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**A COMPARISON OF TAX INCENTIVES
FOR PERFORMING RESEARCH AND DEVELOPMENT
IN CANADA AND THE UNITED STATES**

PREPARED FOR INDUSTRY CANADA

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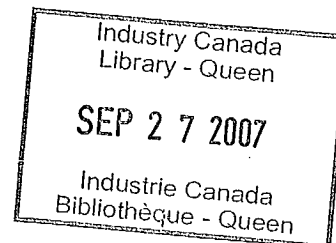
EXECUTIVE SUMMARY

The definitions of which activities qualify or do not qualify as research and development (R&D) ("scientific research and experimental development" in Canada and "research or experimental" activities in the U.S.) for purposes of the various tax incentives available are remarkably similar both in law and as assessed by the tax authorities in the respective countries. For example, routine continuous engineering expenditures do not qualify under R&D tax credit rules in either Canada or the U.S. In addition, eligible costs and those explicitly excluded from the list of eligible expenses for R&D tax incentive purposes are similar. Therefore, the two taxation systems are remarkably similar in determining which activities and which expenditures qualify for tax incentives. Although, the two main tax measures designed to encourage R&D activities in Canada and the U.S. are the R&D expense deduction and the R&D tax credit, the two systems differ in the timing of claiming the R&D expense deduction, the size of the R&D credits available and the ability to access the R&D credits. For example, as noted above, R&D expenditures that qualify for the deduction from taxable income in the U.S. and Canada are similar. However, in Canada, R&D capital expenditures can be written off immediately. In the U.S., these assets are depreciated. In addition, in Canada, the taxpayer is entitled to much greater flexibility in claiming R&D deductions through either an immediate write-off of both current and capital R&D expenditures if desired or the indefinite carry-forward of any unused portion of such expenditures to future years. In the U.S., R&D performers must write-off qualifying expenses in the year in which they are incurred or make an election to capitalize R&D expenditures and write them off over a period of not less than five years, beginning in the period in which benefits are first realized.

Also, the Canadian tax legislation appears much more flexible and generous in respect to the R&D tax credit than does that of the U.S. Unlike the U.S. system the Canadian system provides a cash refund to certain tax credit recipients for the unused portion of R&D tax credits earned in any given taxation year. Also, the R&D tax credit rate is often higher for qualifying Canadian businesses as the U.S. has placed a cap on R&D expenditures eligible for the credit.

Finally, the Canadian tax system makes special provisions for small corporations performing R&D, according them greater incentives and more expeditious administrative treatment, whereas the U.S. does not generally distinguish between large and small corporations for R&D tax credit purposes, with the exception of a different calculation of the cap on expenditures for start-up companies.

Auditing R&D tax incentive claims in the U.S. has been less rigorous in the past than in Canada. Now, however, the U.S. has increased its audits on R&D claims so that the level of scrutiny in Canada and in the U.S. appears to be similar. Revenue Canada, Customs, Excise and Taxation (Revenue Canada) undertakes a



formalized two step audit process which includes an audit review by both a scientist and a tax specialist. The Internal Revenue Services (IRS), on the other hand, does not appear to allocate special resources to audit R&D tax credit claims to the same extent. The IRS does utilize qualified engineers on selected audits.

Provincial R&D tax incentives in Canada, designed to encourage R&D in the provinces of Ontario, Québec, Nova Scotia, New Brunswick, and Manitoba, are much more generous and numerous than any state incentives that exist within the U.S. Although state-sponsored R&D tax incentives do exist in several states, R&D tax incentives at the state level are not widespread.

Outright grants, subsidies and interest-reduced loans from individual provincial governments to encourage R&D are available in Canada. With the exception of certain states which encourage R&D performers by exempting them from sales tax on purchases of R&D related equipment and supplies, no similar state-sponsored grants or subsidy programs exist in the U.S.

At the federal level, direct non-tax R&D incentives in the U.S. are not as prevalent as in Canada. The current U.S. administration has not instituted any outright grant or assistance programs to encourage R&D. However, in any comparison, one must not ignore the tremendous impact on certain segments of the R&D community of the benefits of the spending by the U.S. military establishment. In Canada, on the other hand, federally-sponsored R&D specific grant and assistance programs are much more prevalent than in the U.S. Such programs are designed to encourage R&D in very specific industrial sectors or geographic regions. In addition, a number of programs in Canada are specifically designed to encourage industry-based R&D consortia. The U.S. Government, on the other hand, provides fewer direct financial assistance programs to industry-based R&D consortia.

Non-tax R&D incentives and payments under government and other R&D contracts are treated similarly in the U.S. and Canada for R&D tax credit purposes. R&D tax credits are calculated on qualified R&D expenditures net of all government grants, non-tax incentives or payment amounts for R&D performed on a contracted basis, except as noted in Section 5.1.2.

Unlike Canadian R&D tax incentives, the U.S. incentives are subject to periodic Congressional reviews. Each review raises another opportunity to change U.S. R&D tax incentives. Consequently, U.S. R&D performers cannot depend on current R&D tax provisions being in existence over the longer term and have difficulty planning around such legislative changes. In Canada, on the other hand, since 1985, R&D policy has been relatively static, and the Canadian Government appears genuinely committed to encouraging R&D through its R&D incentives (both tax and non-tax), and through its industrial and regional policies. Such commitment creates a more certain legislative environment in which R&D performers can operate.

The current Canadian system of R&D tax incentives caters specifically to the smaller Canadian R&D performer. Such performers have demonstrated their support for R&D tax incentives by working with Government, in a remarkable example of co-operation, in an effort to fully tailor the system to meet their specific needs.

The Canadian system provides Canadian corporations with a significant cost advantage over U.S. firms when vying for R&D work to be performed in Canada. The Canadian R&D tax incentive system is more flexible and generous than that of the U.S. Canadian corporations have significant advantages over U.S. corporations. Canadian corporations are eligible for more generous R&D tax credit rates, refundable R&D tax credits, faster write-offs of R&D capital equipment, and more flexibility in the timing of the write-off of R&D expenditures. Non-tax incentives offered by the federal and provincial governments add to the advantages available to Canadian R&D performers when competing with foreign companies for R&D work.

**A COMPARISON OF R&D TAX INCENTIVES IN
CANADA AND THE UNITED STATES**

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CHAPTER 1

1.0 THE DEFINITION OF R&D

1.1 The U.S. Definition

In the U.S., although no formal definition of "research or experimental" activities exists under Section 174 of the Internal Revenue Code, the Internal Revenue Service has issued regulations defining the term as follows:

- Expenditures incurred in connection with the taxpayer's trade or business which represent research and development costs in the experimental or laboratory sense. The term generally includes all such experimental or laboratory costs incident to the development or improvement of an experimental or pilot model, a plant process, a product, a formula, an invention, or a similar property. It includes research and experimentation aimed at the discovery of new knowledge and research or experimental searching for new applications of either research or experimentation findings or other knowledge.

Expenditures represent research and development costs in the experimental or laboratory sense if they are for activities intended to discover information that would eliminate uncertainty concerning the development or improvement of a product. Uncertainty exists if the information "actually available does not establish either (1) the capability or method for developing or improving the product or (2) the appropriate design of the product". Whether expenditures qualify as research or experimental expenditures depends on the nature of the activity to which the expenditures relate, not to the nature of the product or improvement being developed or the level of technological advancement the product or improvement represents.

Section 174 applies to a research or experimental expenditure only to the extent that the amount of the expenditure is reasonable under the circumstances. In general, the amount of an expenditure for research or experimental activities is reasonable if the amount would ordinarily be paid for like activities by like enterprises under like circumstances. This reasonableness requirement does not apply to the reasonableness of the type of nature of the activities themselves.

The term "research and experimental expenditure" does not include any costs incurred in connection with the following activities unless the expenditures relating to such activities qualify separately under Section 174:

- efficiency surveys or management studies;
- consumer surveys, market development, or market testing (including market research, advertising, or promotions);
- the routine or ordinary testing or inspection of materials or products for quality control costs incurred to test the appropriateness of the product design are not excluded from the definition of "research and experimental expenditures" as quality control costs;
- research in connection with literary, historical or similar projects;
- the acquisition of another person's patent, model or production process. (However, the term includes the cost of obtaining a patent.)

1.2 The Canadian Definition

In Canada, for taxation purposes, "scientific research and experimental development" is defined as:

a systematic investigation or search carried out in a field of science or technology by means of experiment or analysis.

This definition includes activities in four areas:

- Basic research, namely, work undertaken for the advancement of scientific knowledge without a specific practical application in view;
- Applied research, namely, work undertaken for the advancement of scientific knowledge with a specific application in view;
- Experimental development, namely, work undertaken for the purposes of achieving technological advancement for the purposes of creating new, or improving existing, materials, devices, products or processes, including incremental improvements thereto; or
- Supporting activities, namely, work with respect to engineering, design, operations research, mathematical analysis, computer programming, data collection, testing and psychological research where such work is commensurate with the needs, and directly in support, of basic research, applied research, and experimental development.

Canadian income tax regulations provide that "scientific research and experimental development" excludes:

- market research and sales promotions;
- quality control or routine testing of material, devices, products, or processes;
- research in the social sciences or the humanities;

- prospecting, exploring or drilling for or producing minerals, petroleum or natural gas;
- the commercial production of a new or improved material, device or product or the commercial use of a new or improved process;
- style changes;
- routine data collection.

Unlike the U.S., there is no "reasonable" test contained directly in the definition of R&D, however, any R&D expenditure to be deductible in Canada must be directly related to the business of the taxpayer and would not have been incurred if the R&D had not been carried out. In addition, there is an overriding premise in Canadian tax laws that in order for any expenditure to be deductible, it must be laid out to earn income and must be reasonable in the circumstances.

