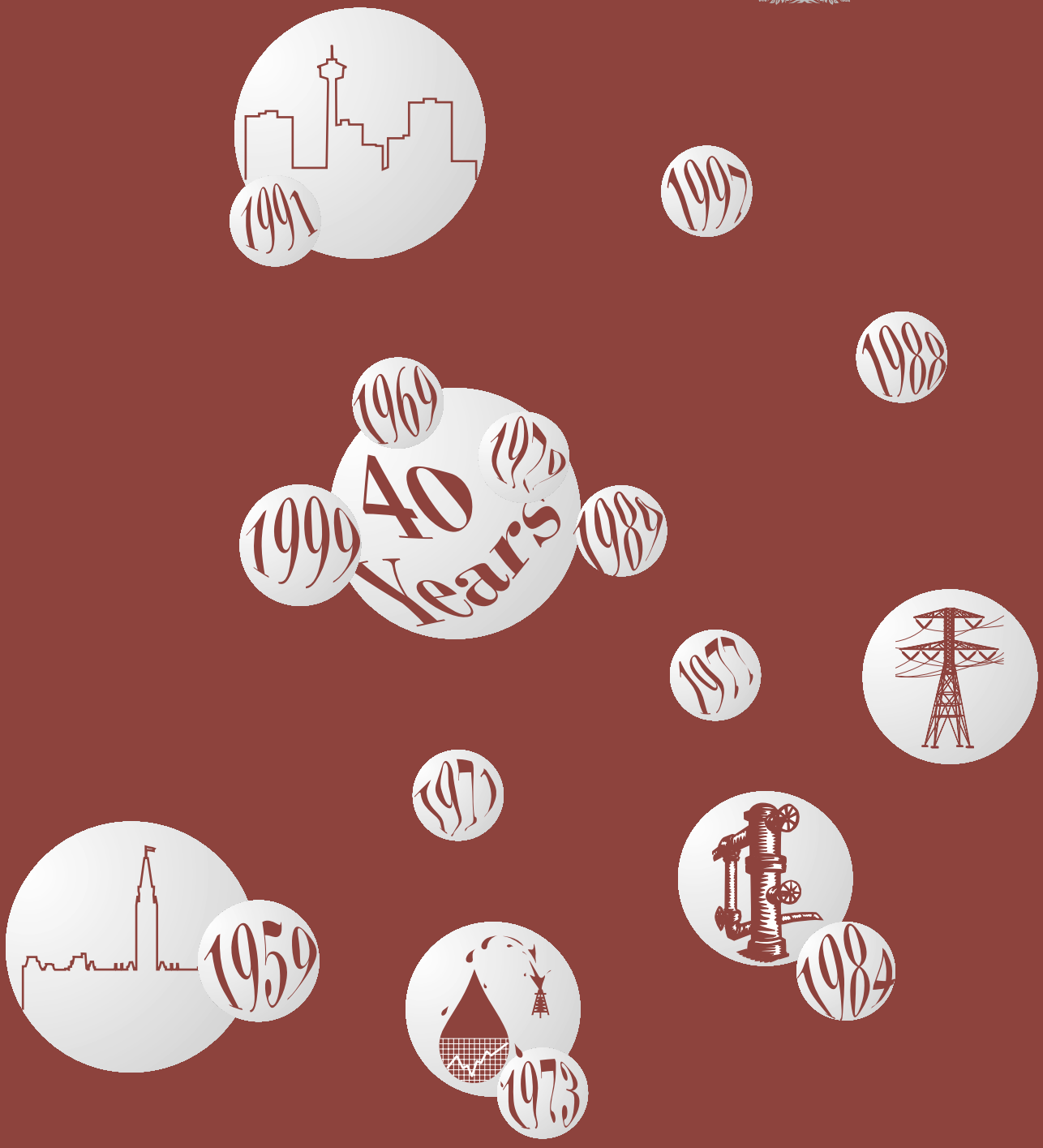
National Energy Board

Office national de l'énergie



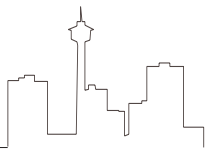
1999 Annual Report

The cover of the 1999 Annual Report celebrates the 40th anniversary of the establishment of the National Energy Board. From its formation in 1959, through four decades of change in Canadian energy and a move from Ottawa to Calgary, the Board has made decisions that provide real benefits to Canadians.

Throughout its history, the National Energy Board has played many roles. Initially, it acted as a promoter of Canadian energy in new markets. Later, it played a key role as part of the prescriptive federal involvement in the energy sector. Most recently, the Board has worked in partnership with the energy industry and consumers to move away from adjudication towards more negotiation.

The Board has been involved in a number of major turning points in the development of the Canadian energy industry. Examples include the first pipeline toll hearing in 1971, approval of the northern pipeline in 1977, issuing guidelines for negotiated toll settlement in 1988, and the opening of a new supply basin on the east coast in 1997. These milestones serve as reminders of how the National Energy Board has risen to the challenges presented it in the past and as models for meeting challenges in the new millennium.

Cover design by Donna Dunn.



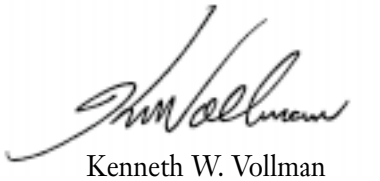
17 March 2000

The Honourable Ralph Goodale, P.C., M.P.
Minister of Natural Resources Canada
580 Booth Street, 21st Floor
Ottawa, Ontario
K1A 0E4

Dear Minister:

I am pleased to submit the Annual Report of the National Energy Board for the year ending 31 December 1999, in accordance with the provisions of Section 133 of the *National Energy Board Act*, R.S.C 1985, c. N-7.

Yours truly,



Kenneth W. Vollman

Chairman

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as represented by the National Energy Board

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Purpose, Vision and Goals

The National Energy Board's **purpose** is to promote safety, environmental protection and economic efficiency in the Canadian public interest while respecting individuals' rights within the mandate set by Parliament in the regulation of pipelines, energy development and trade.

The Board's **vision** is to be a respected leader in safety, environmental and economic regulation.

In its strategic plan the Board has developed **four corporate goals** to help it meet the challenges it faces in a dynamic energy market and ever-changing regulatory landscape:

- NEB-regulated facilities are safe and perceived to be safe.
- NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals' rights.
- Canadians derive the benefits of economic efficiency.
- The NEB meets the evolving needs of the public to engage in NEB matters.

Chairman's Letter

The National Energy Board (the NEB or the Board) celebrated its 40th anniversary in 1999. At a commemorative event in November, the Board recalled the contributions of its past chairmen, members and staff. However, while the Board remembered its past, 1999 was primarily a year of renewal and of preparing for the future.

The Board's hearing workload fell from a hectic 139 days and 121 days in 1997 and 1998 respectively to 31 days last year. This provided the Board with the opportunity to attend to a number of regulatory development matters which were necessarily deferred during previous years.

In 1999, the Board issued approximately 1 100 written decisions, only 23 of which were the outcomes of oral hearings. The rest were dealt with through written procedures. To improve its processing of these routine applications, the Board initiated projects to measure and reduce cycle times. The Board commonly processes gas export orders within 48 hours and has reduced the processing time for electricity permits to approximately 36 days. The Board continues to seek process improvements that will result in more efficient and effective review of smaller scale applications.

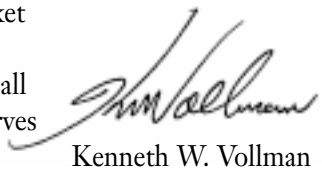
Although the hearing workload dropped off last year, the extensive hearings in the previous two years resulted in a heavy pipeline construction schedule in 1999. This required a significant increase in the Board's presence in the field, inspecting construction sites for compliance with safety and environmental requirements. The Board's staff inspected 80 construction sites, 35 percent more than in 1998.

The Board published three major energy market studies in 1999 including the *Canadian Energy Supply and Demand to 2025*, a comprehensive "all energy" market analysis and forecast which serves as a standard of reference on Canadian energy issues and trends. Energy market studies are essential to the Board's understanding of North American energy markets.

The Board issued the new *Onshore Pipeline Regulations*, 1999, and companion Guidance Notes. The new regulations represent an evolution towards goal-orientation in the Board's approach to environmental and safety regulation. This approach sets out the goals of the regulations and provides companies with some flexibility to develop and improve appropriate procedures to ensure these goals are met. To help achieve its environment and public engagement goals, the Board developed a new environmental policy and initiated more effective contact with its stakeholders.

The year was also one of significant change in the composition of the Board. Two Board Members, Mrs. Anita Côté-Verhaaf and Dr. Diana Valiela, left the Board in March and May respectively. In July, Ms. Judith A. Snider was appointed Vice-Chairman of the Board and Ms. Elizabeth Quarshie, Ms. Deborah Emes, and Dr. Carmen Dybwad, were appointed as new Board Members. Ms. Snider brings extensive experience in energy and regulatory law from both within the NEB and from industry to the position of Vice-Chairman. Ms. Quarshie, Ms. Emes, and Dr. Dybwad, bring a wealth of experience in environmental and economic issues. The strengths brought by the new Board Members will help the Board meet the challenges of the new millennium.

The NEB's 40th year was one of renewal. I am confident that the initiatives taken through the year will ensure that the NEB is well positioned to make decisions that benefit Canada and Canadians.



Kenneth W. Vollman

Regulatory Highlights

Regulatory Landscape

Developments in the energy industry in 1999 emphasized the national scope of the NEB's responsibilities. Construction of Maritimes and Northeast Pipeline Management's (M&NP) system in Nova Scotia and New Brunswick was completed, enabling delivery of natural gas to these Maritime provinces. The development of the domestic natural gas industry in the Maritimes is progressing much faster than had been anticipated at the time the M&NP project commenced.

While development proceeded on the East Coast, exploration and production activity was heating up in northern Canada. After a decade of relatively low natural gas prices in western Canada, expansions of the TransCanada PipeLines Limited (TransCanada) and Foothills Pipe Lines Ltd. (Foothills) systems reconnected prices in Western Canada Sedimentary Basin (WCSB) to those elsewhere in the North American gas market, resulting in significant wellhead price increases. These price increases acted as signals to producing companies to develop incremental gas supplies. However, after a decade of rapid growth in production from 1987-1997, it appears that the ability of the WCSB to meet rising demand is being severely tested. Accordingly, exploration and production is extending north of the 60th parallel into the southern Yukon and southern Northwest Territories.

In addition to an incremental push to the north, the industry is seriously discussing the possibility of constructing a major pipeline to link far northern gas fields in either or both the Mackenzie Delta area and Alaska's North Slope with the continental gas transportation system.

At the same time that the natural gas was extending its reach across the country, fundamental changes have been occurring in the traditional markets. Construction of Alliance Pipeline Ltd.'s (Alliance) system, which will deliver natural gas from northeast B.C. and Alberta to markets in the Chicago area, has proceeded on schedule. In addition, the Board approved construction of the Vector project, which will provide a new link between the pipeline grid at Chicago and southern Ontario. Once they are in service, the Alliance-Vector link will provide for the first time direct competition to TransCanada for the transportation of natural gas from western Canada to central Canada. Alliance will also provide competition to Foothills for the delivery of natural gas to U.S. mid-west markets.

The introduction of some competition into the gas transmission industry is posing new challenges for TransCanada and for the NEB. In 1999 a number of shippers did not renew their long-term transportation contracts on TransCanada, thereby leaving the company with less than all of its capacity contracted. One consequence of this decontracting was that pipeline rates have increased. The cost of this increase has already been passed on to natural gas buyers in central Canada. It is clear that changing market and business realities in the industry may require the Board to adopt flexible regulatory approaches.

The expectations of the Canadian public are changing as well. Landowners are looking to the Board to assist them in disputes with pipeline companies. Many Canadians participate in the review process for new pipeline projects with increasing interest in environmental and safety issues raised by these projects. This growing desire by the public to play a direct role in pipeline regulation challenges the Board to

ensure that it respects individual rights while making findings in the public interest.

In summary, the growth of the gas industry, ongoing construction of pipelines, and heightened expectations of Canadians to protect all aspects of the public interest is requiring the Board to closely monitor the interests of affected stakeholders across the nation. The Board is increasing its efforts to engage its stakeholders to ensure that it fully understands and appreciates the views of all parties who are potentially affected by NEB decisions.

