

This year's recommendation for General Application Controls

We recommend that ministries assess the risks associated with the CHIPS manual processes and calculations. This will allow the ministries to ascertain the need for, and the extent of, preventive front-end procedures and detective review policies and procedures.

Controls over Non-Routine Transactions

Non-routine transactions have a value of approximately $95 million, or 5% of the total payroll cost. However, the risk of errors or fraud occurring and not being detected is highest in non-routine transactions. Therefore, last year, we looked at controls over processing non-routine payroll transactions such as leaves, benefits and supplementary salary costs. We reviewed these transactions primarily for validity and accuracy, and to ensure that controls were in place at ministries to minimize risks.

We expressed concerns over the authorization, review and monitoring of non-routine transactions. We found:

- a lack of policies specifying responsibilities and review procedures;
- inconsistent authorization procedures for special leave transactions;
- little or no review of some non-routine transactions; and
- ineffective monitoring of non-routine transaction data processed by CHIPS.

Last year, we reported that policies specifying responsibilities and review procedures for non-routine transactions, such as the extent of review required, the process to track errors and the sign-off procedures, were lacking at the ministry level.

The Office of the Comptroller General (OCG) is responsible for establishing overall financial procedures to provide a general control framework in ministries. The CHIPS office has published a user manual setting out general directions for the use of the system. OCG encourages individual ministries to supplement these procedures to address their unique business and control risks. The aim of ministry procedures is to provide more specific direction to its employees over payment processing, including authorization, review and monitoring.

Status:

Some ministries have stated that they have adopted informal review policies and procedures, or are continuing to work on developing formal ones. Other ministries reiterated that they rely solely on the CHIPS user manual. Several ministries reported having insufficient resources to develop the supplemental policies and procedures. They prefer central agencies to develop them. The CHIPS office is developing checklists of common policies and procedures that could be used across all ministries.

Conclusion:

We recognize that the development of policies and procedures by a central agency might be more efficient than having each individual ministry develop their own.

While the checklist of common policies and procedures being developed by the CHIPS office should be considered for use by all ministries, in our view, each ministry should tailor these policies and procedures to address the business and control risks unique to it.

Last year, we reported that authorization procedures for special leave transactions were carried out inconsistently from ministry to ministry.

We found, last year, that less importance was being given to authorization procedures for special leave transactions, because no direct cash outlay is involved. As well, the authorization procedures for these transactions varied from ministry to ministry and within ministries. We were also concerned that those staff processing leave transactions were not verifying the approval signatures. We recommended last year that ministries develop consistent authorization policies and procedures to provide assurance that all payroll transactions are valid.

Status:

While the authorization for various special leaves continues to differ from ministry to ministry, most ministries have confirmed that the person who authorizes employee payroll spending is also authorizing leaves. This allows payroll clerks to recognize the signature, thus verifying the authorization of transactions before the data is entered.

Conclusion:

Ministry procedures for authorizing special leaves have generally improved.

Last year, we reported that there was little or no review of non-routine transaction data being entered into CHIPS.

Last year we found instances where the identifying code for leave was left blank on the form by employees and their managers, and then subsequently entered incorrectly by the data entry personnel.

Status:

According to information received, ministries are now reviewing forms to ensure that source documents are complete and approved before data is entered into the system. The responsibility to ensure the identifying code is correct lies with the employee's manager and, in some cases, with the human resource department. We do not believe that these responsibilities have been consistently incorporated into the job descriptions of managers. As a compensating control, though, many ministries provide periodic reports to both managers and employees to verify and attest to leaves taken.

Conclusion:

Although ministries are now reviewing their special leave transactions, the responsibility for doing this is not always documented.

Last year, we reported that there was little or no evidence of ministries monitoring non-routine transaction data processed by CHIPS.

The monitoring of non-routine transactions is particularly important because these types of transactions, by their nature, are subject to increased risk of error. Last year we found that some employees were provided both a Health and Welfare Allowance and a Health and Welfare Benefit. The allowance is meant to be provided to auxiliary employees in lieu of the benefit provided to regular employees. Such an error, as was the case in our findings, can occur during the transition phase when an employee is changing status from an auxiliary to a regular appointment.

In our review last year, we found that exception reports designed to detect and list these unusual transactions were not always produced, and when they were produced, there was often confusion in the ministries over who was responsible for reviewing them and what procedures should be carried out on them.