1.3 Comparison and Commentary

Activities that are considered research and development in Canada and the U.S., for purposes of R&D tax incentives, appear similar.

For example:

- Both definitions attempt to cover a broad spectrum of R&D activities without limitations on particular technology application. Work in all scientific disciplines is eligible except for work in the social sciences and the humanities.
- Both definitions focus eligibility on not only new products but also on new processes.
- Both definitions determine eligibility by requiring the taxpayers' activities to be undertaken in an experimental manner to solve technical uncertainties.
- Both definitions deny eligibility if the information to solve the uncertainty is actually available (the U.S.) or is considered to be standard industry practice (Canada).
- Both definitions require that the taxpayer attempt to discover new knowledge or technological advances. There is no requirement in either country that the taxpayer must succeed.

CHAPTER 2

2.0 THE R&D EXPENSE DEDUCTION IN CANADA AND THE U.S.

2.1 The Nature of the Deduction

2.1.1 U.S.

In the U.S., taxpayers may elect to deduct research or experimental expenditures paid or incurred "in connection with" a present or future trade or business; or they can amortize these research and development costs over a period not less than 60 months, beginning with the month the taxpayer first realizes benefits from the results of such research. A U.S. taxpayer cannot write-off the cost of capital equipment purchased in the year; however, the annual tax depreciation expense of such equipment can be reclassified as an R&D expense. In addition, R&D performers in the U.S. can immediately write-off current R&D expenses incurred outside of the U.S.

In the U.S., there are no specific provisions for R&D expenses that would permit these expenses to be deducted in taxation years other than the year in which they are incurred. Eligible expenses must be written-off in the year in which they are incurred or, by tax election, be amortized over future years, beginning at the time the R&D project translates into actual product.

2.1.2 Canada

In Canada, a taxpayer may immediately write-off current R&D expenses and capital R&D expenditures¹ made in Canada. The taxpayer can also choose to defer the claim for such expenditures to a future year. In addition, R&D performers in Canada can immediately write-off current R&D expenses incurred outside of Canada. Capital R&D expenditures incurred outside of Canada are subject to the normal tax depreciation rules.

¹ Current Expenditures

Qualifying current expenditures includes current expenditures incurred for, and all or substantially all of which are attributable to, the prosecution of R&D inside Canada. Qualifying current expenditures also include those that were directly attributable to the prosecution of R&D. However, an expenditure made to acquire rights, or arising out of scientific research and experimental development will not constitute a qualifying R&D expenditure.

Capital Expenditures

Qualifying expenditures include capital expenditures other than land and buildings, incurred for, and all or substantially all of which are attributable to, the prosecution or R&D in Canada, or the provision of premises, facilities or equipment for the prosecution of R&D in Canada.

2.2 Deductible R&D Expenses

2.2.1 U.S.

In the U.S., the following expenses are eligible for deduction:

- In-House R&D Expenditures:
 - a) Direct costs;
 - b) Depreciation of property used in the conduct of research;
 - c) Costs of obtaining a patent.
- Contract R&D Expenditures:

A contract research expenditure is for qualified research if the expenditure would be a research and experimental expenditure within the meaning of Section 174, and the contract:

- is entered into prior to the performance of the qualified research activities;
- provides that the research is to be performed on behalf of the taxpayer, and

- requires the taxpayer to bear the expense even if the project is unsuccessful.

2.2.2 Canada

In Canada, the following R&D expenses are eligible for immediate write-off or indefinite carry-forward for deduction in future taxation years:

- in-house R&D expenditures undertaken by any corporation resident in Canada and the costs of research carried out under the direction of the taxpayer by other corporations resident in Canada including associated corporations¹.
- costs of research carried out on the taxpayer's behalf by an approved association², educational institution or non-profit corporation provided the taxpayer has the right to exploit the technology used in R&D activities.
- most expenditures with respect to depreciable property;
- the costs of research carried out on the taxpayer's behalf by other corporations resident in Canada including associated corporations, provided that the taxpayer has the right to exploit the technology developed.

¹ In Canada, the term "associated corporation" basically relates to corporations with at least 50% common ownership or in certain circumstances other ties.

² Approved associations are ones which have received prior approval from Revenue Canada.

2.3 Comparison and Commentary

The following matrix compares the deductibility of certain types of R&D expenditures in Canada and the U.S.:

R&D Expenses for Deduction

<u>Expenses</u>	<u>Canada</u>	<u>U.S.</u>
• Land	No	No
• Wages	Yes	Yes
• Contract R&D	Yes	Yes
• Buildings	CCA ¹	MACRS ¹
• Acquired Technology	No ²	No ²
• New and Used Equipment	Yes	MACRS ¹
• License	Yes	Yes
• Patented Technology	Yes	Yes
• Acquired Patents	Yes ³	Yes ³
• Contracted R&D in Home Country	Yes	Yes
• Contracted R&D in Foreign Country	Yes	Yes
• Foreign Depreciable Property	CCA	Depreciated ⁴

LEGEND:

- ¹ Expensed under the normal tax depreciation rules known as capital cost allowance (CCA) system in Canada and the modified accelerated cost recovery system (MACRS) in the U.S.
- ² Limited deductions available in Canada. In the U.S., it can be amortized if the useful life of the technology can be proven. Also, in the U.S. for acquisitions post August 10, 1993, or by election for property acquired after July 25, 1991, the property may be capitalized and amortized over fifteen years.
- ³ In Canada, the cost of obtaining a patent is depreciated under the capital cost allowance rules using a 25% declining balance rate. In the U.S., the cost is deductible over the life of the patent as an amortization expense. In the U.S. for acquisitions post August 10, 1993, or by election for property acquired after July 25, 1991, the property may be capitalized and amortized over fifteen years.
- ⁴ For U.S. tax purposes, acquired depreciable property situated in a foreign country is amortized at a slower than normal rate.

CHAPTER 3

3.0 THE R&D TAX CREDIT IN CANADA AND THE U.S.

3.1 The Nature of the Credit

3.1.1 U.S. Federal

In the U.S., taxpayers may generate a 20% non-refundable R&D tax credit on certain qualified research and experimental expenditures paid or incurred in carrying on a trade or business of the taxpayer, but only to the extent that current year research expenditures exceed the base amount of qualified research expenditures.

As a minimum the base amount must be at least half the qualified research expenditures for the year. In other words, no more than half of the current year's research expenditures can qualify for the incremental credit. The other limitation is determined by computing the taxpayer's qualifying research expenditures as a percentage of its gross receipts during a fixed period (taxation years beginning after December 31, 1993 and before January 1, 1989). This percentage cannot exceed 16%. Next, the taxpayer computes its average gross receipts for the four years preceding the claim and applies the percentage calculated above to the result. The taxpayer must then reduce its qualifying R&D expenditures by the greater of the two amounts.

There are special rules for start-up companies (companies which have fewer than six taxation years in the fixed period referred to above) which limit the maximum of the second calculation referred to above to 3% for their first five taxation years beginning after 1993 and provide a phase-in calculation for years six to ten inclusive.

Note that taxpayers generating foreign tax credits and incurring R&D expenditures that benefit its foreign operations must allocate a portion of its R&D expenditures against foreign source income in determining its foreign tax credit.

Subject to certain exclusions, the 1981 Tax Act provision adopted the U.S. definition of research presented in Chapter 2. Expenditures for research qualifying for the R&D tax credit consisted of:

- in-house expenditures for salaries and wages, supplies, and the leasing of personal property for the conduct of qualified

- research;
- 65% of the amounts paid to others for contract research conducted on the taxpayer's behalf; and
 - 65% of payments by a corporate taxpayer to universities and other non-profit, tax-exempt research organizations for the conduct of basic research.

The credit under the 1981 Tax Act was applicable to research expenditures paid or incurred after June 30, 1981 and before January 1, 1986.

The Tax Reform Act of 1986 (1986 TRA) extended the R&D tax credit for expenditures incurred after December 31, 1985. The 1986 TRA:

- reduced the credit rate to 20% from the previous 25% for taxable years beginning after 1985;
- adopted a new and more limited definition of qualified research;
- excluded expenses of leasing personal property from qualified research expenditures with the exception of certain qualified computer time-sharing arrangements; and
- provided an essentially separate 20% credit for university based research.

The 1989 Tax Act changed the calculation of the credit but did not change the definition of qualified R&D. In addition, the 1989 Tax Act requires the taxpayer to make an annual decision to either reduce the amount of its R&D expenditures for the year by an amount equal to the full amount of the R&D tax credit or to elect to reduce the credit itself by 17%. The decision to elect either to reduce expenses or reduce the credit is often impacted by other tax factors. For instance, the decision may be impacted by a taxpayer's effective tax rate, potential alternative minimum tax exposure, a net operating loss carryback refund potential, or the treatment of R&D expenditures and the credit for state tax purposes, etcetera.

The 1990 and 1991 Tax Acts extended the R&D tax credit to expenditures incurred on or before June 30, 1992.

The 1993 Tax Act retroactively reinstated the R&D tax credit for expenditures incurred after June 30, 1992 to expenditures incurred on or before June 30, 1995. Note that the 1993 Tax Act modifies the computation of the fixed base percentage for start-up companies beginning with their sixth taxable year beginning after 1993.

Any R&D tax credit not used in the current tax period is combined with other general business credits and carried back three years and forward fifteen years.

3.1.2 U.S. State

In addition to the federal incentives offered in the U.S., several of the states offer incentives to encourage corporations to perform qualifying R&D within their boundaries. The states which offer some form of R&D credit include: Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.