Northern Canada

In northern Canada, oil and gas activity is accelerating. Following successful gas discoveries in the Fort Liard area of the Northwest Territories, Shiha Energy Transmission Ltd. (owned by Paramount Resources Ltd. and Berkley Petroleum Corp.) submitted an application to the Board to construct a pipeline with a capacity of 3.0 million cubic metres of natural gas per day. The natural gas will be delivered from a facility near Fort Liard to the Maxhamish Gas Plant in northeastern B.C. and eventually into the Westcoast Energy Inc. (Westcoast) system.

The Board is responsible under the *Canada Petroleum Resources Act* (CPR Act), for approving oil and natural gas discoveries in frontier lands, which are lands north of the 60th parallel and in non-accord offshore areas. The Board received applications for three significant discoveries during 1999. Further north, the Board witnessed renewed interest by the industry in the development of natural gas resources at Prudhoe Bay, Alaska and in the Mackenzie Delta region. This could potentially result in a pipeline facilities application to the Board for facilities that would be required in Canada.

Western Canada

In March 1999, the Board heard and approved a request by BC Gas Utility Ltd. (BC Gas) for a new receipt point on the Westcoast pipeline system at Kingsvale in southern British Columbia. BC Gas applied to the Board after being refused access by Westcoast for volumes that would be delivered via BC Gas' proposed Southern Crossing project. In its decision, the Board directed Westcoast to establish a new receipt point and to receive, transport and deliver any gas delivered at Kingsvale to the Huntingdon Delivery Area near the Canada-U.S. border. The Board also decided that the appropriate toll for firm service from Kingsvale to Huntingdon will be the Zone 4 toll from Westcoast's Station 2 located in northern B.C. to Huntingdon.

The Board examined access by natural gas liquids (NGL) shippers to Canadian pipeline systems. In 1997, the Board directed Enbridge Pipelines Inc. (Enbridge), then called Interprovincial Pipe Line Inc., to develop a toll methodology application for facilities that would provide open access service for NGL shippers on the Enbridge pipeline. In March 1999, Enbridge filed an application for approval of a stand-alone tolling methodology for storage and injection facilities. Subject to the terms of an underpinning agreement, Amoco Canada Limited and Shell Canada Petroleum Company Ltd. would sell the aforementioned facilities to Enbridge and financially backstop the project for a period of 15 years.

In October 1999, the Board held a technical conference to allow parties an opportunity to discuss issues related to the transportation of NGL on the Enbridge pipeline system. Following the conference, the Board directed Enbridge to conduct an open season for its proposal. Enbridge commenced the open season on 14 December 1999 and results will be reported in early 2000.

Alliance applied to the Board for approval of the Canadian portion of its detailed route. As required by the *National Energy Board Act* (NEB Act), Alliance served notices on owners of lands proposed to be acquired and published notices in publications serving the areas in which the lands are situated.

The Board received 48 written statements of opposition to the detailed route out of approximately 3 300 landowners affected by Alliance. Of these, 15 cases were set down for public hearings. The hearings held in Regina, Saskatchewan; Edmonton, Alberta; and Grande Prairie, Alberta; between

April and June of 1999. One case was withdrawn just before the hearing. The Board reserved its decision on another case pending the filing of additional information; however the pipeline was re-routed, bypassing this tract of land. Of the remaining 13 cases, the Board denied Alliance's proposed detailed route in three cases and approved the detailed route in ten cases. Construction of the Alliance pipeline began in January 1999 and is expected to be completed in late 2000.

In late 1999 Souris Valley Pipeline Limited (Souris Valley) completed construction of the first commodity pipeline approved by the Board. Souris Valley expects to commence operation of its pipeline in the fall of 2000. The pipeline will carry carbon dioxide from North Dakota to the Weyburn oil field near Goodwater, Saskatchewan, extending the life of the existing oil field by an estimated 25 years.

Central Canada

On 31 March 1999, the Board approved an application by Vector Pipeline Limited Partnership (Vector) to construct and operate a natural gas pipeline in southwestern Ontario. The Vector project is part of a new international pipeline project to provide hub-to-hub natural gas transmission service between Joliet, near Chicago, Illinois, and Dawn, Ontario. The total project will consist of approximately 552 kilometres of pipeline.

In Canada, Vector plans to construct and operate approximately 24 kilometres of the pipeline, extending from the international boundary in the St. Clair River near Sarnia, Ontario to Dawn. The initial capacity of the pipeline will be 28.3 million cubic metres per day. The estimated cost of the Canadian portion of the project is $35.4 million. The planned in-service date is October 2000 with a proposed construction start date in February 2000.

St. Clair Pipelines (1996) Ltd. (St. Clair) and TransCanada have applied for a new gas pipeline to connect the Dawn hub with markets in the northeastern United States. St. Clair's proposed Millennium West Pipeline would extend 74 kilometres from Sarnia, Ontario to the shore of Lake Erie near Patrick Point, Ontario. At this location, the Millennium West Pipeline would interconnect with TransCanada's proposed Lake Erie Crossing Pipeline which would then extend another 97 kilometres across Lake Erie. Collectively, these two pipeline proposals are known as the Canadian Millennium Pipeline Project (Millennium) and would connect with the proposed U.S. Millennium Pipeline Company, L.P. facilities at the international border beneath the waters of Lake Erie. The initial capacity of the Millennium facilities would be 19.83 million cubic metres per day.

To coordinate the environmental assessment required under the *Canadian Environmental Assessment Act* (CEA Act) and the NEB Act, and to avoid unnecessary duplication of regulatory processes, the hearing will be conducted by a Joint Review Panel (Panel), established by an Agreement between the NEB and the Minister of the Environment dated 15 November 1999. The Panel will act as a joint review panel making recommendations under the CEA Act and as a panel under the NEB Act to hear all matters relevant to the applications.

Eastern Canada

Construction of the first significant offshore pipeline approved under the NEB Act was completed, connecting new offshore production facilities near Sable Island to a gas processing plant near Goldboro, Nova Scotia. From Goldboro, the M&NP pipeline system will carry natural gas to markets in Nova Scotia, New Brunswick and the New England states. The line was opened for service in December 1999. In 1999, M&NP also completed construction of a lateral pipeline to carry natural gas from Goldboro to Cape Breton Island.

The Board also heard and approved two applications from M&NP to construct natural gas lateral pipelines to serve markets within Nova Scotia and New Brunswick. The Halifax Lateral pipeline will connect the M&NP mainline in Nova Scotia near Stellarton to the Halifax area. The Saint John Lateral pipeline will connect

Saint John and the Lake Utopia area to the M&NP mainline in New Brunswick. Detailed route hearings in respect of these laterals may be required early in 2000 with construction to be completed by November 2000.

Incentive Toll Agreements

In recent years, the Board has moved towards a light-handed regulatory approach to tolls and has encouraged companies to negotiate settlements with shippers. Since 1995, a number of companies have succeeded in negotiating multi-year toll settlements including incentive features. During 1999, some of these settlements came up for renewal.

Enbridge's first multi-year incentive toll settlement expired on 31 December 1999. In May 1999, Enbridge advised the Board that it had signed a memorandum of agreement with the Canadian Association of Petroleum Producers (CAPP) concerning a five-year extension of the current incentive toll settlement. Since negotiations on the new agreement were still ongoing when the current agreement expired, the Board made Enbridge's current tolls interim as of 1 January 2000. Enbridge expects to file a finalized 2000 - 2004 Incentive Toll Settlement during the first quarter of 2000. In late 1999, the Board completed the field work for a financial regulatory audit of Enbridge for the years 1994 to 1998. The audit report is expected to be released in early 2000.

For the past four years, TransCanada has used its Incentive Recovery and Revenue Sharing Settlement to set its revenue requirement for toll making. This settlement was negotiated between TransCanada, its shippers and other interested parties. Attempts to renegotiate or extend this agreement in 1999 were unsuccessful and the agreement ended on 31 December 1999. On 17 December 1999, TransCanada submitted a toll application to cover 2000. Through the end of the year, TransCanada continued negotiations with its shippers and other interested parties with respect to a New Services and Pricing Framework to be applicable from 2001 onward.

On 29 October 1999, TransCanada filed an application to amend some of the terms under which interruptible transportation and short term firm transportation services are offered. This application was set down for an oral hearing to commence 18 January 2000.

Energy Market Analysis

The NEB monitors energy supply, demand and markets on an ongoing basis and publishes its findings in various reports. The Board published its long-term outlook, *Canadian Energy Supply and Demand to 2025*, in June 1999. This report benefited from two rounds of public consultation with interested parties across the country, the first on key assumptions underpinning the analysis and the second on preliminary results. In September 1999, the Board published an Energy Market Assessment, entitled *Short-term Natural Gas Deliverability from the Western Canada Sedimentary Basin, 1998-2001*.

Corporate Projects

During the second half of the 1990s, the Board spent considerable time and resources dealing with new pipeline facilities applications. In 1999, the decrease in new applications allowed the NEB to focus on preparing for the challenges it will face in the new millennium. A number of projects were initiated to assist the Board in achieving its goals. These projects focussed on clarifying

requirements, streamlining processes and gathering information.

The Board began examining the current non-hearing facilities application process to improve regulatory efficiency. The specific objectives are to reduce internal cycle times, to clarify the application process, and to enhance the quality and consistency of analysis while promoting safety, environmental protection, and economic efficiency. To date, the Board has initiated a cycle-time measurement process for applications made under section 58 of the NEB Act, identified concerns with its current internal procedures and formulated strategies to improve and streamline the processing of these applications. Covering a wide range of applications, from routine to very complex, the overall average cycle time for section 58 applications in 1999 was 42 working days. Measurement and tracking will be further refined in 2000.

A project was initiated to examine the Board's processes and procedures to ensure that respect for individuals' rights was maintained or enhanced on an ongoing basis. The project looked at means of facilitating individual participation in Board processes and of ensuring that pipeline companies are increasingly held responsible for landowner consultation. In order to identify potential concerns with how the Board deals with landowners, the Board's processes were compared to those of other jurisdictions such as the provinces and the U.S. Federal Energy Regulatory Commission (FERC). Input from landowners about those processes was considered as well.

During 1999, the Board piloted a new environmental assessment process for new pipeline facilities under the CEA Act. This new process has the comprehensive study completed by the project proponent before the hearing process starts. The new environmental assessment process was used on a new pipeline project, M&NP's Saint John Lateral. The result was a much shorter hearing with the majority of the environmental concerns having been dealt with before the hearing.

The Board undertook the process of developing an Environmental Management Program (EMP) which will provide a framework to enable the NEB to manage its environmental agenda and to document, evaluate and communicate its environmental performance. As a starting point in developing the EMP, the NEB has defined its environmental policy. The environmental policy sets the overall direction and aligns the NEB's management and staff with common goals and principles of operation. During the next three years, the NEB will continue to develop the EMP by formulating a plan to apply its environmental policy followed by implementing, monitoring, measuring, reviewing and improving the EMP.

The Board initiated a project to develop a greater understanding of the business environment within which toll negotiations take place and the Board's role in shaping that environment. In addition to conducting research, the Board made a concerted effort to engage external stakeholders with the purpose of more fully understanding the business environment and the impact of the Board's decisions on that environment.

Energy Overview

As part of its efforts to inform the public on energy market trends, the Board monitors and reports on developments on an ongoing basis. The Board has statutory reporting requirements with respect to energy exports and imports, and prepares reports on current and future energy market developments in Canada. These reports, called *Energy Market Assessments* (EMAs), include a periodic report on the long-term energy outlook for Canada. The provision and interpretation of energy market information helps the Board achieve its goal that Canadians derive the benefits of economic efficiency. This overview provides a summary of Canadian energy supply, consumption, production, prices and trade during the last five years, with an emphasis on 1999 data and activities.[1] For a more detailed overview and comprehensive long-term outlook, refer to the Board's June 1999 publication *Canadian Energy Supply and Demand to 2025*.

Growth in Canadian energy production in 1999 was moderated by a decline in crude oil production. Overall energy consumption increased, but warmer than normal weather caused heating requirements to decline from 1998, partially offsetting the growth in transportation and other energy requirements. Net energy export revenue (exports less imports) increased by 21 percent to $19.3 billion in 1999 with natural gas and oil leading the way.