Status:

Since our previous report, ministries have indicated that they have become more familiar with standardized reporting features. For some ministries, the standard reports provide a basis for reviewing the source documentation for data recorded in the system. This procedure is the control necessary to ensure the accuracy of data in the system. Managers and persons with spending authority perform these reviews; they are the appropriate persons to establish the authorization, accuracy and completeness of transactions.

Ministries used to experience delays or difficulties when producing standard and customized reports. This was due to the number and size of the reports being requested, poor user experience with report production and errors encountered during report production. These problems have now been resolved with the installation of improved technology and increased user experience.

However, some ministries are still not using reports to identify errors in non-routine transactions, such as for detecting whether Health and Welfare Benefits and Allowances have both been paid.

Conclusion:

Not all ministries have developed procedures to detect non-routine pay errors.

This year's recommendations for Controls over Non Routine Transactions

We recommend that ministries assess the risks associated with processing non-routine transactions (such as leaves, benefits and supplementary salary costs). This will allow the ministries to ascertain the need for, and the extent of, tailoring of common CHIPS policies and procedures that may be required to address their unique business and control risks.

We also recommend that responsibilities for reviewing and monitoring non-routine transactions should be clearly outlined. These responsibilities should specifically include the production and review of CHIPS reports, such as exception reports that highlight unusual transactions.

The Change Management Process

Each new release of CHIPS software results in significant change across government from both a technological and a business process perspective. The vendor releases a new version of its software approximately every 12 to 14 months. It is important for the CHIPS office to adopt these new releases because full application support is available for the previous version of software for only 18 months. The new releases also provide tax updates. Because of the frequency of new versions, we decided to assess the change management process at the CHIPS office. We wanted to see if this process provided assurance that, for each update, adequate internal controls existed to enable the system to provide reliable data.

Conclusion:

The CHIPS office is using an effective change management process to ensure that changes are adequately handled and the integrity of data is protected.

New Developments

The British Columbia government recently announced its intention to restructure its payroll operations. Accordingly, the “Payroll Integration Project” will consider PSERC assuming full responsibility for the centralization of payroll direction and policy advice. Payroll policies and data entry processes will be standardized further across government. The new policies and processes are expected to be implemented by December 31, 1999.

summary of recommendations

The recommendations made in the section of this report titled *Corporate Human Resource Information and Payroll System (CHIPS): Update* are listed below for ease of reference. They should be regarded in the context of the report.

The Office of the Auditor General recommends that:

General Application Controls

- *Ministries assess the risks associated with the CHIPS manual processes and calculations. This will allow the ministries to ascertain the need for, and the extent of, preventive front-end procedures and detective review policies and procedures.*

Controls over Non-Routine Transactions

- *Ministries assess the risks associated with processing non-routine transactions (such as leaves, benefits and supplementary salary costs). This will allow the ministries to ascertain the need for, and the extent of, tailoring of common CHIPS policies and procedures that may be required to address their unique business and control risks.*
- *Responsibilities for reviewing and monitoring non-routine transactions be clearly outlined. These responsibilities should specifically include the production and review of CHIPS reports, such as exception reports that highlight unusual transactions.*

response from the public service employee relations commission (PSERC)

Thank you for an update on the previous audit findings. We would like to advise:

(1) Currently, payroll review processes are presented in the CHIPS Control Framework Course. Upon completion of this course, ministries are asked to develop processes that work best within their organization. Recommendations regarding the authority to review and monitor special leave transactions have also been identified by PSERC. We concur with the conclusion that ministries should improve review and monitoring procedures on special leave transactions.

(2) PSERC also continues to monitor requests for security profiles where segregation of duties may be compromised.

(3) The long-term goal of the Payroll Integration Project is to standardize the most effective payroll processes. PSERC will reinforce with Senior Financial Officers that ministry staff is responsible for the quality of data input and the quality and consistency of data input reviews.

(4) In the near future, the Payroll Integration Project will set government standards for payroll processes. Once these standards are set, PSERC will be responsible for providing central leadership for payroll policies. In addition, PSERC and the Payroll Integration Project will be developing a Payroll Procedures Manual for use by all payroll offices in government and these payroll procedures will accompany the training delivered to CHIPS users.

(5) The final phase of the Payroll Integration Project will assess payroll processes that can become more effective and, therefore reduce the number of errors.

(6) From a corporate perspective, PSERC produces reports to monitor ministry input. If a large dollar value transaction appears on a report, PSERC will contact the ministry regarding the accuracy of the data, prior to the issuance of a paycheque. In addition, PSERC redesigned the report-writing courses in order to better assist ministry users.