Generally, the states which offer R&D credits follow the federal definition of what constitutes qualifying R&D. However, each jurisdiction has its own state specific exceptions to the federal legislation.

The amount of the credit varies from state to state but generally is calculated as a percentage of R&D expenditures. The average investment tax credit of these states is 6%. The credit is not refundable except in Iowa. Additionally, the ability to apply these credits to different tax years vary from state to state.

3.1.3 Canada - Federal

A 20% R&D tax credit, known as the investment tax credit, is allowed for the amount of net qualifying scientific research and experimental development expenditures. For expenditures incurred before 1995, the credit is increased to 30% in the Maritime provinces and the Gaspé peninsula of Québec. The credit is increased to 35% for qualifying Canadian-controlled private corporations (CCPC's)¹. The credit reduces R&D expenditures available for the deduction in the year following the year that they are used to reduce federal taxes payable. This effectively makes the R&D credit taxable income to the recipient.

¹ Companies with a minimum of 50% Canadian ownership, whose shares are not traded on the stock exchange and who are not controlled by any combination of non-resident or public corporations.

For qualifying CCPC's, the applicable investment tax credit is 35% of the first \$2 million of qualifying R&D expenditures. To the extent these credits are not used to offset federal taxes payable they are fully refundable to the corporation (see section 3.2.2.1). However, the following conditions must be met:

- the corporation was a Canadian-controlled private corporation throughout the taxation year; and
- the corporation's taxable income, together with the taxable incomes of all its associated corporations, was less than or equal to \$200,000 in the preceding taxation year.
- the expenditures qualify (see section 3.2.2).

For CCPC's whose taxable income, together with the taxable income of all its associated corporations, was between \$200,001 and \$400,000 for the preceding taxation year, the maximum amount entitled to the 35% rate (or the expenditure limit) of \$2 million is reduced by \$10 for every \$1 of taxable income in excess of \$200,000 for the preceding taxation year. The investment tax credit rate of 35% is available only on this reduced expenditure limit, rather than on the first \$2 million of qualifying R&D expenditures. For any R&D expenditures incurred by the company in excess of the reduced expenditure limit, the investment tax credit rate is 20%.

It is proposed that for taxation years ending after 1995, both the total amount of ITC's available and the refundable amount of ITC's will be reduced if the taxable capital employed by the corporation or in the associated group exceeds \$10 million. Under the proposed new rules, for a corporation with taxable income in the associated group under \$200,000 in the immediately preceding year, the total credits earned on the first \$2 million of R&D reduces from \$700,000 (35% of \$2,000,000) to \$400,000 (20% of \$2,000,000) and the maximum amount refundable decreases from \$700,000 to zero as the taxable capital employed increases from \$10 million to \$15 million.

For taxation years beginning after December 31, 1993, R&D tax credits that are earned by a taxpayer may be used to fully offset federal taxes payable for the year. Any R&D tax credit not used or refunded in the year in which it is earned may be carried back three years or forward ten years.

3.1.4 Canada - Provincial

In addition to the federal incentives offered in Canada, several of the provinces offer incentives to encourage corporations to perform qualifying R&D within their boundaries.

Historically, every Canadian province offered a deduction for R&D capital and current expenditures. These deductions parallel the federal scheme. As competitive forces increased, the provinces began introducing additional R&D incentives. The following will briefly describe additional R&D incentives offered by certain provinces.

Nova Scotia

Nova Scotia has recently introduced legislation to allow for a 15% credit on R&D expenditures. The credit, if not used to offset Nova Scotia taxes payable, will be fully refundable to the taxpayer. There are no limits such as the federal rules on the maximum amount of income that can be earned or on ownership that restrict the refundability of the Nova Scotia credit.

New Brunswick

New Brunswick has recently joined the ranks of provinces to offer enhanced R&D incentives for corporations carrying on business and R&D within its boundaries. New Brunswick now offers a 10% non-refundable tax credit which may be used to offset New Brunswick taxes otherwise payable. To qualify, expenditures must be incurred in New Brunswick after February 25, 1994 and be eligible for the Federal R&D investment tax credit.

The federal government treats the provincial tax credit as assistance on a "when earned" basis and not on an "as used" basis. Therefore, for companies which were not and did not expect to be in a taxable position in the province, the existence of the provincial credit is actually detrimental to them. This results from the fact that their eligible expenditures for federal ITC purposes are reduced (by the amount of provincial credits earned) and hence their eligibility for refundable federal ITC's is reduced accordingly without any offsetting benefit from the provincial credit. Therefore, for companies in this position, they can renounce their full entitlement to the provincial credit.

In effect, if a company renounced the provincial credit, it was deemed never to have received, to have been entitled to receive or to have a reasonable expectation of receiving the credit. If the credit is renounced, the eligible expenditures and hence the federal ITC's are not reduced.

Québec

The basic Québec tax incentives for internally funded R&D are:

- a 100% deduction for current and capital expenditures, similar to the federal deduction described above;
- a 20% credit for wages paid in Québec related to research and development. Fringe benefits are included in the calculation of wages eligible for the credit. In addition, when a corporation subcontracts research and development, it can claim the wages paid in Québec by its subcontractors. This credit can be increased to 40% on the first \$2 million of expenditures provided the corporation has assets below \$25 million or the net equity of the shareholders is below \$10 million.

This tax credit is fully refundable if not utilized to offset Québec taxes payable.

For federal purposes, the Québec wage tax credit reduces eligible R&D expenditures both for the deduction and for investment tax credit purposes. For Québec purposes, the federal investment tax credit is not taxable.

Proposed Changes

In its May 12, 1994 budget the Québec government proposed to introduce new rules to limit the tax credit on salaries referred to above. Effectively, the new rules will limit the costs available for the credit in situations where a taxpayer is contracting with a party with which it deals at non-arm's length to the lesser of one-half of any amount paid in the year or one-half of the total value of the contract.

Ontario

The primary Ontario R&D incentive is the "Research and Development Super Allowance". The R&D Super Allowance is intended to provide relief due to the fact that the federal investment tax credits are included in taxable income for Ontario purposes. The R&D Super Allowance is a deduction of 25% (for large corporations) or 35% (for small corporations) of eligible expenditures incurred in a year. For these purposes, any Canadian-controlled private corporation would qualify as a small corporation.

When a corporation incurs expenditures in excess of the average of its three previous years' expenditures, the R&D Super Allowance will be computed on the excess amount at the rates of 52.5% and 37.5% respectively for small and large corporations.

This incentive is a deduction from taxable income as opposed to a credit. Hence, the R&D Super Allowance is not "government assistance" and, therefore, does not reduce the amount of expenditures eligible for investment tax credits for federal tax purposes. The Super Allowance is not taxable federally.

Proposed Changes

The Province of Ontario recently introduced a 10% fully refundable innovation tax credit (OITC). The credit is intended to enhance the federal refundable 35% investment tax credit for R&D carried on in Ontario.

Beginning January 1, 1995, Ontario will provide the OITC to qualifying small and medium-sized Canadian-controlled private corporations having permanent establishments in Ontario for expenditures in respect of R&D carried on in Ontario. Any expenditures made in Ontario eligible for the 35% federal R&D ITC will also be eligible for the OITC.

Manitoba

Manitoba provides a 15% non-refundable Research and Development tax credit for expenditures incurred after March 11, 1992. This credit is available to offset Manitoba taxes otherwise payable. Like the New Brunswick credit referred to above, because the Manitoba credit reduces eligible expenditures for federal purposes, it may be renounced if a corporation does not anticipate being taxable in the near future.

3.2 Eligible Expenditures for the Credit

3.2.1 U.S.

In the U.S., qualified research expenditures for the R&D tax credit are broadly defined as either qualified in-house research expenses or qualified contract research expenses paid to third parties. The term "qualified research" is defined as research which is eligible for the R&D expense deduction (as discussed in Chapter 2), except that the research must relate to a business presently carried on by the taxpayer (pursuant to the 1989 Tax Act, the research tax credit is expressly made available to "start-up" companies). The research must be undertaken for the purpose of discovering information which is technical in nature and the application of which is intended to be useful in the development of a new or improved product, process, computer software, technique, formula or invention which is to be held for sale, lease or license, or to be used by the taxpayer in trade or business.

Note that certain specific activities do not qualify as research for the purposes of the U.S. R&D tax credit. For instance, research conducted in relation to style, taste, cosmetic, or seasonal design factors do not qualify. Additional prohibited activities include:

- research conducted in relation to a product after the beginning of the commercial production of that product;
- research related to the adaption of an existing product to a customer's particular requirement or need;
- research related to the reproduction of an existing product from a physical examination of the product itself, or from plans, blueprints, detailed specifications, or publicly available information on the product (reverse engineering);
- research related to any efficiency study, to management function or technique, market research, routine data collection, routine or ordinary testing or inspection for quality control;
- research conducted outside the U.S.;
- research in the social sciences, arts, or humanities;
- research funded by grant, contract or otherwise by another party;
- research and development of certain in-house use software.

3.2.2 Canada

In Canada, net qualifying expenditures for R&D tax credit purposes means the actual amount of R&D expenditures (as defined for deduction purposes) reduced by government grants, domestic contract payments, reimbursements under domestic cost-sharing arrangements, and other forms of government or non-government assistance for the expenditures.