As 1999 progressed, oil prices recovered dramatically from the low levels experienced through most of 1998 and early 1999. The price for the West Texas Intermediate (WTI) benchmark crude averaged US$19.25 per barrel, up 35 percent from 1998. North American natural gas prices also increased over 1998. Canadian producer prices increased substantially more than U.S. prices due to tightening gas balances and the effect of expanded pipeline capacity exiting Western Canada. Prices received by Canadian producers remain lower than their U.S. counterparts due to higher transportation costs to major markets.

The recovery in oil prices was largely a result of the Organization of Petroleum Exporting Countries' (OPEC) discipline in complying with production cutbacks. Meanwhile, production from non-OPEC countries stabilized, in part due to operational constraints, but also due to cooperation with OPEC. On the demand side, economic recovery in Asia combined with strong economic growth in North America and Europe brought continued growth in oil demand. In Canada, conventional light and heavy crude oil production declined by nine percent, partly due to natural decline and partly due to the fall-out from low oil prices in 1998 and early 1999. Along with lower *in situ* bitumen production, these reductions more than offset higher production from Hibernia and oil sands mining projects.

1 Where available, information has been provided using 1999 data. In some cases, for example reserves, 1998 data is provided.

Oil and gas exploration and development activity, as measured by wells drilled and sales of exploration rights, increased in 1999. However, there was a pronounced shift by Western Canadian producers towards gas drilling, and the number of oil wells drilled actually declined. This trend reflected increased gas demand resulting from pipeline expansions, improving gas prices, and the impact of low oil prices in 1998 on industry expenditures in 1999. Interest in Canada's frontiers accelerated as evidenced by work commitments made on the East Coast and in the Mackenzie Delta area.

Natural gas production increased by about two percent over 1998 levels as a result of increased exports and relatively stable domestic demand. Although the data is not yet available, the Board does not expect that natural gas reserves additions completely replaced production in 1999.

Canadian electricity exports increased over 1998, although they were below the near record levels experienced from 1994 to 1997. Imports were small in comparison to exports. Exports continued to be needed to meet increased domestic requirements that were caused in part by the temporary removal from service of some of Ontario's nuclear generation capacity.

For greater detail, statistical appendices have been prepared as a companion document to the *Annual Report* with details on crude oil, natural gas, and electricity supply and disposition, industry activity, facility certificates, orders and licences for exports, and pipeline financial information (see List of Appendices in Supplement VII).

Energy and the Canadian Economy

Canada's large reserves of energy resources, and increasing production of this wealth, have contributed to the energy sector's important role in the Canadian economy. In 1999, the energy industry accounted for approximately six percent of total Gross Domestic Product, about eight percent of total merchandise exports, and employed about 281 000 Canadians in upstream and downstream operations.

Since 1995, Canadian energy production has expanded by about six percent. Petroleum production has increased by nine percent, while natural gas production has risen by 11 percent. Nuclear power production has declined 24 percent. In 1999, natural gas and petroleum accounted for 72 percent of total energy production in Canada (Table 1). Higher production levels of both petroleum and natural gas have been stimulated by sustained growth in the North American economy, pipeline expansions, increases in natural gas prices, technological improvements, and increased competition in energy markets.

Canada's energy consumption is high relative to other developed countries. Based on information from the International Energy Agency, per capita energy consumption is about the same as in the United States, but 80 to 180 percent higher than the other G-7 members. Canada's high energy consumption results from its cold climate, its energy intensive resource-based economy and long distances between population centres. Between 1995 and 1999, domestic energy demand increased by about two percent. Space heating (18 percent) and transportation (21 percent) requirements accounted for about 39 percent of total energy consumption (Table 2).

Over the 1995 to 1999 period, Canada had steady and substantial energy trade surpluses. The average net revenue was about $18 billion per year (Figure 1). In 1999, total gross export earnings

Table 1
Domestic Energy Production by Energy Source

(Petajoules)

	1995	1996	1997	1998	1999[a]
Petroleum	5 026	5 039	5 446	5 634	5 480
Natural Gas	5 648	5 852	5 953	6 135	6 242
Hydroelectricity	1 198	1 268	1 250	1 183	1 212
Nuclear	1 067	1 012	900	780	815
Coal	1 801	1 832	1 897	1 801	1 834
Renewable and Other	554	552	555	569	592
Total	**15 294**	**15 555**	**16 001**	**16 102**	**16 175**

a) Estimates

for natural gas, petroleum, electricity and coal had a value of about $29.8 billion resulting in an energy trade surplus of $19.3 billion.

Petroleum export revenues increased to an estimated $14.9 billion in 1999, somewhat below the peak of $17.9 billion in 1997. Spending on petroleum imports was about $9 billion, leaving Canada with a trade surplus in petroleum of $5.8 billion, up from $4.4 billion in 1998. Natural gas export revenues have increased continually since 1995, reaching $10.9 billion in 1999. Because of negligible imports, natural gas contributed $10.8 billion to the 1999 energy trade surplus.

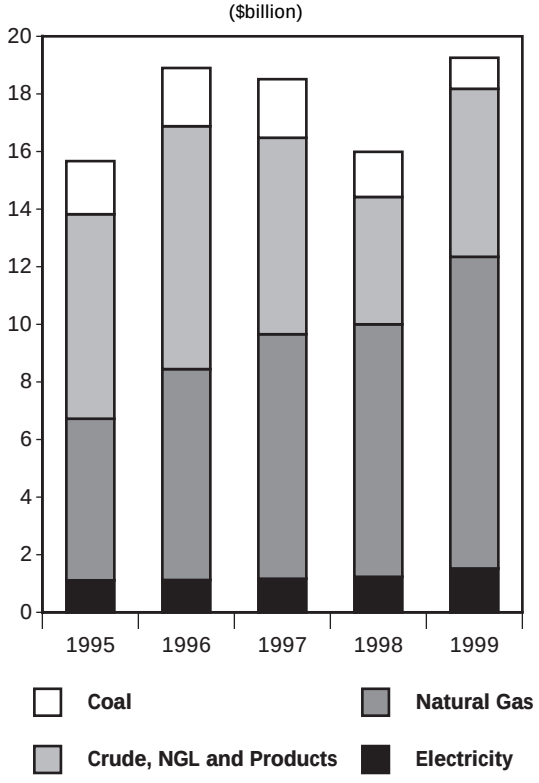
Table 2
Domestic Energy Consumption

(Petajoules)

	1995	1996	1997	1998	1999[a]
Space Heating	1 900	1 985	1 973	1 869	1 870
Transportation	2 065	2 125	2 183	2 244	2 304
Other Uses[b]	3 371	3 479	3 493	3 428	3 462
Non-Energy[c]	759	800	833	777	787
Electricity Generation[d]	2 220	2 189	2 142	2 129	2 102
Total	**10 315**	**10 578**	**10 624**	**10 447**	**10 525**

a) Estimates
b) Includes energy used for space cooling and ventilation as well as a variety of uses in the industrial sector
c) Includes energy used for petrochemical feedstocks, asphalt, lubricants, etc.
d) Includes producer consumption and losses as well as nuclear energy conversion requirements.

Figure 1
Net Energy Export Revenues



Crude Oil and Natural Gas Liquids

International Markets

The collapse of world oil prices that occurred in 1998 carried through to the first quarter of 1999. Prices reached a low of near US$11 per barrel (WTI) on February 16. Prices began to recover following the March OPEC meeting at The Hague where members agreed to reduce production targets by 2.1 million barrels per day until March 2000. This agreement was in addition to the reduction of 2.6 million barrels per day previously agreed to by OPEC in July of 1998 and also included the participation of non-OPEC countries, including Mexico, Norway and Oman. At the end of 1999, compliance with the cutbacks by the participating countries was reported to be over 90 percent.

The recovery of the Asian economies in 1999 was largely responsible for an increase in the demand for crude oil in the last half of the year and resulted in crude oil demand outpacing production (Figure 2). At year-end, crude oil inventories were at their lowest levels in a decade. These events supported higher oil prices. WTI at Cushing, Oklahoma, reached US$24 per barrel by mid-September and US$26 per barrel by year-end. Similarly, the price of Brent (U.K.) crude reached US$22 by mid-September and US$25 by year-end.

Production and Reserves Replacement

Canadian production of crude oil and equivalent, projected to year-end, averaged approximately 332 400 cubic metres (2.1 million barrels) per day in 1999, down more than four percent from the 1998 level. The decline reflects reduced *in situ* bitumen and conventional light and heavy crude oil production from Western Canada (Table 3).

Table 3
Canadian Production of Crude Oil and Natural Gas Liquids

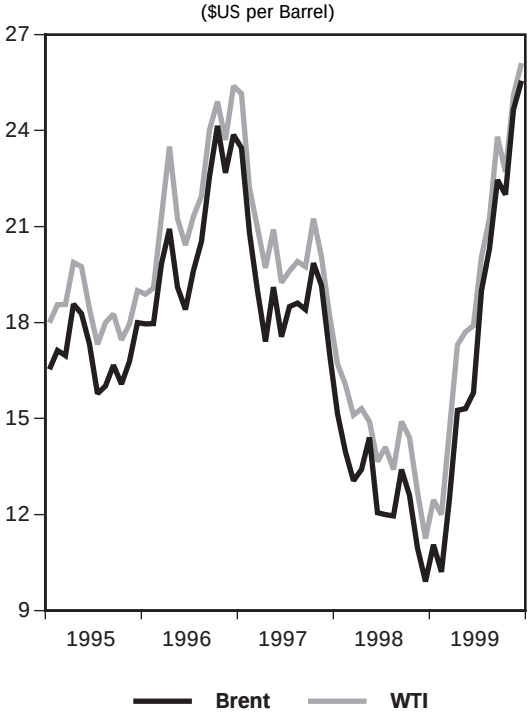
(thousand cubic metres per day)

	1995	1996	1997	1998	1999[a]
Conventional Light (East)	4.3	3.7	2.7	13.6	17.5
Conventional Light (West)	140.8	136.3	132.4	126.9	112.8
Synthetic	44.5	44.1	45.5	48.2	52.0
Pentanes Plus	25	26.4	27.3	27.5	27.0
Total Light	**214.6**	**210.5**	**207.9**	**216.2**	**209.3**
Conventional Heavy	73.4	82.2	89.6	86.5	81.2
In-situ Bitumen	23.7	26.1	37.6	45.1	41.9
Total Heavy	**97.1**	**108.3**	**127.2**	**131.6**	**123.1**
Total Crude Oil and Equivalent	**311.7**	**318.8**	**335.1**	**347.8**	**332.4**
Natural Gas Liquids	**86.3**	**91.2**	**93.5**	**94.3**	**97.6**

a) Estimates

Figure 2
WTI and Brent Oil Prices

($US per Barrel)



Low oil prices in the first quarter of 1999 resulted in reduced drilling and well workover activity throughout the year. These reductions more than offset the growth from Hibernia and oil sands mining projects. Overall, this was the first annual decline in Canadian production since 1991 and the largest volume decrease since 1981.

In Eastern Canada, production at Hibernia, offshore Newfoundland, added 15 840 cubic metres (99 800 barrels) per day of conventional light crude oil to Canadian supply, an increase of over 50 percent from 1998. The Cohasset-Panuke oil fields, offshore Nova Scotia, discontinued production on 16 December 1999 and the project sponsors have applied for abandonment. Production from these fields averaged about 1 000 cubic metres (6 300 barrels) per day in 1999. The fields were initially expected to produce about 5.5 million cubic metres (34.7 million barrels) but, with additional drilling and the application of new technology the fields produced almost seven million cubic metres (44.1 million barrels) of light sweet crude oil.

In Western Canada, crude oil and equivalent supply decreased by almost six percent in 1999. Conventional light crude oil declined by over 11 percent, while conventional heavy crude oil and *in situ* bitumen decreased by six and seven percent respectively. This was partially offset by record production at both the Syncrude Canada Ltd. and Suncor Energy Inc. integrated oil sands mining plants, which reached a combined average production of 52 000 cubic metres (327 800 barrels) per day, an increase of almost eight percent.

The Board's estimate of remaining conventional crude oil and crude bitumen reserves at year-end 1998 (the last year for which data is available) is 7 505 million cubic metres (47.2 billion barrels) (Table 4). This represents a five-times increase in remaining reserves over 1997 and reflects revisions in the way the Alberta Energy and Utilities Board (AEUB) estimates surface-mineable bitumen reserves. Previously, the AEUB only recognized those surface mining reserves that were in areas under active development, while it now recognizes all areas that could be surface mined. A

similar change is expected for the *in situ* reserves in the near future. There were a number of *in situ* projects started in 1998 and these reserves are now reflected in the reserves report. For active projects, remaining reserves of oil sands products were estimated to be 769 million cubic metres (4.5 billion barrels) at year-end 1998, representing an increase of 25 percent from 1997.