Overall, we are pleased to have the Office of the Auditor General recognize the progress made by PSERC and the ministries in addressing the findings and recommendations of the prior year report. We will continue to strive to develop payroll standards where accurate and timely data entry is the goal.

updated responses to last year's internal control and other reviews

updated responses to last year's internal control and other reviews

Ministry of Finance and Corporate Relations

New Corporate Accounting System (CAS): Update

Page 115 of this report contains this year's comments on CAS, in a section titled *Corporate Accounting System: Update*. Because of the significant effect that CAS will have on government financial accounting processes and reporting, we believe it is important that we monitor the system as it is being developed. A response from the Office of the Comptroller General is included with that report, on page 132.

Ministry of Advanced Education, Training and Technology Information, Science and Technology Agency

Government Financial and Other Information Systems, and the Year 2000 Deadline

Page 135 of this report contains this year's comments on the Year 2000, in a section titled *Government Financial and Other Information Systems, and the Year 2000 Deadline: Update*. Because of the significant effect that information systems will have on government operations and reporting, we believe it is important that we monitor the progress as we are approaching the Year 2000 deadline. A response from the government's Action 2000 Project Office is included with that report on page 208.

Office of the Minister Responsible for the Public Service
Public Service Employee Relations Commission

Corporate Human Resource Information and Payroll System (CHIPS)

Page 219 of this report contains our follow-up review of the CHIPS in a section titled *Corporate Human Resource Information and Payroll System (CHIPS): Update.* Our report is followed by the response from the Public Service Employee Relation Commission (PSERC) on page 230.

Ministry of Forests

Forest Credit Management Review

Last year, our report on the Ministry of Forests' credit management system included fourteen recommendations for improvement. The ministry has developed action plans for each of our recommendations and progress is being made on the implementation of those action plans. The ministry plans to complete this work over the next year and will provide information on the progress on management in implementing the recommendations at that time.

appendices

appendix a

Financial Statement Audit Objectives and Methodology, Office of the Auditor General

Purposes of Financial Statement Audits

An independent audit of financial statements has several purposes. The main one is to add credibility to the statements, thus enhancing their value to the ultimate users. Evidence of this is provided in the form of an auditor's report which accompanies the financial statements, and in which the auditor's opinion expresses whether the statements are presented fairly in accordance with an appropriate, disclosed basis of accounting.

Another benefit of such an annual audit is that its very existence provides a constant stimulus to an organization to ensure sound financial management. In addition, the auditor is frequently able to provide helpful assistance and advice to an organization as a direct result of findings developed during the audit.

Reporting the Results of Audits

As noted above, a financial statement audit results in the issuance of a report on those statements. These reports are addressed to whoever appointed or engaged the auditor to do the work, such as the organization's owner, the shareholders or some appropriate representative of those with a stake in the organization. In the case of the government financial statements examined by this Office, the Auditor General addresses his or her reports to the Legislative Assembly. The reports issued on the statements of Crown corporations and other government organizations are addressed to various parties, according to applicable appointment or engagement arrangements.

The auditor's report constitutes the auditor's professional opinion on the financial statements, and usually consists of three paragraphs.

The first paragraph identifies the financial statements that have been audited. It also points out that the statements are the responsibility of management, and that the auditor's responsibility is to express an opinion on the statements.

Next is the “scope” paragraph, which describes the nature and extent of the auditor’s work and the degree of assurance that the Auditor’s Report provides. Also, it refers to generally accepted auditing standards and describes some of the important procedures which the auditor undertakes.

The third paragraph, frequently referred to as the “opinion” paragraph, contains the auditor’s conclusion based on the audit conducted.

If the auditor is unable to provide an opinion without reservation on the financial statements, the report must include another paragraph. In that paragraph, which would appear between the scope and the opinion paragraphs, the auditor advises the reader as to the reasons for the reservation, and the effects or possible effects on the financial statements of the matters giving rise to the reservation.

Finally, should the auditor wish to present additional information or explanations concerning the financial statements —information that does not constitute a reservation in the audit opinion—this will appear in a further, explanatory paragraph to the report.

Auditing Standards

When undertaking examination procedures for the purpose of expressing an opinion on financial statements, auditors are expected to comply with established professional standards, referred to as generally accepted auditing standards. The principal source of these standards in Canada is the Canadian Institute of Chartered Accountants (CICA).

Generally accepted auditing standards consist of three main areas. There are general requirements that the auditor properly qualified to conduct and report on an audit, and that he or she carry out the duties with an objective state of mind. Further standards outline the key technical elements to be observed in the conduct of an audit. Finally, reporting standards set out the essential framework of the Auditor’s Report on the financial statements.