Canadian tax legislation limits the eligibility of certain expenditures that may otherwise qualify as R&D for tax credit purposes. A number of prescribed expenditures will not qualify for the R&D tax credit:

- general and administrative expenses including salaries of non-R&D personnel to the extent that the expenses would have been incurred if the R&D had not been carried on;¹
- legal or accounting fees;
- interest or other financing costs;
- entertainment;
- advertising or selling expenses;
- convention expenses;
- membership fees;
- fines or penalties;
- expenditures to acquire rights in or arising out of scientific research and experimental development;
- repair and maintenance expenses for premises, facilities or equipment to the extent that the expenses would have been incurred if the R&D had not been carried on;
- capital expenditures not "all or substantially all" utilized in R&D activities²;
- expenditures made outside of Canada;
- expenditures to acquire "used fixed assets".

¹ Instead of tracking incremental overhead costs separately, taxpayers may elect to use a notional calculation known as the "proxy amount" to approximate the amount of incremental overhead. The proxy amount is essentially equal to 65% of R&D labour excluding benefits for all employees and bonuses.

² Capital equipment that is not "all or substantially all" (>90%) used in R&D activities may still qualify for R&D tax credits (but not for immediate write-off) if the equipment is used more than 50% in R&D. R&D tax credits are earned over 3 years: at the end of years 2 and 3, the equipment is eligible for 1/4 of the applicable R&D tax credit. These credits when used to offset federal taxes payable reduce the cost of equipment for tax depreciation purposes in the year after the credit is utilized.

3.2.2.1 Refundability of the Tax Credit in Canada

CCPC's which have earned R&D tax credits at the 35% rate and have been unable to fully utilize the entire credit generated in the year by offsetting current federal tax, will be eligible for a refund of the unused portion of the 35% tax credit as follows:

<u>Type of Qualifying Taxpayer</u>	<u>Types of Expenditure</u>	<u>Rate at Which Investment Tax Credit can be Refunded⁴</u>
Individual	- current	40%
	- capital	40%
Qualifying corporation A ¹	- current (up to \$2 million per year)	100%
	- capital (up to \$2 million per year when aggregated with current expenditures)	40%
	- current & capital (in excess of \$2 million at the reduced rate of 20%)	40%
Qualifying corporation B ²	- current (up to expenditure limit ³ for year)	100%
	- capital (up to expenditure limit ³ when aggregated with current expenditures)	40%
	- capital (in excess of expenditure limit ³)	0%
	- current (in excess of expenditure limit ³)	0%

¹ Qualifying corporation A: Canadian-controlled private corporation whose taxable income, together with the taxable incomes of all its associated corporations, was not greater than \$200,000 in the preceding taxation year.

- 2 Qualifying corporation B: CCPC whose taxable income, together with the taxable incomes of all its associated corporations, was between \$200,001 and \$400,000 for the preceding taxation year.
- 3 The expenditure limit of \$2 million is reduced by \$10 for every \$1 of taxable income in excess of \$200,000 for the preceding taxation year.
- 4 Assuming taxable capital of the associated group does not exceed \$10 million. As noted in 3.1.3 above, under proposed new rules, access to refundability will be phased out as taxable capital exceeds \$10 million and will be completely eliminated when it reaches \$15 million.

3.3 After-Tax Cost of Incremental R&D Expenditures

The following tables contrast the after-tax cost of incremental R&D expenditures in both countries. These tables clearly demonstrate the more generous provisions of the Canadian tax system towards R&D performers. Additional factors that make the Canadian system more generous are the following:

1. The ability to write-off most capital expenditures immediately, rather than over their useful life as under the U.S. rules.
2. The greater flexibility in determining when one deducts its R&D expenditures.
3. As noted above, the refundability of the R&D tax credit in Canada for certain taxpayers versus non-refundability in the U.S.
4. The R&D tax credit in the U.S. is for incremental expenditures only and, therefore, is of far more limited value than the Canadian R&D tax credit.

For comparison purposes the following assumptions apply:

1. All figures in the tables are expressed in \$000's.
2. Incremental R&D expenditures are wages and direct salary expenses only.
3. U.S. expenditures are incremental and therefore eligible for the U.S. R&D Tax credit.
4. A 44% tax rate represents the top combined effective federal and provincial corporate tax rate for a large Canadian company, except in Québec. This tax rate applies to corporations which are not eligible for the reduced manufacturing and processing tax rate.

5. A 23% tax rate represents the combined federal and provincial corporate tax rate for a CCPC in Canada, except in Québec and Ontario (taxable income of less than \$200,000 CDN per annum).
6. A 41% tax rate represents the top combined effective federal and state corporate tax rate for corporations in the U.S. assuming a state tax rate of 9%.
7. A 33% tax rate represents the combined federal and state corporate tax rate for small corporations in the U.S. (taxable income of \$200,000 CDN per annum) assuming a state tax rate of 9%. (See Appendix 2 for additional details.) The combined federal and state corporate tax rate reflects the fact that state income tax is deductible from federal taxable income.
8. In the case of a large U.S. company undertaking R&D expenditures which are not incremental, the company would receive no R&D tax credit.
9. Comparisons assume that \$1.3825 CDN = \$1.00 U.S. (the average exchange rate at the time this paper was written).
10. All values are expressed in Canadian dollars.
11. Incrementality is important for the Ontario Super Allowance.

3.3.1 For Small R&D Performers in Canada Eligible for the 35% Tax Credit Rate

	<u>Ontario</u>	<u>Québec</u>	<u>Other¹</u>
Incremental or non-incremental R&D expenditures	\$1,000	\$1,000 ²	\$1,000
Québec R&D Wage Tax Credit (40% of \$500)	-	(200)	-
Ontario Innovation Tax Credit (10% of \$1,000)	(100)	-	-
Other Provinces R&D Tax Credit (15% ³ of \$1,000)	-	-	(150)
Federal R&D Tax Credit (35% x (\$1,000 - \$100))	(315)	-	-
(35% x (\$1,000 - \$200))	-	(280)	-
(35% x (\$1,000 - \$150))	-	-	(297)
Tax Saving from Deduction (22% of (\$1,000 - \$415))	(129)	-	-
(23% ⁴ of (\$1,000 - \$447))	-	-	(127)
<u>Québec Only</u>			
Federal 13% of (\$1,000 - \$480)	-	(68)	-
Québec 6% of \$1,000	-	(60)	-
<u>Ontario Only</u>			
Tax Saving from Super Allowance	<u>(29)⁵</u>	<u>-</u>	<u>-</u>
After-Tax Cost	<u>\$ 427</u>	<u>\$ 392</u>	<u>\$ 426</u>

¹ Effective provincial tax rates may vary.

² Assume that 50% of R&D expenditures is salary and wages.

³ New Brunswick offers a 10% non-refundable R&D tax credit. Nova Scotia offers a 15% refundable R&D tax credit, and Manitoba has a 15% non-refundable R&D tax credit. For purposes of the example, 15% is used as an average rate.

⁴ 23% is an estimated combined effective federal and provincial tax rate for CCPC's.

⁵ Expenditures net of investment tax credits times the percentage for incremental costs for small performers times the provincial tax rate $[(\$1,000 - 415) \times .525 \times .095]$. For non-incremental R&D expenditures, the amount of tax savings from the Ontario Super Allowance is \$19 $[(\$1,000 - \$415) \times .35 \times .095]$.

3.3.2 For Large R&D Performers in Canada Eligible for the 20% Tax Credit Rate

	<u>Ontario</u>	<u>Québec</u>	<u>Other¹</u>
Incremental or non-incremental R&D expenditures	\$1,000	\$1,000 ²	\$1,000
Québec R&D Wage Tax Credit (20% of \$500)	-	(100)	-
Other Provinces R&D Tax Credit (15% of \$1,000)	-	-	(150) ³
Federal R&D Tax Credit (20% x \$1,000)	(200)	-	-
(20% x (\$1,000 - \$100))	-	(180)	-
(20% x (\$1,000 - \$150))	-	-	(170)
Tax Saving from Deduction (44% ⁴ of (\$1,000 - \$200))	(352)	-	-
(44% ⁴ of (\$1,000 - \$320))	-	-	(299)
<u>Québec Only</u>			
Federal 29% of (\$1,000 - \$280)	-	(209)	-
Québec 9% of \$1,000	-	(90)	-
<u>Ontario Only</u>			
Tax Saving from Super Allowance	<u>(47)⁵</u>	<u>-</u>	<u>-</u>
After-Tax Cost	<u>\$ 401</u>	<u>\$ 421</u>	<u>\$ 381</u>

¹ Effective provincial tax rates may vary.

² Assume that 50% of R&D expenditures is salary and wages.

- 3 New Brunswick offers a 10% non-refundable R&D tax credit. Nova Scotia offers a 15% refundable R&D tax credit, and Manitoba has a 15% non-refundable R&D tax credit. For purposes of the example, 15% is used as an average rate.
- 4 44% is an estimated combined top effective federal and provincial tax rate for non-CCPC's.
- 5 Expenditures net of investment tax credits times the percentage for incremental costs for large performers times the provincial tax rate $[(\$1,000 - 200) \times .375 \times .155]$. For non-incremental R&D expenditures, the amount of tax savings from the Ontario Super Allowance is \$31 $[(\$1,000 - \$200) \times .25 \times .155]$.

3.3.3 For Small R&D Performers in the U.S.

R&D Expenditure	\$1,000 ¹
Federal R&D Tax Credit (20% x 0.5 (\$1,000))	(100) ²
State R&D Tax Credit (6% ³ x 0.5 (\$1,000))	(30)
Tax Saving from Deduction (33% ⁴ of (\$1,000 - \$130))	<u>(287)</u>
After-Tax Cost	\$ <u>583</u>

- 1 Assumes that the \$1,000,000 of R&D expenditures is incremental R&D.
- 2 Qualifying base period expenses must be at least 50% of the current year qualifying expenditures. Only \$500,000 of the \$1,000,000 in R&D expenditures are qualifying R&D expenditures for tax credit purposes.
- 3 6% is an average investment tax credit rate. The following thirteen states offer investment tax credits for R&D expenditures: Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.
- 4 33% is an estimated combined federal and state income tax rate for U.S. companies with taxable income of \$200,000 CDN per annum, assuming a state tax rate of 9%.