Conventional oil reserves in Canada decreased in 1998 by two percent to 650 million cubic metres (4.1 billion barrels) (Table 5). Alberta and Nova Scotia reserves decreased while British Columbia showed a small increase. Other provinces remained about the same as at the end of 1997.

Table 4
Estimates of Established Reserves of Crude Oil and Bitumen at 31 December 1998

(million cubic metres)

Conventional Crude Oil	Initial	Remaining
British Columbia[a]	116.3	26.2
Alberta[b]	2 490.1	315.2
Saskatchewan[c]	716.7	190.1
Manitoba[d]	37.4	4.2
Ontario[e]	14.1	2.0
NWT and Yukon:		
Arctic Islands & Eastern Arctic Offshore[f]	0.5	0.0
Mainland Territories - Norman Wells	38.0	9.8
Nova Scotia[d] - Cohasset and Panuke	7.1	0.4
Newfoundland[d] - Hibernia	106.0	102.0
Total	**3 526.2**	**649.9**
Crude Bitumen		
Oil Sands - Upgraded Crude[b]	570.0	450.0
Oil Sands - Bitumen[b],[g]	6 730.0	6 405.0
Total	**7 300.0**	**6 855.0**
Total Conventional and Bitumen	**10 826.2**	**7 504.9**

a) British Columbia Ministry of Energy and Mines and NEB common database
b) Alberta Energy and Utilities Board and NEB common database
c) Provincial estimate for 31 December 1997, NEB updated to 31 December 1998
d) Provincial Agencies and Offshore Boards
e) Canadian Association of Petroleum Producers
f) Bent Horn abandoned 1996
g) Reflects provincial changes; under the previous format these figures would be 644 and 319 respectively.
Note: totals may not add due to rounding

Table 5
Conventional Crude Oil Reserves, Additions and Production 1994 to 1998[a]

(million cubic metres)

	1994	1995	1996	1997	1998	Total
Additions	47	90	56	86	68	**347**
Production	78	80	81	81	83	**403**
Total Remaining Reserves	**657**	**667**	**643**	**666**	**650**	

a) Excludes Hibernia reserves additions and production

In 1998, industry activity levels in the western provinces were about the same as the average over the last decade. Development drilling, directed at production from existing pools, accounted for 86 percent of drilling activity, as opposed to exploration drilling which is directed at finding new reserves. However, activity was less focused on oil drilling, with greater emphasis on gas, relative to previous years. This resulted in an overall reduction in remaining oil reserves, as additions did not replace production of conventional crude oil.

While remaining established reserves are reduced by production each year, new discoveries, extensions to existing pools and revisions to reserves estimates in existing pools add to reserves. From 1994 to 1998 on a cumulative basis, additions to established reserves of conventional light and heavy crude oil have replaced 86 percent of production. For the third time in the past five years, 1998 additions did not fully replace conventional crude oil production. Reduced drilling activity, especially in the Saskatchewan and Alberta heavy oil areas, was primarily responsible. Conversely, the two years in which additions were higher than production coincided with higher activity levels.

Industry Activity

A total of 10 608 wells were drilled in Canada in 1999, a nine percent increase over 1998 (Figure 3). Of these, only 2 734 were oil well completions, a 13 percent decrease. Industry drilling activity favoured gas over oil due to the increased gas

demand related to pipeline capacity expansions, and also due to the low oil prices in the first quarter of 1999 that discouraged oil-directed drilling. Horizontal well drilling was down 21 percent from the previous year. The average well depth in 1999 decreased by about 150 metres to 1 090 metres per well and the overall drilling success rate increased due to the higher concentration on shallow gas drilling. It is expected that the decline in oil drilling will result in a further reduction in remaining reserves in 1999.

In 1999, there were 4.1 million hectares of lease and licence sales in western Canada, an increase of 0.1 million hectares from 1998. Revenues received from land sales increased eight percent to $816 million from $754 million the previous year (Figure 4). Frontier work commitment bids - covering offshore Nova Scotia, offshore Newfoundland and the Mackenzie Delta were almost $1 billion, more than the total commitments received during all the previous years of the decade.

Compared to 1998, 1999 geophysical activity in Canada had a slow start in the first seven months but improved over the remainder of the year. The average crew count for the year was 31, down 18 percent from 1998 and the lowest it has been since 1992.

Crude Oil Exports

Total crude oil exports, including pentanes plus and synthetic, are estimated at 195 500 cubic metres (1.2 million barrels) per day, down one percent from 1998. The 1999 total consisted of approximately 90 500 cubic metres (570 150 barrels) per day of light crude oil and equivalent, and approximately 105 000 cubic metres (661 500 barrels) per day of blended heavy crude oil.

The estimated value of crude oil exports was $11.1 billion, compared with $6.9 billion in 1998. Although export volumes decreased, revenues increased because of high crude oil prices in the second half of the year. The estimated average

Figure 3
Number of Wells Drilled

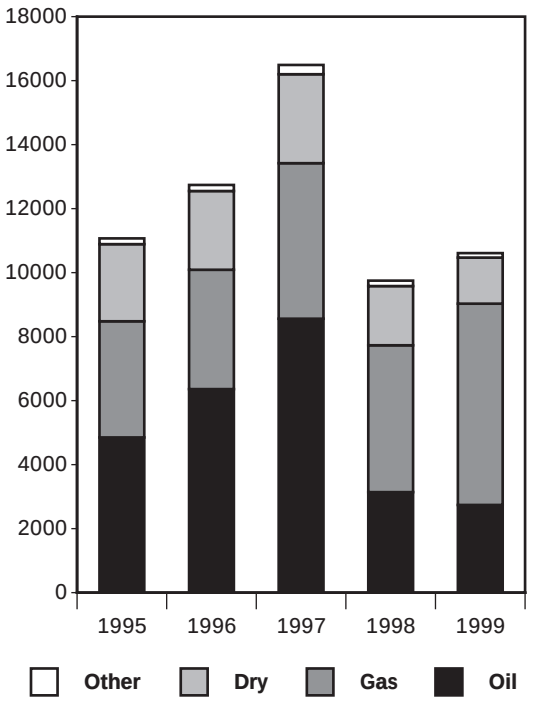
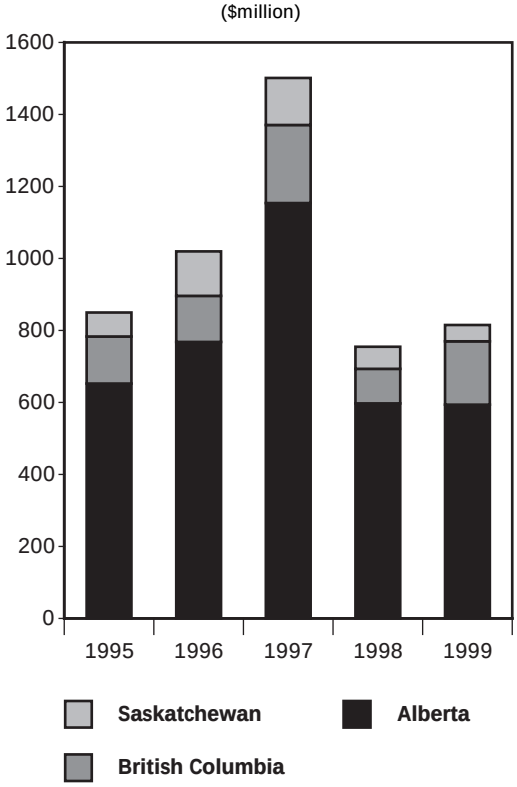


Figure 4
Sales of Exploration Rights in Western Canada



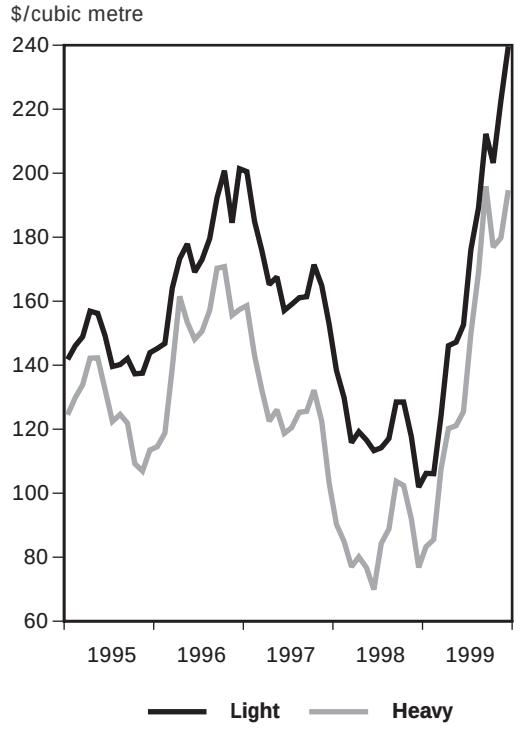
light and heavy crude oil export prices were $168.80 and $142.40 per cubic metre ($26.80 and $22.60 per barrel) respectively, compared with $120.00 and $85.60 per cubic metre ($19.05 and $13.60 per barrel) (Figure 5).

The U.S. Midwest continued to be Canada's most important market followed by Montana and Washington (Figure 6). Smaller volumes were shipped from the east coast to the U.S. East Coast and Gulf Coast regions, and also to Rotterdam in the Netherlands. The largest export buyers of light crude oil in 1999 were, in order, Mobil Oil Corporation, Marathon Ashland Petroleum LLC, Sun Refining and Marketing Company, Koch Refining Company, and Tosco, N.W. Co. The largest buyers of heavy crude oil exports were Koch, BP Amoco, Mobil, PDV Midwest Refining, and Conoco, Inc.

Crude Oil Imports

Crude oil imports were 135 700 cubic metres (854 300 barrels) per day, and represented almost 50 percent of total refinery feedstock requirements in Canada, compared with 47 percent in 1998. The Atlantic region and Québec imported most of their crude oil requirements. Ontario refiners received about 26 percent of their feedstock requirements from foreign sources, compared with 23 percent in 1998. This increase reflects the reversal of Enbridge's Line 9 from Montreal to Sarnia. Other regions did not import crude oil during 1999.

Figure 5
Light and Heavy Crude Oil Export Prices



North Sea crude accounted for 43 percent of total imports, compared with 42 percent in 1998. Crude oil originating from OPEC countries represented 40 percent, up from 38 percent in 1998. Imports from other sources accounted for 17 percent, down from 20 percent in 1998.

Oil Refining

The demand for petroleum products in Canada averaged 247 100 cubic metres (1.6 million barrels) per day, a decrease of two percent from 1998. Refinery production rose marginally to 302 100 cubic metres (1.9 million barrels) per day. Refinery receipts of domestic crude oil averaged 134 800 cubic metres (0.9 million barrels) per day, a decrease of three percent from 1998.