In addition to these broad standards, the CICA makes other, more detailed, recommendations related to matters of auditing practice. As well, the CICA, through its Public Sector Accounting and Auditing Board, makes recommendations that relate specifically to the audit of entities in the public sector.

Application of the Standards

We carry out extensive examinations of the accounts and records maintained by the ministries and central agencies of government, and by the Crown corporations and other public bodies of which the Auditor General is the auditor.

Also, with respect to Crown corporations which are audited by other auditors and which form part of the Province's Summary Financial Statements, we obtain various information and assurances from those other auditors which enable us to rely on their work in conducting our audit of the government's accounts. This information is supplemented by periodic reviews by our staff of those auditors' working paper files and audit procedures.

Throughout these examinations, the Office of the Auditor General complies with all prescribed auditing standards in the conduct of its work. It must be realized, however, that the Auditor General's opinion on a set of financial statements does not guarantee the absolute accuracy of those statements. In the audit of any large organization it is neither feasible nor economically desirable to examine every transaction. Instead, the auditor, using knowledge of an organization's business, methods of operation and systems of internal control, assesses the risk of error occurring and then designs audit procedures to provide reasonable assurance that any errors contained in the financial statements are not, in total, significant enough to mislead the reader as to the organization's financial position or results of operations.

When determining the nature and extent of work required to provide such assurance, we consider two main factors: *materiality*, which is expressed in dollar terms, and *overall audit assurance*, expressed in percentage terms.

- *Materiality* relates to the aggregate dollar amount which, if in error, would affect the substance of the information reported in the financial statements, to the extent that a knowledgeable reader's judgement, based on the information contained in the statements, would be influenced.

In our audit of the Province's financial statements we have assumed that an error in the current year's deficit in excess of one-half of 1% of the gross expense of the government would be considered material. For our audits of government organizations, materiality is established based on the nature of the organization and an appropriate percentage, or combination of percentages, of expenditure, assets or surplus / deficit.

- *Overall audit assurance* represents, in percentage terms, how certain the auditor wants to be that the audit will discover error in the financial statements which, in total, exceeds materiality, should such total error exist.

In our audit of the Province's financial statements, we planned our work so as to achieve an overall audit assurance of 95% that the audit would detect error in excess of materiality. For our audits of other government organizations, our planned overall audit assurance ranges between 95% and 97.5%. In choosing the level of assurance, we consider factors such as the expectations of the users of the financial statements and the nature of the audit evidence available.

In planning our audits of financial statements, we exercise professional judgement in determining the application of these two key factors. Professional judgement is influenced by our knowledge of the requirements of readers of the financial statements, and by what is generally accepted as being appropriate by auditors of similar organizations.

appendix b

Reports, Entities, and Trust Funds Audited by the Auditor General for the 1997/98 Fiscal Year

In addition to auditing the Summary Financial Statements of the Province and the Consolidated Revenue fund Financial Statements, the Auditor General is the Auditor of:

Government Reports

Annual Debt Statistics

- Summary of Provincial Net Debt
- Key Indicators of Provincial Debt
- Summary of Key Benchmarks

Other Audit Reports

Internal Control Objectives for the Investment System of the Office of the Chief Investment Officer

Health Assurance Audits:

- Stated Internal Control Objectives for the Payroll and Employee Benefits System and the Continuing Care, Adult Mental Health and Public and Preventive Health Expenditures System of the Ministry of Health and Ministry Responsible for Seniors, and the Control Procedures Designed to Achieve those Objectives
- Summary and Schedules of Capital Assets Transferred from the Ministry of Health and Ministry Responsible for Seniors to Regional Health Boards
- Summary and Schedules of Accrued Payroll Leave Liability of the Ministry of Health and Ministry Responsible for Seniors to Regional Health Boards

Entities Included in the Summary Financial Statements

552513 British Columbia Ltd.

BC Transportation Financing Authority

British Columbia Assessment Authority

British Columbia Buildings Corporation

British Columbia Educational Institutions Capital Financing Authority

British Columbia Enterprise Corporation

British Columbia Liquor Distribution Branch[1]

British Columbia Regional Hospital Districts Financing Authority

British Columbia School Districts Capital Financing Authority

British Columbia Securities Commission

Columbia Power Corporation

Creston Valley Wildlife Management Authority Trust Fund

Duke Point Development Limited

Fisheries Renewal BC

Forest Renewal BC

Health Facilities Association of British Columbia

Industry Training and Apprenticeship Commission

Legal Services Society

Tourism British Columbia

Provincial Capital Commission

Victoria Line Ltd.