3.3.4 For Large R&D Performers in the U.S.

R&D Expenditure	\$1,000 ¹
Federal R&D Tax Credit (20% x 0.5 (\$1,000))	(100) ²
State R&D Tax Credit (6% ³ x .05 (\$1,000))	(30)
Tax Saving from Deduction (41% ⁴ of (\$1,000 - \$130))	<u>(357)</u>
After-Tax Cost	\$ <u>513</u>

- ¹ Assumes that the \$1,000,000 of R&D expenditures is incremental R&D.
² Qualifying base period expenses must be at least 50% of the current year qualifying expenditures. Only \$500,000 of the \$1,000,000 in R&D expenditures is qualifying R&D expenditures for tax credit purposes.
³ 6% is an average investment tax credit rate. The following ten states offer investment tax credits for R&D expenditures: California, Colorado, Illinois, Indiana, Iowa, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.
⁴ 41% represents the top combined federal and state income tax rate for U.S. companies, assuming a state tax rate of 9%.

3.4 Credit Comparison and Commentary

The following matrix compares the eligibility of certain types of R&D expenditures in Canada and the U.S. for the R&D tax credit.

Eligible R&D Expenditures for R&D tax credit in Canada and the U.S.:

<u>Expenditure</u>	<u>Canada</u>	<u>U.S.</u>
• Land	No	No
• Wages	Yes ¹	Yes ¹
• Contract R&D	Yes ²	Yes ²
• Buildings	No ³	No
• Acquired Technology	No	No
• Used Equipment	No	No
• New Equipment	Yes ¹²	No

<u>Expenditure</u>	<u>Canada</u>	<u>U.S.</u>
• License	No	No
• Patented Technology	No	No
• Acquired Patents	No	No
• Contracted R&D in a Foreign Country	No	No ⁴
• Foreign Depreciable Property	No	No
• Leases on Land and Buildings	No	No
• Leases on Equipment	Yes	No
• Travel	Yes ⁵	No
• Adaption for specific customer need or requirement	No ¹¹	No
• Studies in social sciences or humanities	No	No
• Manufacturing and commercialization	No	No
• Developing to the point of a finished product	No ¹¹	No
• Product improvement	No ⁶	No ⁶
• Style changes	No ¹¹	No
• 1st prototype	Yes	Yes
• 2nd prototype	No ⁷	No ⁷
• Debugging in R&D	Yes	Yes
• Debugging production process	No	No
• Improving production process	No ⁸	No ⁸
• R&D employee bonuses	Yes ⁹	Yes ⁹
• R&D employee benefits	Yes	No
• Incremental utilities expenses	Yes	Yes ¹⁰
• Incremental overhead expenses	Yes ¹³	No
• Supplies	Yes	Yes
• Computer time-sharing	Yes	Yes
• Incremental General Administrative Expenses	Yes	No
• Compensation attributable to the exercise of non-qualified stock options	No	Yes ¹⁴

LEGEND:

- ¹ In Canada, wages directly related to R&D conducted in Canada are eligible for the R&D tax credit. In the U.S., direct wages related to R&D conducted in the U.S. are eligible for the R&D tax credit.
- ² In Canada, the cost of R&D contracted within Canada is eligible for the credit. In the U.S., 65% of the cost of R&D contracted within the U.S. is eligible for the R&D tax credit.

- 3 In Canada, certain special purpose buildings used exclusively for R&D purposes are eligible for R&D tax credit.
- 4 In the U.S., the cost of R&D contracted in a foreign country does not usually qualify for the R&D tax credit.
- 5 All travel inside Canada that relates to R&D activities qualifies for the R&D tax credit. For travel outside of Canada, only travel costs related to attendance at R&D related conferences or seminars are eligible for the R&D tax credit.
- 6 In both Canada and the U.S., the cost of product improvement is eligible for the R&D tax credit if a significant degree of risk, innovation and uncertainty can be demonstrated.
- 7 In both Canada and the U.S., the cost of a 2nd prototype could be eligible for the R&D tax credit if it was needed for additional testing.
- 8 In both Canada and the U.S., the cost of improving a manufacturing process is eligible for the R&D tax credit if a significant degree of risk, innovation and uncertainty can be demonstrated.
- 9 In both Canada and the U.S., the cost of R&D employee bonuses, if directly tied to profits, is eligible. In Canada, if the bonus is paid to an employee who owns 10% or more of any class of shares of the corporation, the bonus will not be eligible for the R&D tax credit. Note that in the U.S., bonuses do not have to be tied to profits in order to qualify for the R&D tax credit.
- 10 For U.S. purposes, to the extent that the taxpayer can establish that the special character of the qualified research required additional extraordinary expenditures for utilities, the additional expenditures shall be treated as amounts paid or incurred for supplies used in the conduct of qualified research.
- 11 Unless the activities involved contain a significant degree of risk innovation and uncertainty.
- 12 In Canada, expenditures on capital equipment intended to be used all or substantially all (i.e. at least 90% of the time) in R&D activities are eligible for R&D tax credits. Expenditures on equipment used primarily for R&D (i.e. at least 50% but less than 90%) will be eligible for credit at one half of the rate that would otherwise have applied.
- 13 Taxpayers can elect to determine the tax credits based on a notional amount rather than specifically identifying and allocating overhead to R&D. To determine the tax credit, the amount representing the overhead expenditures (the proxy amount) will be calculated as a fixed percentage (65%) of R&D related salaries and wages not including benefits.
- 14 In the U.S., taxable benefits to employees engaged in R&D from exercising non-qualifying stock options are included as eligible R&D expenditures.

3.4.1 Commentary

- Overall, the R&D tax credit in Canada is much more generous than that in the U.S. Effectively, the R&D tax credit with rates ranging from 20% to 35% represents a much more significant dollar item to Canadian R&D performers than the credit does to U.S. R&D performers (< or equal to 10% on average because of the 50% rule (described in section 3.1.1 above) applies to restrict the amount of qualified expenditures).
- For Canadian companies, the cost of R&D contracted within Canada is eligible for the credit. For U.S. companies, only 65% of the cost of R&D contracted within the U.S. is eligible for the R&D tax credit.

- In Canada, the cost of R&D equipment qualifies for the R&D tax credit; in the U.S., such costs do not qualify.
- In Canada, all travel costs inside Canada that are related to R&D are eligible for the R&D tax credit; in the U.S., such costs do not qualify.
- In Canada, R&D employee benefits are eligible for the R&D tax credit; in the U.S., only the direct salary and wages of R&D personnel qualify under R&D tax credit rules. In Canada, the employer's portion of employee benefits are not eligible for R&D tax credits where the "proxy amount" has been elected.
- In Canada, incremental overhead, utilities expenses and general and administrative expenses directly related to the R&D are eligible for the R&D tax credit; in the U.S., the costs are eligible for credit to the extent they are incidental to R&D. As discussed in section 3.2.2, the proxy amount can be used in Canada to approximate the amount of incremental overhead. The cost of employee benefits is considered to be included in the proxy amount if the proxy election is made.

3.5 Auditing Practices

3.5.1 In the U.S.

The Internal Revenue Service (IRS) has increased its scrutiny of the R&D tax credits claimed by U.S. taxpayers. It is now a standard audit procedure to inquire as to both the qualification and amount of the expenditures claimed for R&D tax credit purposes. These inquiries are often undertaken by the general field auditors who may not be familiar with the company or with the industry in which it operates. The field auditor will occasionally call upon qualified IRS engineers to assist with a review.

Although the IRS does not have specific industry specialist auditors on staff for R&D tax credit purposes, geographic specialities do exist. For example, as a function of auditing frequency, IRS auditors in the Boston area are more prone to be specialists in auditing R&D tax credit applications from high technology companies. On the other hand, IRS auditors in the Detroit area would be more familiar with auditing R&D tax credit applications of large automobile manufacturers. Nevertheless, the IRS does not hire specialist auditors, nor does it seek outside assistance from a specialist when auditing an R&D tax credit claim.

3.5.2 In Canada

In Canada, in 1985, when the current regime of R&D tax incentives came into existence, Revenue Canada insisted on auditing every taxpayer making a claim for a refundable R&D tax credit. Such a process, although thorough, entailed significant delays for applicants. Delays of up to two years discouraged and frustrated applicants and had an important impact on the smaller R&D performers whose needs for cash refunds were immediate.

In 1988, however, the Canadian government established a "Fast Track" program under which CCPC's were eligible to receive their refund claims prior to an audit, provided that they have been previously audited for R&D claims and that their R&D activities remained within certain boundaries. The "Fast Track" program proved effective, and many small R&D performers received their refund cheques within two months of filing.

However, recently the "Fast Track" program was scrapped in favour of Revenue Canada giving priority to refundable claims. The government has set a target that all refundable claims will be processed within 120 days of the taxpayer filing a complete return.

The audit process for R&D tax credit claims in Canada consists of two audits: one by a science advisor either on the staff of or under contract to Revenue Canada to determine which activities qualify as R&D and a second audit by a financial auditor to determine which costs qualify.

3.5.3 Comparison and Commentary

In both Canada and in the U.S., R&D claims are the subject of increased audit attention. The main difference between the two countries is that Canada has R&D specialists - science advisors on staff who determine whether a taxpayer's activities constitute R&D.