Main Petroleum Product Exports and Imports

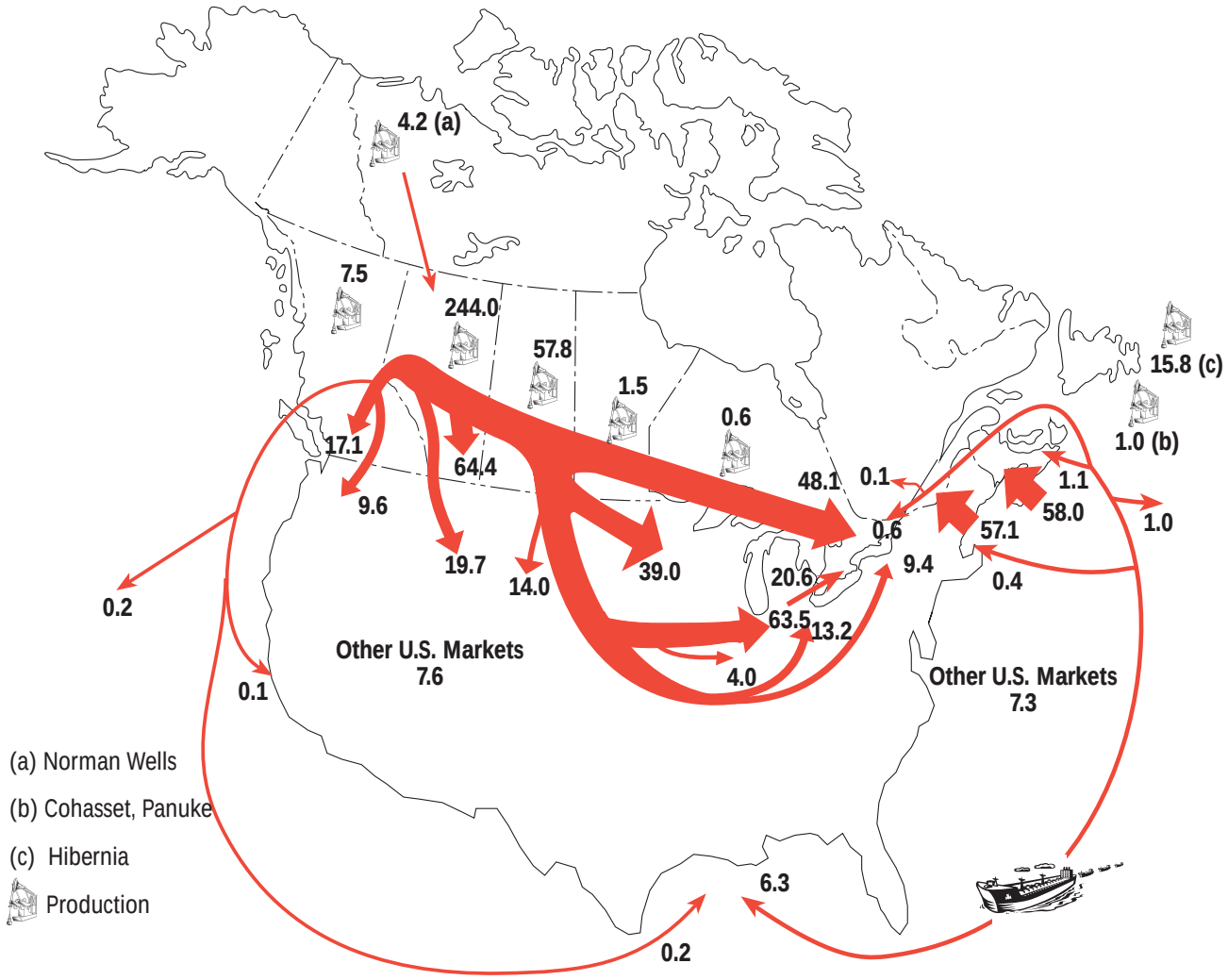
In 1999, exports of main petroleum products and partially processed oil rose by nine percent to 40 800 cubic metres (257 000 barrels) per day. This reflects an increase in shipments of motor gasoline, jet fuel and middle distillates. The estimated revenue, including partially processed oil, was $2.1 billion, up from $1.6 billion in 1998. This revenue excludes product exports from crude oil processing agreements for which prices are not assigned. The increase in revenues was a result of stronger prices.

Imports of main petroleum products averaged 16 800 cubic metres (105 800 barrels) per day, a slight decrease from 1998. Imports of middle distillates increased while gasoline, jet fuel and heavy fuel oil declined. Heavy fuel oil did, however, account for 52 percent of the total imports of main petroleum products.

The United States continued to be the largest buyer of Canadian petroleum products, accounting for almost 95 percent of total exports. The

Figure 6
Crude Oil and Equivalent Supply and Disposition 1999

(thousand cubic metres per day)



U.S. East Coast was the largest market, followed by the Midwest. Exports were also made to the Far East and Europe. The largest exporters of main petroleum products were, in order Irving Oil Limited, North Atlantic Refining Company, Imperial Oil Limited, Ultramar Canada Inc., and Shell Canada Products Limited.

Oil Pipeline Capacity

Enbridge operated at capacity throughout 1999 except for June, July, and August, when capacity was reduced by four, 11, and five percent, respectively. This reduction was due to line shutdowns and station bypasses required to accommodate the tie-ins and pipeline segment activations as part of the Terrace Expansion Project. Line 9, which runs from Montreal to Sarnia, was partially reversed from Montreal to Westover in April, with full reversal occurring in October. Line 9 operated at just over 52 percent utilization during 1999.

The Trans Mountain Pipe Line Company Ltd. system operated below capacity during 1999. Throughput information for the system owned

and operated by Express Pipeline Ltd. is not publicly available.

Natural Gas Liquids (excluding Pentanes Plus)

Production of NGL from gas plants and refineries in 1999 is estimated at 97 600 cubic metres (614 880 barrels) per day. Ethane production was 38 000 cubic metres (239 400 barrels) per day, propane production was 33 100 cubic metres (208 530 barrels) per day and the production of butanes was 26 500 cubic metres (166 950 barrels) per day. Propane production declined by about two percent in 1999, while production of butanes and ethane increased by about one and 10 percent respectively.

Exports of NGL during 1999 are estimated at 34 100 cubic metres (214 830 barrels) per day, a nine percent decrease from 1998. Ethane exports were 2 100 cubic metres (13 230 barrels) per day, propane exports were 25 000 cubic metres (157 500 barrels) per day and butanes exports were 7 100 cubic metres (44 730 barrels) per day. Propane exports increased from 1998 levels by one percent, while butanes and ethane exports decreased by 16 and 54 percent respectively. Decreases were attributable to greater domestic demand (primarily petrochemical) and weaker export markets.

The U.S. Midwest continued to be Canada's largest market for propane and butanes, accounting for 65 percent of the total export volume. Smaller amounts were delivered to the U.S. East Coast and West Coast. The largest exporters of propane were, in order Amoco Canada Petroleum Company Ltd., Kinetic Resources (LPG), Canada Imperial Oil Limited and Gas Supply Resources Inc. The major exporters of butanes were Amoco, Kinetic, Petro-Canada Hydrocarbons and Elbow River Resources.

The estimated value of NGL exports in 1999 was $1.5 billion, compared with $1.3 billion in 1998. Although export volumes decreased in 1999, higher prices contributed to higher revenues.

Natural Gas

The Canadian natural gas industry experienced strong growth in 1999. Producers were primarily focused on drilling gas wells while the price of oil was recovering from the lows experienced in 1998. In addition, pipeline expansions in late 1998 allowed exports to reach record levels in 1999. As such, natural gas production reached record levels. The increase in production was also accompanied by higher natural gas prices. On the last day of 1999, a new era for the Canadian gas industry commenced with the start-up of production from Sable Island.

Production and Reserves Replacement

Canadian natural gas production in 1999 totalled 162.8 billion cubic metres (5.7 trillion cubic feet [Tcf]), about two percent above 1998. Alberta accounted for 83 percent of production, British Columbia 12 percent, Saskatchewan four percent, and Ontario and the Northwest Territories produced the remainder.

Gas drilling increased by 35 percent in 1999, reaching 6 330 completions. Gas accounted for 60 percent of all wells drilled compared to 48 percent in 1998. The largest increase was in development drilling. There were 4 710 development gas well completions as compared to 3 170 in 1998. The number of exploratory gas well completions increased from 1 420 in 1998 to 1620 in 1999. Alberta, British Columbia and Saskatchewan experienced increases in gas drilling of 33, 21 and 78 percent respectively.

The Board's estimate of remaining established reserves of marketable natural gas as at year-end 1998 is 1 651 billion cubic metres (58 Tcf). This includes the east coast offshore that went on production at year-end 1999 (Table 6). The volume of remaining established reserves declined by three percent from 1997 as production outpaced reserves additions.

From 1994 to 1998, cumulative additions of marketable gas reserves replaced only 60 percent of total production, although additions in 1998 were the second highest in recent years (Table 7). While the industry still did not replace production the improved performance for gas reserves

replacement was a direct result of more exploration drilling. New discoveries and fewer downward revisions to reserves estimates for existing gas pools, compared with previous years, resulted in the replacement of 119 billion cubic metres (4.2 Tcf), or 74 percent of natural gas production.

Natural Gas Exports and Imports

In 1999, Canadian gas exports reached a record of 95 billion cubic metres (3.3 Tcf), an increase of almost eight percent from 1998 and nearly 21 percent since 1995 (Figure 7). The increase in exports follows expansions on the TransCanada and Foothills Pipe Lines Ltd. (Foothills) systems that resulted in the addition in the late 1998 of 31.2 million cubic metres (1.1 billion cubic feet) per day of additional export capacity.

Table 6
Estimates of Established Reserves of Marketable Natural Gas at 31 December 1998

(billion cubic metres)

	Initial	Remaining
British Columbia[a]	574	229
Alberta[b]	3 810	1 240
Saskatchewan[c]	191	76
Ontario[d]	44	13
NWT and Yukon	18	8
Nova Scotia - Offshore	85	85
Total	**4 722**	**1 651**

a) British Columbia Ministry of Energy and Mines and NEB common database
b) Alberta Energy and Utilities Board and NEB common database
c) Provincial estimate for 31 December 1997, updated by NEB to 31 December 1998
d) Canadian Association of Petroleum Producers

Table 7
Natural Gas Reserves, Additions and Production - 1994 to 1998[a]

(billion cubic metres)

	1994	1995	1996	1997	1998	Total
Additions	81	166	50	45	119	**461**
Production	142	150	159	160	160	**771**
Total Remaining Reserves	**1 813**	**1 829**	**1 721**	**1 698**	**1 651**	

a) Excludes East Coast reserves additions and production

Export sales in 1999 were distributed as follows: 40 percent to the Midwest, 24 percent to the Northeast, 20 percent to California, 15 percent to the Pacific Northwest, and one percent to the Mountain region. Compared with 1998, exports increased to the Midwest and Northeast by 21 and 12 percent respectively, while exports to California and the Pacific Northwest decreased by ten and eight percent respectively. The construction of additional export pipeline capacity has provided Canadian producers with the opportunity to ship gas toward higher-priced markets in the Midwest and Northeast, thereby diverting exports from California and the Pacific Northwest. In 1999, exports to the Northeast surpassed exports to California (Figure 8).

Gas exported under short-term orders, issued for a period of up to two years, continued to increase and reached 69 billion cubic metres (2.4 Tcf) in 1999, up from 62 billion cubic metres (2.2 Tcf) in 1998. Short-term exports represented approximately 73 percent of total gas exports. The remainder of gas exports were shipped under long-term authorizations, the majority of which have terms of no more than 10 years. Imports of natural gas to Canada remained relatively minor in 1999, reaching approximately 1.4 billion cubic metres (0.05 Tcf).

The average price of Canadian gas exports at the international border rose by 17 percent to $3.09 per gigajoule (GJ) from $2.65 per GJ in 1998 (Figure 9).

Higher export volumes and prices translated into increased revenue from natural gas exports. Export revenue rose by 23 percent to $10.9 billion, up from $8.9 billion in 1998.