W.L.C. Developments Ltd.

Other Entities Not Included in the Summary Financial Statements

British Columbia Institute of Technology

Canadian HIV Trials Network

Community Health Services Societies

- Cariboo Community Health Services Society
- Kootenay Boundary Community Health Services Society
- Coast Garibaldi Community Health Services Society
- East Kootenay Community Health Services Society
- North West Community Health Services Society
- Peace Liard Community Health Services Society
- Upper Island / Central Coast Community Health Services Society

Kwantlen University College

Provincial Employees Community Services Fund

[1] Branch of Ministry of Small Business, Tourism and Culture

Royal Roads University

SF Univentures Corporation

Simon Fraser University

Technical University of British Columbia

The Cedar Lodge Society

The University of British Columbia

University of Northern British Columbia

University of Victoria

University Foundations:

- Foundation for the University of Victoria
- Simon Fraser University Foundation
- The University of British Columbia Foundation
- University of Northern British Columbia Foundation

University of Northern British Columbia Pension Plan

Trust Funds

BC Rail Ltd. Pension Plan

British Columbia Hydro and Power Authority Pension Plan

British Columbia Public Service Long Term Disability Plan

College Pension Plan

Members of the Legislative Assembly Superannuation Account

Municipal Pension Plan

Province of British Columbia Pooled Investment Portfolios:

- Active Canadian Equity Fund
- Active U. S. Equity Fund
- British Columbia Focus Fund
- Canadian Money Market Fund ST1
- Canadian Money Market Fund ST2
- U. S. Dollar Money Market Fund ST3
- Canadian Corporate Bond Fund
- Construction Mortgage Fund
- European Indexed Equity Fund
- Fixed Term Mortgage Fund

- Indexed Canadian Equity Fund
- Indexed Government Bond Fund
- Managed International Equity Fund
- Passive International Equity Fund
- Pension Bond Fund
- Private Placement Fund 1995
- Private Placement Fund 1996
- Private Placement Fund 1997
- Realpool Investment Fund
- S & P 500 Index Equity Fund
- Short Term Bond Fund
- TSE 100 Index Equity Fund

Public Service Pension Plan

Teachers' Pension Plan

Westel Telecommunications Ltd. Pension Plan

Workers' Compensation Board of British Columbia

Workers' Compensation Board Superannuation Plan

appendix c

Government Entities and Trust Funds Audited by Private Sector Auditors, or Unaudited, and Whose Financial Statements Are Included in the 1997/98 Public Accounts

Entities Included in the Summary Financial Statements

B.C. Community Financial Services Corporation

B.C. Festival of the Arts Society

B.C. Games Society

B.C. Health Care Risk Management Society

B.C. Pavilion Corporation

BCIF Management Ltd.

British Columbia Arts Council

British Columbia Ferry Corporation

British Columbia Health Research Foundation

British Columbia Heritage Trust

British Columbia Housing Management Commission

British Columbia Hydro and Power Authority

British Columbia Lottery Corporation

British Columbia Railway Company

British Columbia Rapid Transit Company Ltd.

British Columbia Systems Corporation

British Columbia Trade Development Corporation

British Columbia Transit

Columbia Basin Trust

Discovery Enterprises Inc.

Downtown Revitalization Program Society of British Columbia

First Peoples' Heritage, Language and Cultural Council

Insurance Corporation of British Columbia

Okanagan Valley Tree Fruit Authority

Pacific National Exhibition

Provincial Rental Housing Corporation

Science Council of British Columbia

West Coast Express Limited

Other Entities Not Included in the Summary Financial Statements

20 Colleges and advanced education institutions

28 Community health councils

22 Health care organizations

11 Health regions/regional health boards

60 School districts

39 Regional hospital districts

Trust Fund

Credit Union Deposit Insurance Corporation
of British Columbia

appendix d

Excerpts from the 1997/98 Public Accounts

The material that forms Appendix D is from the Public Accounts of British Columbia for the fiscal year ended March 31, 1998. It consists of the Summary Financial Statements of the Province and the Auditor General's report on them.

Contents

appendix e

Excerpts from the Debt Statistics 1997/98

Section I of the *Debt Statistics 1997/98* titled *Province of British Columbia Debt Report* contains the Auditor General's Report on Summary of Provincial Net Debt, Key Indicators of Provincial Debt and Summary of Key Benchmarks.

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