CHAPTER 4

4.0 AFTER -TAX R&D COST COMPARISON

The following chapter explores and compares the after-tax cost of incurring \$6,000,000 in qualified R&D expenses of which \$1,000,000 is incremental R&D expenses in various locations and under different R&D tax incentive regimes.

4.1 After-Tax R&D Cost Comparison of a Large U.S. Company Performing R&D In-House vs. Contracting Out to a U.S. R&D Performer

	<u>In-House R&D</u>	<u>U.S. Contracted R&D</u>
<i>Partially Incremental</i>		
R&D Expenditures ¹	\$6,000	\$6,000
Federal R&D Tax Credit (20% x \$1,000 ¹)	(200)	-
(20% x (65% x \$1,000 ²))	-	(130)
State R&D Tax Credit (6% ² x \$1,000)	(60)	-
(6% ² x (65% x \$1,000))	-	(39)
Tax Saving from Deduction (41% ³ x (\$6,000 - \$260))	(2,353)	-
(41% ³ x (\$6,000 - \$169))	-	(2,391)
After-tax Cost	<u>\$ 3,387</u>	<u>\$ 3,440</u>
<i>Non-Incremental</i>		
R&D Expenditure	\$6,000	\$6,000
R&D Tax Credit	-	-
Tax Saving from Deduction (41% x \$6,000)	<u>2,460</u>	<u>2,460</u>
After-tax Cost	<u>\$ 3,540</u>	<u>\$ 3,540</u>

¹ Assumes that a U.S. company performing R&D in-house or contracting R&D out to a U.S. based R&D performer spent \$6,000,000 in direct salaries and wages related to qualified R&D in the current taxation year compared to its

- 2 \$5,000,000 qualified R&D base amount.
6% is an average investment tax credit rate. The following thirteen states offer an investment tax credit for R&D expenditures: Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.
- 3 A 41% tax rate represents the top combined effective federal and state corporate tax rate for a U.S. corporation, assuming a state tax rate of 9%.
- 4 The average after tax cost to a large Ontario based Canadian corporation of incurring the same level of R&D expenditures in Canada is \$2,406,000 (see chart 3.3.2) for both incremental and non-incremental in-house and contracted R&D.

Other Assumptions:

- All figures in the table are expressed in \$000's.
- \$1.00 of in-house R&D = \$1.00 of contracted R&D.
- All values are expressed in Canadian dollars.

4.1.1 Comparison and Commentary

- It is least costly, after-tax, for a large U.S. company to perform \$1,000,000 in incremental R&D in-house than to contract \$1,000,000 in incremental R&D out to a U.S. based R&D performer.
- There is no difference in after-tax cost for a large U.S. company to perform non-incremental R&D in-house vs. contracting non-incremental R&D out to a U.S. based R&D performer.
- The U.S. R&D tax credit does not apply to non-incremental R&D expenditures.

4.2 After-Tax R&D Cost Comparison of a Small U.S. Company Performing R&D In-House vs. Contracting Out to a U.S. R&D Performer

	<u>In-House R&D</u>	<u>U.S. Contracted R&D</u>
<i>Partially Incremental</i>		
R&D Expenditure	\$6,000	\$6,000
Federal R&D Tax Credit (20% x \$1,000 ¹)	(200)	-
(20% x (65% x \$1,000 ¹))	-	(130)
State R&D Tax Credit (6% ² x \$1,000)	(60)	-
(6% ² x (65% x \$1,000))	-	(39)
Tax Saving from Deduction (33% ³ x (\$6,000 - \$260))	(1,894)	-
(33% ³ x (\$6,000 - \$169))	<u>-</u>	<u>(1,924)</u>
After-tax Cost	<u>\$ 3,846</u>	<u>\$ 3,907</u>
<i>Non-Incremental</i>		
R&D Expenditure	\$6,000	\$6,000
R&D Tax Credit	-	-
Tax Saving from Deduction (33% ³ x \$6,000)	<u>(1,980)</u>	<u>(1,980)</u>
After-tax Cost	<u>\$ 4,020</u>	<u>\$ 4,020</u>

¹ Assumes that a U.S. company performing R&D in-house or contracting R&D out to a U.S. based R&D performer spent \$6,000,000 in direct salaries and wages related to qualified R&D in the current taxation year compared to its \$5,000,000 qualified R&D base amount.

² 6% is an average investment tax credit rate. The following thirteen states offer an investment tax credit for R&D expenditures: Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.

³ A 33% tax rate represents the combined effective federal and state corporate tax rate for a small U.S. corporation (taxable income of \$200,000 CDN per annum), assuming a state tax rate of 9%.

⁴ The average after-tax cost to a small Ontario based Canadian corporation (taxable income of \$200,000 CDN per annum) of incurring the same level of R&D expenditures in Canada is \$3,485,000 for incremental and \$3,554,000 for

non-incremental R&D. The corporation will also have approximately \$456,000 of non-refundable investment tax credits available to offset future federal taxes payable.

Other Assumptions:

- All figures in the table are expressed in \$000's.
- \$1.00 of in-house R&D = \$1.00 of contracted R&D.
- All values are expressed in Canadian dollars.

4.2.1 Comparison and Commentary

- It is least costly, after-tax, for a small U.S. company to perform \$1,000,000 in incremental R&D in-house than to contract \$1,000,000 in incremental R&D out to a U.S. based R&D performer.
- There is no difference in after-tax cost for a small U.S. company to perform non-incremental R&D in-house vs. contracting non-incremental R&D out to a U.S. based R&D performer.
- The U.S. R&D tax credit does not apply to non-incremental R&D expenditures.

4.3 After-tax R&D Cost Comparison of a Large Canadian R&D Performer Eligible for the 20% Tax Credit Rate and a Large U.S. R&D Performer

	<u>Ontario</u>	<u>Québec</u>	<u>Other Canadian Province</u>	<u>Incremental U.S.A.</u>	<u>Non-Incremental U.S.A.</u>
R&D Expenditure	\$1,000	\$1,000	1,000	\$1,000 ¹	\$1,000 ²
Québec R&D Tax Credit (20% of \$1,000)	-	(200)	-	-	-
Other Provinces R&D Tax Credit (15% ³ of \$1,000)	-	-	(150)	-	-
Federal R&D Tax Credit (20% x \$1,000)	(200)	-	-	-	-
(20% x (\$1,000 - \$200))	-	(160)	-	-	-
(20% x (\$1,000 - \$150))	-	-	(170)	-	-
U.S. Federal R&D Tax Credit (20% x \$1,000)	-	-	-	(200)	-
U.S. State R&D Tax Credit (6% ⁴ x \$1,000)	-	-	-	(60)	-
Tax Saving from Deduction (44% of (\$1,000 - \$200))	(352)	-	-	-	-
(44% of (\$1,000 - \$320))	-	-	(299) ⁷	-	-
Tax Saving from Deduction:					
<u>Québec only</u>					
Federal (29% of (\$1,000-360))	-	(186)	-	-	-
Québec (9% of \$1,000)	-	(90)	-	-	-
<u>Ontario Only</u>					
Tax Saving from Super Allowance	(47) ⁸	-	-	-	-
<u>U.S. only</u>					
(41% ⁵ X (\$1,000 - 260))	-	-	-	(303)	-
(41% ⁵ X \$1,000)	-	-	-	-	(410)
After-tax Cost	\$ 401	\$ 364	\$ 381	\$ 437	\$ 590

¹ Assumes that a U.S R&D performer spent \$6,000,000 in direct salaries and wages related to qualified R&D in the current taxation year compared to its \$5,000,000 qualified R&D base amount.

2 Assumes that R&D expenditure is not incremental or does not qualify for credit.
3 New Brunswick offers a 10% non-refundable R&D tax credit. Nova Scotia offers a
15% refundable R&D tax credit, and Manitoba has a 15% non-refundable R&D tax
4 credit. For purposes of the example, 15% is used as an average rate.
6% is an average investment tax credit rate. The following thirteen states offer an
investment tax credit for R&D expenditures: Arizona, California, Colorado, Connecticut,
Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia
5 and Wisconsin.
A 41% tax rate represents the top combined effective federal and state corporate tax
6 rate for large U.S. corporations, assuming a state tax rate of 9%.
Expenditures net of investment tax credits times the percentage for incremental costs
7 for large performers times the provincial tax rate $[(\$1,000 - \$200) \times .375 \times .155]$. For
non-incremental R&D expenditures, the amount of tax saving from the Ontario Super
Allowance is \$31 $[(\$1,000 - \$200) \times .25 \times .155]$.
Effective provincial tax rates may vary. Nova Scotia, New Brunswick and Manitoba
have special tax incentives that will further reduce after-tax cost.

Other Assumptions:

- All figures in the table are expressed in \$000's.
- Assumes that R&D expenditures is wages and salaries.
- R&D expenditure is in-house expenditure.
- All values are expressed in Canadian dollars.

4.3.1 Comparison and Commentary

- In most cases, it is less costly, after-tax, to incur \$1,000,000 of qualified R&D expenditures anywhere in Canada than it is for a large U.S. R&D performer to incur \$1,000,000 of qualified R&D expenditures in most U.S. states (whether the R&D expenditure is incremental or not). There are a few exceptions to this general rule, but the exceptions will depend on the state or province in which the R&D is undertaken, on the marginal tax rates of the province versus the state, and whether or not the province or state offers R&D tax incentives.