Natural Gas Pipeline Capacity

On 31 December 1999, M&NP brought into service 12.6 million cubic metres (445 million cubic feet) per day of Canadian export capacity. It is expected that supply will continue to be developed in 2000 allowing the system to operate near its capacity. In March 1999, Trans Québec & Maritimes Pipeline Inc. (TQM) added 5.0 million cubic metres (175 million cubic feet) per day of export capacity. Expansions on the TransCanada and Foothills systems in late-1998

Figure 7
Canadian Natural Gas Exports

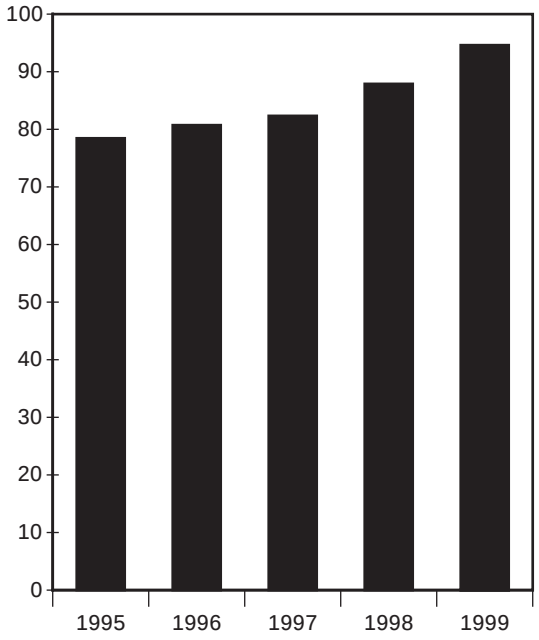


Figure 8
Distribution of Exports 1998 - 1999

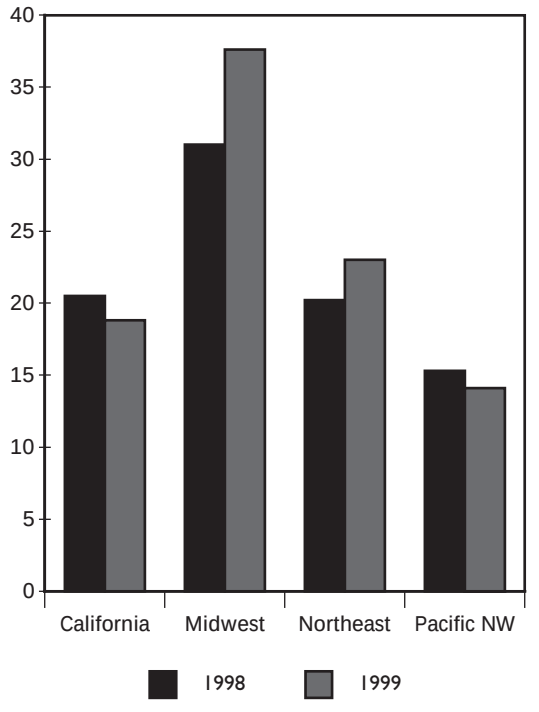
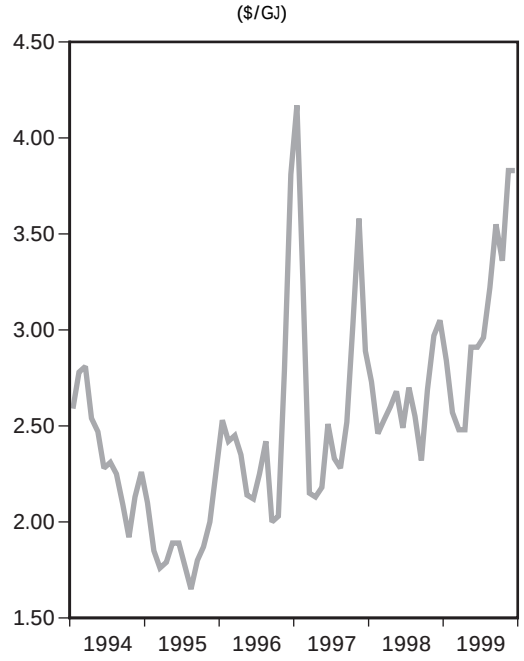


Figure 9
Natural Gas Export Prices



resulted in the addition of 31.2 million cubic metres (1.1 billion cubic feet) per day of additional export capacity. In 1999, the average load factor on Canadian gas export pipelines was nearly 90 percent.

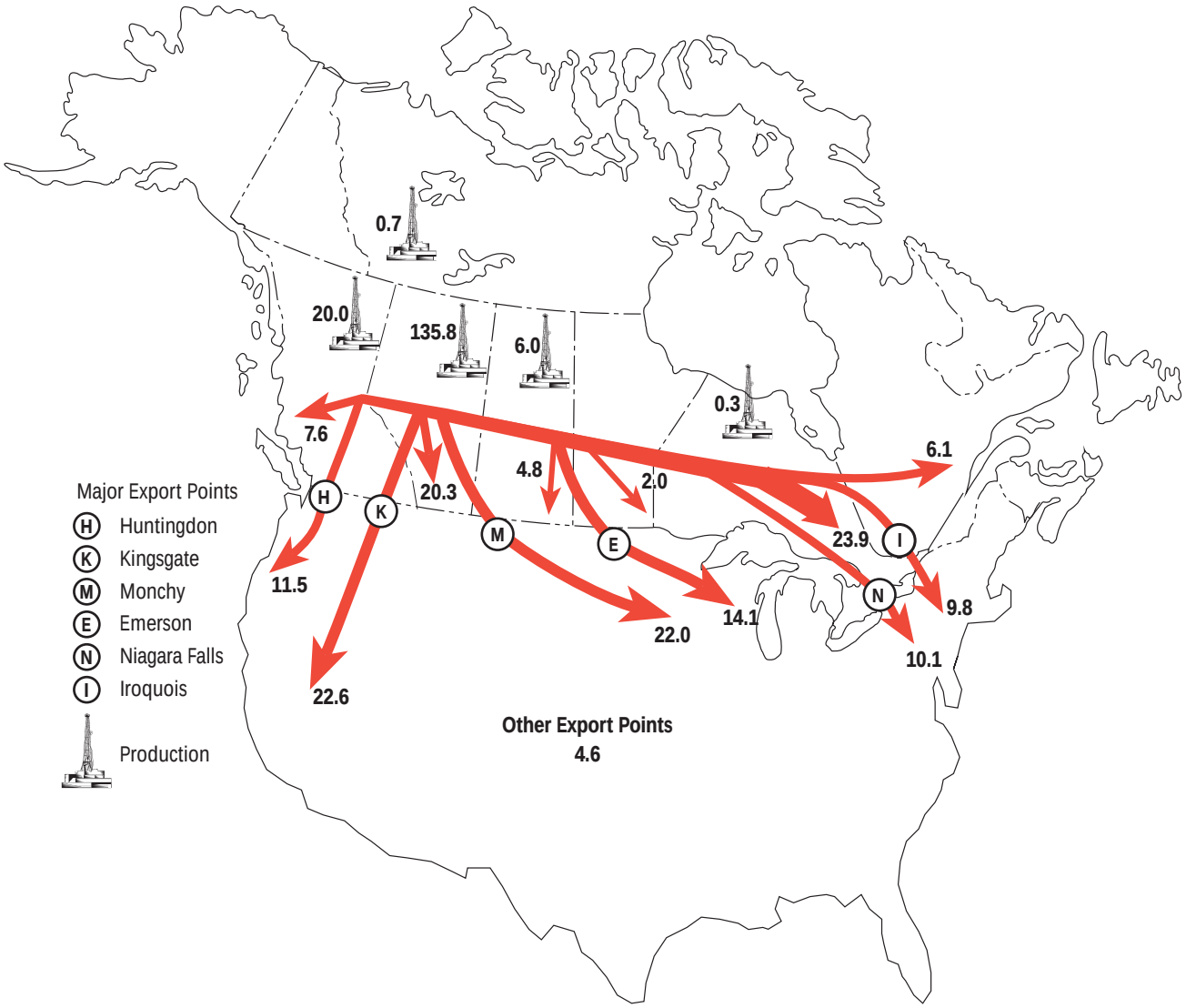
Electricity

In the context of the electricity industry, the Board's mandate relates to the construction of international power lines and the export of electricity. A challenge is presented by the significant ongoing changes in the structure of the Canadian electricity industry. The Board must be aware of the changes and their potential impacts, while continuing to carry out its legislated regulatory obligations.

The North American electricity industry is in the midst of significant change that is expected to result in greater competition in power generation and open access to transmission systems. In the U.S., the issuance, by FERC, of Orders 888 and 889 in 1996 established the framework for industry restructuring. In December 1999, FERC issued Order 2000 which requires the creation and implementation of Regional Transmission

Figure 10
Natural Gas Supply and Disposition 1999

(billion cubic metres)



Organizations (RTOs) by 15 December 2001. The main purpose of these orders is to enhance competition by making the transmission system more independent of wholesale market players. Order 2000 defines the characteristics and functions of RTOs.

Changes in Canadian electricity markets have been driven by provincial restructuring initiatives which are most noticeable in Alberta and in Ontario. In Alberta, the generating utilities are allowed to retain generation assets but the electricity from the facilities will be sold to independent marketers under a series of Power Purchase Arrangements, which will be auctioned in June 2000. The transition to a competitive retail market will begin in 2001. In Ontario, following the enactment in 1998 of the *Energy Competition Act*, Ontario Hydro was divided into a number of independent functional entities, including Ontario Power Generation Inc. (generation) and Ontario Hydro Services Co. (transmission, distribution and retail). This act also established an Independent Market Operator to manage the spot market and to direct the operation of the provin-

cial transmission system while ensuring reliability and facilitating market participation. Ontario is expected to move to wholesale and retail competition by November 2000. Finally, under the new restructured environment, over 250 municipal utilities in Ontario have until November 2000 to incorporate successor companies under the *Ontario Business Corporations Act*.

In recent years, restructuring has been initiated in several other provinces. Manitoba Hydro has implemented an open access transmission tariff to effect wholesale transmission within Manitoba and on the inter-ties to Saskatchewan, Ontario and the U.S. Hydro-Québec has opened its transmission systems to gain reciprocal wholesale access to U.S. markets. Public consultations were conducted in New Brunswick and a report, issued in 1999 by a legislative committee, could lead to market changes. In Newfoundland, the Public Utilities Board has undertaken a review of the future direction of regulation.

The NEB anticipates that the restructuring which is reshaping the North American electricity scene will preserve the export opportunities for domestic generators, accelerate the development of the non-utility sector and will eventually lead to lower electricity prices.

Electricity production increased by about two percent between 1995 and 1999. The share of nuclear generation declined while hydroelectric and thermal production increased (Table 8). In 1999, approximately 61 percent of generation was from hydroelectric sources, 26 percent from conventional thermal and 13 percent from nuclear generation. Canadian consumption is estimated to have been 526 terawatt hours (TW.h). The Board's long-term energy outlook, *Canadian Energy Supply and Demand to 2025*, June 1999, indicated that there would be a continued predominance of hydroelectric generation and a growing share of gas-fired generation.

Electricity Exports and Imports

Electricity exports continued the strong performance that began in 1994. This was mainly due to increased U.S. demand and favourable hydraulic conditions in Canada. Exports of just over 43 TW.h in 1999 were the third highest of the 1990s. The associated revenue was the largest ever, over $1.9 billion. Although electricity prices have fluctuated since 1995, the average price of firm exports has risen 22 percent while the price of interruptible exports has more than doubled.

Five utilities supplied about 95 percent of Canada's electricity exports in 1999. In order of quantities exported, they were Hydro-Québec, Manitoba Hydro, B.C. Hydro/Powerex, New Brunswick Power and Ontario Hydro. Ontario Hydro's exports continued to be constrained by the lay-up of some nuclear plants. Manitoba Hydro's exports were down due to a protracted drought in the Winnipeg River basin, which reduced the surplus generation available for export. New England was the largest U.S. market for electricity exports, followed by the states of Washington and Minnesota. These three areas accounted for almost 60 percent of exports.

With regard to the open access to transmission in the U.S., to date there has been little measurable effect on total Canadian exports. Interruptible exports in 1999 were approximately 56 percent of total exports, which is close to the historic average of 60 percent. Exports have shown recent strength and will likely continue to perform well as access to transmission systems improves.

Although Canadian electricity imports increased by about 10 percent to 13 TW.h in 1999, they continued to be small relative to domestic consumption and exports. Almost 52 percent of imports went to British Columbia, followed by Québec and Ontario respectively.