4.4 After-tax R&D Cost Comparison of a Small Canadian R&D Performer Eligible for the 35% Tax Credit Rate and a Small U.S. R&D Performer

	<u>Ontario</u>	<u>Québec</u>	<u>Other Canadian Province</u>	<u>Non-Incremental U.S.A.</u>	<u>Incremental U.S.A.</u>
R&D Expenditure	\$1,000	\$1,000	1,000	\$1,000 ¹	\$1,000 ²
Québec R&D Wage Tax Credit (40% of \$1,000)	-	(400)	-	-	-
Ontario Innovation Tax Credit (10% of \$1,000)	(100)	-	-	-	-
Other Provinces R&D Tax Credit (15% ³ of \$1,000)	-	-	(150)	-	-
Federal R&D Tax Credit (35% x (\$1,000 - \$100))	(315)	-	-	-	-
(35% x (\$1,000 - \$400))	-	(210)	-	-	-
(35% x (\$1,000 - \$150))	-	-	(297)	-	-
U.S. Federal R&D Tax Credit (20% x \$1,000)	-	-	-	(200)	-
U.S. State R&D Tax Credit (6% ⁴ x \$1,000)	-	-	-	(60)	-
Tax Saving from Deduction (22% of (\$1,000 - \$415))	(129)	-	-	-	-
(23% of (\$1,000 - \$447))	-	-	(127) ⁷	-	-
Tax Saving from Deduction:					
<u>Québec only</u>					
Federal (13% of (\$1,000-610))	-	(51)	-	-	-
Québec (6% of \$1,000)	-	(60)	-	-	-
<u>Ontario Only</u>					
Tax Saving from Super Allowance	(29) ⁶	-	-	-	-
<u>U.S. only</u>					
(33% ⁵ X (\$1,000 - 260))	-	-	-	(244)	-
(33% ⁵ X \$1,000)	-	-	-	-	(330)
After-tax Cost	\$ <u>427</u>	\$ <u>279</u>	\$ <u>426</u>	\$ <u>496</u>	\$ <u>670</u>

- 1 Assumes that a U.S. R&D performer spent \$6,000,000 in direct salaries and wages related to qualified R&D in the current taxation year compared to its \$5,000,000 qualified R&D base amount.
- 2 R&D expenditure is not an incremental expenditure or does not otherwise qualify for credit.
- 3 New Brunswick offers a 10% non-refundable R&D tax credit. Nova Scotia offers a 15% refundable R&D tax credit, and Manitoba has a 15% non-refundable R&D tax credit. For purposes of the example, 15% is used as an average rate.
- 4 6% is an average investment tax credit rate. The following thirteen states offer an investment tax credit for R&D expenditures: Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Minnesota, North Dakota, Oregon, West Virginia and Wisconsin.
- 5 A 33% tax rate represents the combined federal and state corporate tax rate for small U.S. corporations (taxable income of \$200,000 CDN per annum), assuming a state tax rate of 9%.
- 6 Expenditures net of investment tax credits times the percentage for incremental costs for small performers times the provincial tax rate $[(\$1,000 - \$415) \times .525 \times 9.5\%]$. For non-incremental R&D expenditures, the amount of tax savings from the Ontario Super Allowance is \$28 $[(\$1,000 - \$415) \times .35 \times 9.5\%]$.
- 7 Effective provincial tax rates may vary. Nova Scotia, New Brunswick and Manitoba have special tax incentives that will further reduce the after-tax cost.

Other Assumptions:

- All figures in the table are expressed in \$000's.
- R&D expenditures is wages and salaries.
- R&D expenditure is an in-house expenditure.
- All values are expressed in Canadian dollars.

4.4.1 Comparison and Commentary

- It is least costly, after-tax, to incur \$1,000,000 of qualified R&D expenditures in the province of Québec than it is to incur \$1,000,000 of qualified R&D expenditure anywhere else in Canada or in the U.S.
- The after-tax cost differential of incurring qualified R&D expenditures in the province of Québec vs. other locations depends on the percentage of wage and salary costs in the R&D expenditures.
- It is less costly, after-tax, to incur \$1,000,000 of qualified R&D expenditures anywhere in Canada than it is for a small U.S. R&D performer to incur \$1,000,000 of qualified R&D expenditures in most U.S. states. There are a few exceptions to this general rule, but the exceptions will depend on the state or province in which the R&D is undertaken, on the marginal tax rates of the province versus the state, and whether or not the province or state offers R&D tax incentives.

4.5 Market Opportunity and Implications

The following comparison matrix reveals the least net after-tax cost of performing \$1,000,000 of qualified R&D.

4.5.1 After-tax R&D Cost Comparison of both Large and Small U.S. Companies Performing R&D In-House vs. Contracting Out

Summary Matrix

	Large U.S. Co.		Small U.S. Co.	
	<u>In-House R&D</u>	<u>Contracted R&D</u>	<u>In-House R&D</u>	<u>Contracted R&D</u>
Incremental R&D Expenditure of \$1,000,000 out of total R&D expenditures of \$6,000,000	\$3,387	\$3,440	\$3,846	\$3,907
Non-incremental R&D Expenditure of \$6,000,000	\$3,540	\$3,540	\$4,020	\$4,020

Assumptions:

- All figures in the table are expressed in \$000's.
- The incremental R&D expenditure of \$1,000,000 is based on a U.S. company performing R&D in-house or contracting R&D out to a U.S. based R&D performer and spending \$6,000,000 in direct salary and wages related to qualified R&D in the current taxation year compared to its \$5,000,000 qualified R&D base amount.
- Assumes a combined federal and state tax rate for large U.S. companies of 41%, assuming a state tax rate of 9%.
- The effective combined federal and state tax rate for small U.S. companies is 33% (taxable income of \$200,000 CDN per annum), assuming a state tax rate of 9%.
- \$1.00 of in-house R&D = \$1.00 of contracted R&D.
- All values are expressed in Canadian dollars.

4.5.2 After-tax R&D Cost Comparison of a Large Canadian R&D Performer Eligible for 20% R&D Tax Credit Rate vs. a Large U.S. R&D Performer - Summary Matrix

	<u>Ontario</u>	<u>Québec</u>	<u>Other Canadian Provinces</u>	<u>U.S.A.</u>
Incremental R&D	\$401	\$364	\$381	\$437
Non-incremental R&D	\$417	\$364	\$381	\$590

4.5.3 After-tax R&D Cost Comparison of a Small Canadian R&D Performer Eligible for 35% R&D Tax Credit Rate vs. a Small U.S. R&D Performer - Summary Matrix

	<u>Ontario</u>	<u>Québec</u>	<u>Other Canadian Provinces</u>	<u>U.S.A.</u>
Incremental R&D	\$427	\$279	\$426	\$496
Non-incremental R&D	\$438	\$279	\$426	\$670

Other Assumptions:

- All figures in the table are expressed in \$000's.
- R&D expenditure is wages and salaries.
- R&D expenditure is in-house expenditure.
- All values are expressed in Canadian dollars.

4.5.4 Comparison and Commentary

- Overall, it is least costly, after-tax, to incur \$1,000,000 of qualified R&D expenditures in the province of Québec.
- It is less costly, after-tax, to incur \$1,000,000 of qualified R&D expenditures in Canada rather than in the U.S.

As is apparent from the after-tax cost comparison, it is less expensive to incur \$1,000,000 of qualified R&D expenditures in Canada than in most U.S. states as a result of a more favourable R&D tax incentive climate.

This fact presents Canadian R&D performers, especially those in Québec, with a significant competitive pricing advantage over U.S. R&D contractors when bidding on U.S. work.

However, it is important to keep in mind that large R&D performers will benefit from R&D tax credits in the jurisdiction in which they earn the credits (Canada or the U.S.) only if they are subject to tax in that jurisdiction in an amount equal to or greater than the amount of R&D tax credits earned except that qualifying Canadian corporations may earn a 100% cash refund on its share of investment tax credits earned at the 35% rate on a portion of its current R&D expenditures. Capital R&D expenditures which are eligible for the 35% credit rate are generally eligible for a 40% refund of the ITC's.

CHAPTER 5

5.0 R&D TAX INCENTIVES AND SPECIAL SITUATIONS

5.1 Government Assistance and Contract Payments

5.1.1 U.S.

In the U.S., in general, research does not constitute qualified research, for the purposes of the R&D tax credit, to the extent that it is funded by any grant, contract, or otherwise by another person (including any governmental entity).

Government-sponsored grants are not common in the U.S. Certain types of assistance are available from state and municipal governments in their efforts to attract R&D investment. In certain states, R&D performers are exempted from paying sales tax on their purchases of R&D related supplies and equipment. Certain municipalities offer Mass Industrial Finance Assistance (MIFA) to R&D performers and other corporate concerns. The MIFA grants the applicant company the right to issue tax exempt bonds (bonds that earn interest which the holder does not have to declare for income tax purposes), thereby facilitating the company's efforts to raise capital. Although popular in Massachusetts, the use of MIFA's is not widespread.

In the case of a Government contract in which the U.S. government is entitled to exploit or retain the resulting R&D, the taxpayer is not entitled to the R&D tax credit. In the case of contracted R&D with a party other than government, only the party that maintains the rights to the R&D can claim the R&D tax credit.

5.1.2 Canada

In Canada, qualifying R&D expenditures for investment tax credit purposes must be reduced by the amount of any government assistance, non-government assistance or Canadian-sourced contract payment that the taxpayer has received or is entitled to receive with respect to those expenditures.

The issue of government assistance is much more relevant to Canadian R&D performers who have much broader access to varied forms of government assistance, both financial and other.

A "contract payment" received by a taxpayer reduces the amount of qualifying expenditures otherwise eligible for the R&D tax credit. These rules were introduced by Department of Finance to prevent the R&D performer and the taxpayer paying for the R&D efforts from both claiming the expenditures as qualifying R&D. As noted in 6.1.5 these rules are subject to change in the future.

It is important to note that there is no requirement to offset revenue received from a foreign company which is not carrying on business in Canada through a branch operation and, therefore, which is not claiming R&D credits on the same dollars. Thus, if a Canadian corporation contracts to provide R&D for a fee to a foreign company, even if the company has a subsidiary in Canada, there is no need to reduce qualifying expenditures by the amount of revenues received.

5.1.3 Comparison and Commentary

Under U.S. and Canadian R&D tax credit rules, treatment of government grants, government contracts and R&D contract payments is, in general, similar:

- Qualifying R&D expenditures are net of government grants and other assistance.
- R&D expenditures incurred under government contracted R&D where the Government retains the right to the R&D are not qualified R&D expenditures for tax credit purposes.
- The Canadian rules give Canadian R&D performers an additional advantage when bidding for foreign funded R&D contracts in that the payments received do not reduce the recipient's right to Canadian tax credits.

5.2 Cost-Sharing

5.2.1 Definition

Cost-sharing is an arrangement through which companies share the costs of research and development undertaken to create some intangible, such as a patent, a chemical formula, or manufacturing know-how; for example, a parent company may charge its subsidiary a pro-rata share of the cost of developing a patent and grant the subsidiary a royalty-free license to the patent. As the subsidiary owns the intellectual property rights for a given territory for income tax purposes, no royalty need be paid.

A cost-sharing arrangement does not involve the transfer of an intangible from one party to another, nor is it a contract for the performance of technical services by one party for another (except for R&D performed upon specific request). Cost-sharing is more in the nature of a joint-venture. A cost-sharing payment received by the party performing the research is generally not taxable income but is a reduction of that party's research expenditures. The notable exception to this is that qualifying R&D expenditures in Canada for investment tax credit purposes are not reduced by payments under an R&D cost-sharing agreement from parties outside Canada. The party outside Canada who makes the cost-sharing payment to the Canadian R&D performer and who receives a right to the developed intangible has incurred a research expenditure. This expenditure is typically not subject to withholding tax in the country of the foreign payer.

CHAPTER 6

6.0 THE FUTURE OF R&D TAX INCENTIVES

6.1 The Canadian R&D Tax Incentive

6.1.1 Large Companies

In 1992, the year in which the most reliable data is available, more than 6,000 R&D performers registered investment tax credit claims totalling over \$1 billion. Larger corporations and publicly-traded companies generated claims in excess of \$700 million. This data is consistent with the fact that the top 100 corporate R&D spenders in Canada account for roughly 75% of all industry-funded research.

6.1.2 Refundable Claims

The current Canadian R&D tax incentive program appears expressly designed to benefit the smaller R&D performer. Many CCPC's conducting R&D, especially specialty R&D houses, can credit their very existence to a favourable R&D tax incentive climate in Canada, and the R&D tax credit refund remains an important element of cash flow.

In administering R&D claims, Revenue Canada gives priority to refundable claims. The government has set a target that all refundable claims will be processed within 120 days of the taxpayer filing a complete return. This process has provided much needed cash to smaller R&D performers within a reasonable time of filing tax returns.

6.1.3 Certainty

Upon submission of a claim by the taxpayer, Revenue Canada reviews the claim and responds to the taxpayer in writing, indicating that the claim will be audited or that the claim is complete and there will be no further work done by Revenue Canada. Alternatively, Revenue Canada may indicate to the taxpayer that certain information is outstanding and the claim will be processed once the missing information is submitted. The result of this is that once Revenue Canada notifies a claimant that the R&D claim for a given year has been accepted, the claimant can rely on that assurance for planning purposes.

6.1.4 Time Limits

The Canadian government has limited the time frame in which claims can be filed for R&D tax credits. Under these new rules, in order for a claim to be valid, a taxpayer must file the claim by the due date for the corporate tax return for the year following the year of the claim. In most cases, this will mean that the claim must be filed within eighteen months of the fiscal year end. However, where the subsequent fiscal period spans less than a year, the deadline will be sooner than eighteen months.

6.1.5 Contract Payment Rules

In the February 27, 1995 Budget the federal government introduced proposed new rules relating to contract payments. Under these rules, in situations where a taxpayer (payor) contracts out its R&D to a non-arm's length party (performer), the qualified expenditures on which investment tax credits are earned will be restricted to the allowable R&D expenditures incurred by the performer. The performer will be able to transfer its qualified expenditures incurred in the year to the payor, up to a maximum of the contract amount. This measure will apply to expenditures incurred by a payor in taxation years commencing after 1995.

6.1.6 Information Technology and R&D

As an interim measure, it is proposed in the recent Federal Budget proposed that all information technology R&D performed after February 27, 1995 by most financial institutions, either directly or indirectly, be excluded from the definition of R&D. This restriction will be in effect until the completion of a review of the eligibility criteria for information technology R&D. If the review concludes that all or part of the activity excluded by this measure should have been eligible for R&D incentives, such eligibility will be reinstated effective February 28, 1995. This review will also cover taxpayers other than financial institutions.

6.2 The U.S. R&D Tax Incentive

R&D tax incentives in the U.S. are not a static element of the tax legislation. R&D tax legislation is subject to change as a result of Congressional review on a periodic basis.

Like many Congressional decisions in the U.S., the decision to maintain, amend or drop current R&D tax legislation is influenced by lobbyists and various interest groups in the U.S. Even though U.S. corporate applicants cannot foresee the future destiny of the R&D tax credit, they focus significantly on the qualification of their current R&D efforts for tax credit purposes.

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Appendix 1

COMBINED FEDERAL AND PROVINCIAL EFFECTIVE 1994 TAX RATES IN CANADA

	No SBD		SBD	
	<u>M&P</u>	<u>No M&P</u>	<u>M&P</u>	<u>No M&P</u>
Federal	21.84%	28.84%	12.84%	12.84%
Provincial				
- B.C.	16.5%	16.5%	10.0%	10.0%
- Alberta	14.5	15.5	6.0	6.0
- Saskatchewan	17.0	17.0	8.5	8.5
- Manitoba	17.0	17.0	9.5	9.5
- Ontario	13.5	15.5	9.5	9.5
- Québec	8.9	8.9	5.75	5.75
- New Brunswick	17.0	17.0	9.0	9.0
- Nova Scotia	16.0	16.0	5.0	5.0
- P.E.I.	7.5	15.0	7.5	7.5
- Newfoundland	7.5	16.0	5.0	5.0
- N.W.T.	14.0	14.0	5.0	5.0
- Yukon	2.5	15.0	2.5	6.0
Combined Federal & Provincial				
- B.C.	38.3%	45.8%	22.8%	22.8%
- Alberta	36.3	44.3	18.8	18.8
- Saskatchewan	38.8	45.8	21.3	21.3
- Manitoba	38.8	45.8	22.3	22.3
- Ontario	35.3	44.3	22.3	22.3
- Québec	30.7	37.7	18.6	18.6
- New Brunswick	38.8	45.8	21.8	21.8
- Nova Scotia	37.8	44.8	17.8	17.8
- P.E.I.	29.3	43.8	20.3	20.3
- Newfoundland	29.3	44.8	17.8	17.8
- N.W.T.	35.8	42.8	17.8	17.8
- Yukon	24.3	43.8	15.3	18.8

Notes

- Provincial tax holidays or reduced rates for new corporations are ignored
- SBD - small business deduction
- M&P - manufacturing and processing profits deduction
- The above rates reflect any proposed changes to the income tax rates in the 1994 federal or provincial budgets.

Appendix 2

COMBINED FEDERAL AND STATE EFFECTIVE 1994 TAX RATES IN THE U.S.

FEDERAL TAX RATES

- Top rate of 35% (both manufacturing and other business sectors)
- Graduated rates for small businesses, taxable income:
 - up to \$50,000 15%
 - between \$50,000 and \$75,000 25%
 - between \$75,000 and \$100,000 34%
 - between \$100,000 and \$335,000 39%
 - between \$335,000 and \$10,000,000 34%
 - between \$10,000,000 and \$15,000,000 35%
 - between \$15,000,000 and \$18,333,333 38%
 - in excess of \$18,333,333 35%
- The benefit of the lower brackets is completely phased out at \$335,000 (rate of 39% between \$100,000 and \$335,000).

COMBINED EFFECTIVE FEDERAL AND STATE TAX RATES

- State tax rates vary. Some states such as Nevada do not levy any tax, whereas Pennsylvania has the highest state tax rate at 10.99%. Therefore, the rates range between 35% (Nevada) - 42.1% (Pennsylvania) (both manufacturing and other business sectors). See attached example.
- Graduated rates for small businesses.

Combined Federal and State U.S. Tax Rate

For Small Companies

Taxable Income of \$CDN 200,000

State taxable income ¹	\$ <u>144,665</u>
State income tax (@ 9.5%)	<u>13,020</u>
State taxable income	\$ <u>144,665</u>
Less: State income tax (deductible federally)	<u>(13,020)</u>
U.S. Federal taxable income	\$ <u>131,645</u>
Federal tax on first \$100,000 of taxable income	22,250
Federal tax on remainder (@ 39%)	<u>12,324</u>
Total Federal income tax	\$ <u>34,592</u>
Total income tax (Federal and State)	\$ <u>47,612</u>
Effective rate (47,612/144,665)	<u>33%</u>

¹ \$CDN 200,000 = \$US 144,665 if exchange rate of 1.3825 is used (the average exchange rate at the time this paper was written).

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DATE: October 1995