Table 8
Electricity Production[a]

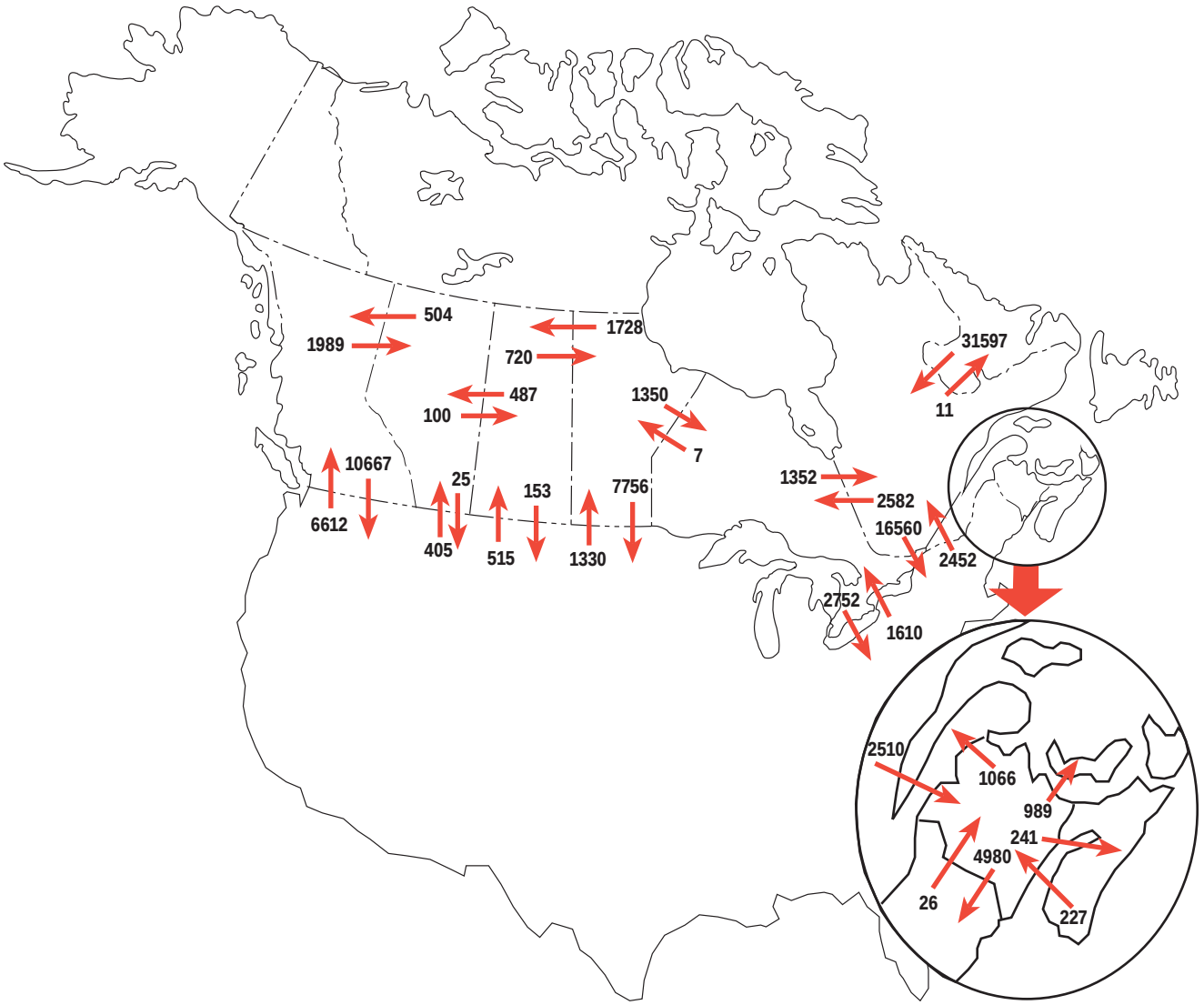
(terawatt hours)

	1995	1996	1997	1998	1999[b]
Hydroelectric	333	352	347	329	337
Nuclear	92	88	78	67	70
Thermal	118	116	132	149	148
Total	**543**	**556**	**557**	**545**	**556**

a) Source: Statistics Canada
b) Estimate

Figure 11
International and Interprovincial Transfers of Electricity 1999[a]

(gigawatt hours)



a) Data for interprovincial transfers of electricity are from 1 November 1998 to 31 October 1999 and are compiled from Statistics Canada's Electric Power Statistics Monthly.

Data for United States imports and exports are for 1999 (excludes exchanges) and are compiled by the NEB.

Safety and Environment

Part of the Board's purpose is to promote safety and environmental protection. The NEB's regulatory responsibilities for public safety, as well as protection of the environment are set out in the NEB Act and the *Canadian Oil and Gas Operations Act* (COGO Act). The Board is also required to meet the requirements of the CEA Act and the *Mackenzie Valley Resources Management Act* (MVRM Act) by ensuring that environmental assessments, including follow-up monitoring requirements, are properly conducted for projects under its jurisdiction.

As owners and operators of the facilities, the companies under NEB jurisdiction have the primary responsibility for safety and environmental matters. Nevertheless, the Board ensures that the risks associated with the construction and operation of regulated facilities are properly assessed and managed by the facility owner and operator by:

- assessing new facilities applications for associated safety and environmental issues;
- developing regulations and guidelines;
- monitoring construction and operation to ensure that pipelines meet the high standards of quality required by the *Onshore Pipeline Regulations, 1999* as well as requirements identified through the application process; and
- investigating any failures or incidents which occur, with the intent of preventing similar incidents from recurring.

The integration of these four areas is very important to effective risk management. The Board has taken concerted steps to enhance its ability to fulfil its environmental and safety role. These steps are described in the following sections.

New Applications

NEB Act

The Board received 112 applications in 1999 for the construction of new facilities. To ensure early, ongoing and full public awareness of proposed pipeline projects, companies are usually required to carry out an early public notification program. The purpose is to inform the public about the nature of a proposed pipeline project, to identify potential adverse effects, and to provide an opportunity for the public to influence the project design. The Board evaluates these projects to determine if they are in the public interest and considers many factors which include safety and environmental issues. The Board regularly attaches conditions to the approval of these facilities to ensure that issues identified in the review of the application are addressed.

When new lands and right-of-way are required for these new facilities, the NEB Act contains provisions for land acquisition. Where the land owner and the pipeline proponent do not come to an agreement on the acquisition of lands or right-of-way the NEB Act sets out a detailed process that involves all landowners and affected parties in the examination of the final pipeline route. In 1999 the Board held 15 detailed route hearings associated with the Alliance Pipeline project to consider and decide on contested portions of the pipeline route.

In accordance with the CEA Act, the Board conducts environmental screenings of proposed

facilities. Upon receiving an application, staff determine if a review is required under the CEA Act. This review includes input from other responsible authorities, advice from expert departments and ensures that all of the CEA Act requirements are examined before a decision is made on the application. Even when an application does not trigger a CEA Act review, the Board considers the environmental aspects of the project in accordance with the NEB Act.

COGO Act

In 1999, the Board assessed 93 applications under the COGO Act for activity in Frontier areas. Included in the total were 28 applications for drilling new wells. This was an increase of 53 percent in drilling applications over the previous year and was primarily related to increased oil and gas exploration activity in the Fort Liard area. The applications now coming before the Board reflect a change in activity from the exploration for oil and gas to the development of those resources that have been discovered.

The Ikhil development is a project to move gas in a buried pipeline from wells in the Northwest Territories to the Town of Inuvik. It was constructed in 1999 and has begun supplying the Town of Inuvik and the Northwest Power Corporation with gas for domestic use and for the generation of electricity.

Following the discovery of gas in the Fort Liard area, the NEB approved a development plan submitted by Chevron Canada Resources in anticipation of future applications for the construction of production facilities and a pipeline for the transportation of the gas to southern markets.

In 1999, the Board also made a written declaration of Commercial Discovery in relation to those frontier lands discovered by the well Paramount *et al* Fort Liard F-36, which was drilled by Paramount Resources Ltd.

The Board also participated in the development of environmental impact assessment guidelines under the new MVRM Act[1] which is used instead of the CEA Act in the Mackenzie Valley[2] region of the N.W.T. The MVRM Act ensures a greater role for aboriginal people in an integrated system of land and water management and regulation in the Mackenzie Valley. The MVRM Act established a new environmental assessment and impact review process and various new boards responsible for land use planning, land and water management, and environmental impact assessment. Potential impacts of oil and gas activities on land, water resources, and the environment are examined by the NEB, as a Designated Regulatory Agency, and the new Mackenzie Valley boards.

Regulations and Guidelines

The NEB has a statutory responsibility for the safety of pipelines and for energy development within the mandate set by Parliament. A key activity in promoting safety and environmental protection is the creation and maintenance of regulations for the protection and safety of the public, company employees, the environment, and property. The NEB has moved toward a goal-oriented approach to its regulations which promotes increased industry responsibility, allows for flexibility and efficiency, and provides opportunities to adopt improved operational and safety techniques in a more timely manner. The NEB's goal-oriented regulations rely heavily upon consensus standards such as those developed by the Canadian Standards Association (CSA), and place increased emphasis on risk assessment and management systems. Guidance Notes, which are what the NEB considers acceptable practices, are published by the NEB to provide clarity, practical advice, and suggestions to facilitate compliance.

1 The *Mackenzie Valley Resource Management Act* came into force on 22 December 1998.

2 The Mackenzie Valley is that part of the Northwest Territories bounded on the south by the 60th parallel of latitude, on the west by the Yukon Territory, on the north by the Inuvialuit Settlement Region, as defined in the Agreement given effect by the *Western Arctic (Inuvialuit) Claims Settlement Act*, and on the east by the Nunavut Settlement Area, as defined in the *Nunavut Land Claims Agreement Act*, but does not include Wood Buffalo National Park.

The *Onshore Pipeline Regulations, 1999*, which sets out technical and safety requirements for all stages of a pipeline's life cycle under NEB jurisdiction, came into force on 1 August 1999. These regulations reflect the progression towards goal-oriented regulations. Companion Guidance Notes, involving extensive stakeholder consultations, were issued in September 1999.

The Board is also preparing new goal-oriented regulations for the design, construction, operation, and abandonment of gas processing plants which are owned and operated by federally regulated companies and whose function is integral with respect to transportation. These facilities are presently regulated under the *Onshore Pipeline Regulations, 1999*.

The Board is active in developing and maintaining safety and environmental regulations pertaining to exploration and development activities pursuant to the COGO Act. These regulations, developed in cooperation with Natural Resources Canada (NRCan), the Canada-Newfoundland Offshore Petroleum Board (C-NOPB), the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB), Nova Scotia Department of Natural Resources, and the Newfoundland Department of Mines and Energy, ensure common regulatory approaches for activities in the offshore regions, the Northwest Territories and Nunavut (frontier lands). To this end, consultations were undertaken in 1999 to amend five regulations and two guidelines under the COGO Act, and mirror regulations under the Accord Implementation Acts. The changes update and modernize existing regulations and guidelines and introduce goal-oriented regulations to frontier land activities. Consultations were also commenced to update the *Canada Oil and Gas Occupational Safety and Health Regulations* under the *Canada Labour Code, Part II*.

The NEB participated in the revisions to the *Exclusion List Regulations* under the CEA Act. These revisions were promulgated in November 1999 and provide environmental assessment exclusions for routine pipeline projects that do not have any adverse environmental effects, are within a pipeline right-of-way, and are more than 30 metres away from a water body. These changes will facilitate the streamlining of routine facility approvals.

The Board participates with industry, various levels of government, and stakeholder groups in a number of initiatives to develop consensus-based standards, best practices, and common approaches to safety and environmental issues. Examples include the NEB's participation in the preparation of the standard for oil and gas pipeline systems, CSA Z662-99 issued in July 1999 and the preparation of the second edition of the Canadian Pipeline Water Crossing Committee guidelines issued in November 1999. These publications update existing standards and provide guidance to address new issues and evolving technology.

Construction Monitoring

When approving a facilities application, the Board frequently attaches conditions which must be satisfied prior to or during the construction or operation of a project. In 1999, a total of 543 conditions were placed on the 128 facilities approvals issued by the Board. Almost half of these conditions were related to environmental matters.

Companies must also construct and operate facilities in accordance with the Board's regulations. The Board requires that companies use qualified environmental inspectors to oversee construction activities. Typically, these individuals have the authority to select appropriate mitigative measures and to stop activities that may cause unnecessary impacts. The Board monitors the construction of pipeline facilities to ensure these requirements are met, as well as any commitments made by a company during the assessment of a project.

In 1999, a number of large projects, comprising over 2 100 kilometres of new pipeline, were constructed. These projects included the first phase of the Alliance Pipeline, the Sable Offshore Energy Project (SOEP) and M&NP's mainline, TransCanada projects and Souris Valley 's project. In addition, nine new companies came under the Board's jurisdiction with facilities approved in 1999.

During 1999, the Board conducted 80 site inspections on construction projects, a 35 percent increase over the previous year. During inspections, Board inspection officers verify plans and construction techniques and evaluate the effectiveness of the company's inspection program that oversees construction activities.

Given its shared jurisdiction with the CNSOPB for the offshore portion of the SOEP pipeline, the Board appointed two CNSOPB employees as inspection officers pursuant to the NEB Act. This designation invests the inspection officer with authority to write orders regarding situations that pose an immediate hazard to safety or environment.

When construction is complete, but before the facilities are put into operation, companies are required to apply for leave of the NEB to open their facilities for the transmission of hydrocarbons. When the Board is satisfied that the facilities are safe for operation permission will be granted to open the pipeline or an exemption from the requirement for leave to open will be granted. The Board issued 116 orders granting leave to open in 1999.

Monitoring of Existing Facilities

The Board has programs in place to assess and monitor the safety and environmental practices of existing pipeline systems and the associated facilities operated by over 90 companies. The goal is to ensure that the facilities are safe and are operated in a manner that protects the environment and the public.

The key aspect of this safety program is delivered through safety management audits conducted by Board staff. In 1999, the Board completed safety management audits of 11 companies. During these audits, the Board examines operations and maintenance manuals, emergency response manuals, safety training programs, operation and maintenance records, and assesses safety-related operational issues. Board staff visit selected facilities to confirm operating procedures are in compliance with those set out in company manuals. Audit findings indicate that companies are generally in compliance with the Board's requirements, although there were instances of non-compliance on minor matters.

Another aspect of the safety program is the inspection of specific operating facilities. In 1999, a total of 28 facility inspections were conducted to determine compliance with NEB Act regulations and with the *Canada Labour Code*, *Part II*. Only minor issues were identified, which typically were remedied quickly by the company involved.

The Board conducted four audits of companies' third party damage prevention programs. These programs are required by the Board's *Pipeline Crossing Regulations*. The programs are focussed on improving the awareness of third parties,

including landowners and companies undertaking excavation, of pipeline safety and preventing damage to buried pipelines. In addition to these audits, Board staff conducted 12 inspections along existing pipeline systems to identify whether or not third party work was being completed in compliance with the regulations. No significant issues were identified during the course of these audits and inspections.

The Board made arrangements in 1999 to co-host its third Public Awareness Workshop with the American Petroleum Institute (API). The workshop is to be held in May 2000 in Niagara Falls, Ontario. The purpose of the workshop is to provide a venue for presentations from industry leaders and to share experiences relating to successes and challenges on public awareness issues facing the pipeline industry.

In 1999, the NEB finalized its risk-based methodology for pipeline facility inspections. In the past, the NEB inspected all of the above-ground facilities under its jurisdiction (approximately 500) on a two to three year cycle. However, with ever increasing numbers of facilities and finite resources allocated to inspection, the NEB saw the need to implement a risk prioritization methodology to assist in allocating resources and prioritizing inspection efforts based on safety and environmental risk.

Pipeline rights-of-way under Board jurisdiction are monitored following construction to ensure that environmental issues have been dealt with successfully and that the right-of-way has been restored. In addition companies are typically required to submit post-construction monitoring reports to provide a review of the effectiveness of environmental protection measures implemented during construction and the efforts taken to mitigate these issues throughout the project life. In most cases, the rights-of-way are fully remediated after two growing seasons following construction. The Board received 50 monitoring reports in 1999; the results of the review will be incorporated into future Board inspections.

Once in operation, the condition of the right-of-way is checked periodically. In 1999, the Board conducted an overview of the Enbridge and Express Pipeline Ltd. (Express) pipeline systems, two major pipeline systems, to confirm the effectiveness of ongoing environmental protection measures.

Above-ground facilities such as compressor and pumping stations, are also monitored on a regular basis for operational issues such as noise and air emissions. In 1999, the Board received 27 monitoring reports from companies providing noise and air emission surveillance information regarding recent installations. The results of the review are incorporated into future Board inspections.

Landowner Complaints

The Board responds to landowner complaints concerning impacts caused by the construction and operation of pipeline facilities. In most cases the Board ensures that the company is made aware of the complaint and encourages the company to remedy the situation. The Board inspects some of these properties to verify that protection of the environment is achieved. In 1999, the Board conducted landowner surveys of which a portion of the survey was regarding safety and environmental matters. In general, the results of the survey showed that landowners were satisfied with the condition of their properties following construction.

During 1999, the Board received 81 complaints made by landowners arising from land rights, operational, and construction issues. It is likely that the number of landowner complaints will rise in the future due to increased public awareness, particularly among landowners, regarding the Board's requirements for protection of the environment and public safety.

Enforcement

The Board uses a graduated approach to resolving minor instances of non-compliance with terms or conditions of approval or regulations. When a violation cannot be rectified immediately, but does not represent an immediate or serious hazard, the company is requested to provide the Board with an Assurance of Voluntary Compliance (AVC), detailing the deficiency and the steps planned to address it. If an AVC is not received by Board staff, a letter from the Board is

sent to the company outlining the non-compliance and the Board's expectations. Upon review of the company's response, the letter may be followed with a direction from the Board specifying the actions the company must take to remedy the non-compliance. Hazardous situations which pose an immediate danger to property or the environment and necessitate immediate and direct action, are addressed through the issuance of an Order by an NEB inspection officer. Upon receipt of the Order, the company is compelled to rectify the situation. If a problem is not rectified, the Board has further remedies for compliance available to it. There are similar provisions for non-compliance under the COGO Act and *Canada Labour Code*, *Part II*.

As a result of this graduated approach, in 1999 no penalties were imposed and three orders were issued to address potentially unsafe practices and hazards to the environment. In all instances, the company responded immediately and continued to address the issue for the remainder of the project. Two hundred and twenty-five AVCs were received from regulated companies during 1999 pursuant to NEB Act matters.

A total of 43 violations to the *Pipeline Crossing Regulations* were reported in 1999. This number is slightly higher than 1998 and the three-year average. A crossing violation occurs when a third party conducts excavation work on or within the 30 metre safety zone adjacent to the pipeline right-of-way without the consent or knowledge of the pipeline company. These violations are typically by landowners or by utility companies. None of the violations resulted in damage being done to pipelines. The Board conducts investigations into each of the reported violations with the intent to identify factors which led to the violation and to educate stakeholders about the importance of public safety when working near operating pipeline systems.

In the frontier lands, Board staff conducted 43 inspections of exploration and production sites to ensure that operations were in compliance with approved program and regulatory requirements pursuant to the COGO Act.

The development of a new environmental and safety compliance policy for the Board was identified as a key activity with respect to two of the Board's goals: NEB-regulated pipelines are safe and perceived to be safe and NEB-regulated pipelines are built and operated in a manner that protects the environment and respects individuals' rights. The need for a revised and expanded compliance policy arose from the development and promulgation of the new goal-oriented *Onshore Pipeline Regulations*, 1999, and was seen as a necessary step in addressing recommendations made by the Auditor General in September 1998. In 1999, the Board made significant progress towards developing its policy and will conclude the project in early 2000.

Incident Investigation

Pipeline safety is an important expectation of the public and it is, therefore, one of the Board's strategic goals that pipelines under the Board's jurisdiction are safe and perceived to be safe by Canadians. The Board is continually looking for ways to improve safety and encourages pipeline companies to provide information on pipeline safety performance by requiring companies to immediately report incidents on their systems. The definition of what constitutes an incident is set out in the *Onshore Pipeline Regulations*, *1999*.

Even minor incidents can provide indications of the condition of a pipeline or required improvement to safety programs. The Board endeavours to investigate all reported incidents to determine if any trends are evident and to take action if necessary to prevent similar occurrences in future. Nevertheless, the Board may conduct detailed on-site investigations only for accidents that result in deaths, serious injuries or significant releases of hydrocarbons.

In 1999, a total of 74 incidents were reported. This compares to 78 incidents in 1998, 88 incidents in 1997 and an average of 71 incidents for the years 1992-1998. Fifteen of these incidents resulted in injuries with twelve of those directly related to construction activities and the remainder resulting from maintenance activities. Forty-three incidents resulted in product being released (Figure 12).

Of the 74 incidents, over two thirds occurred at controlled areas such as compressor stations or gas plants. Thirty-eight incidents occurred at compressor or pump stations, eleven at gas plants, and the remainder occurred along pipeline rights of way and one incident occurred offshore.

Continuing a five year trend of declining pipeline ruptures, only one pipeline rupture occurred in 1999 (Figure 13). This rupture involved Enbridge's Line 3 at a location immediately east of Regina, Saskatchewan. While no injuries to either the public or company employees resulted, 3 275 cubic metres of crude were spilled. The reduction in major pipeline failures has been due to a variety of factors which includes increased attention by the industry on preventative maintenance, new technology to monitor and repair pipelines, and a decrease in ruptures caused by slope failures.

It is also notable that since the NEB's November 1996 report "*Stress Corrosion Cracking (SCC): Public Inquiry Concerning Stress Corrosion Cracking on Canadian Oil and Gas Pipelines*," no SCC-related service ruptures have occurred on NEB-regulated pipelines. The inquiry report contains 27 recommendations pertaining to the development of company-specific SCC management programs, changes to the design of pipelines, continued research into SCC, the development of an industry-wide SCC database, improved emergency response practices, and information sharing.

The Board ensures that all companies under its jurisdiction have adequate emergency response plans to deal with and reduce or mitigate any negative effects on personnel safety, public health or the environment resulting from oil spills or natural gas leaks. Response plans are examined to ensure adequate procedures are in place. In addition, the Board encourages and participates in company-sponsored emergency response exercises.

The Board's primary role during an emergency is to monitor the company's response, ensuring that all reasonable actions are being taken to protect public safety and the environment. The Board utilizes an information tracking system to ensure that the company involved fulfills its remediation responsibilities regarding sites that have been affected by spills and releases. In 1999 a total of 37 minor and four significant spills and releases occurred.

Following the Enbridge rupture near Regina, Saskatchewan, the Board worked with Enbridge and other stakeholders to ensure that clean up and remediation of the site was implemented. Within three months of the spill, Enbridge was able to demonstrate that the majority of the site

Figure 12
Causes of Pipeline Incidents in 1999

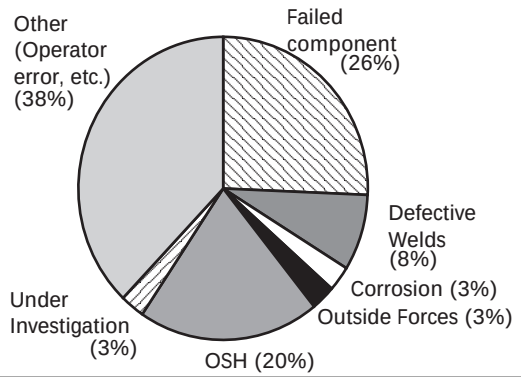
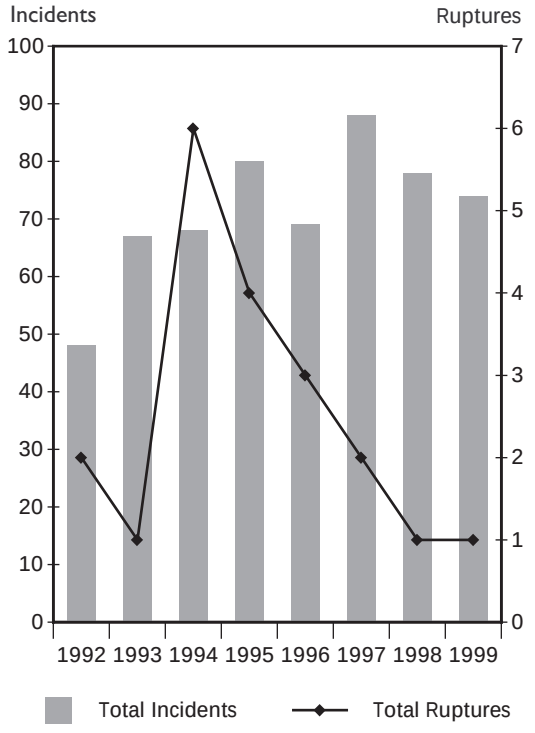


Figure 13
Pipeline Incidents and Ruptures



had met acceptable provincial guidelines and a plan was developed to complete the remaining clean up and remediation.

Three other significant spills occurred on NEB regulated pipelines, one on the Enbridge Pipeline system at Glenboro, Saskatchewan and two on the Montreal Pipe Line Limited system in Quebec. In each case the company responded immediately and cleaned the site to the satisfaction of the stakeholders.

Under COGO Act provisions, a total of 22 hazardous occurrences were reported in 1999, up slightly from 1997. Even with an overall increase in activity levels north of the 60th parallel, the 1999 injury frequency was still the same as 1998 on an incident per man-hours worked basis. This indicates that the companies are continuing to observe safe work practices and attempting to maintain a safe workplace for the workers. There were 20 spills north of the 60th parallel. Clean up on a few of these spills is outstanding with no adverse environmental effects expected.

Transportation Safety Board (TSB)

The NEB shares responsibility for the investigation of pipeline incidents with the TSB, an independent federal investigation agency. In accordance with an agreement between the two agencies, all incidents are initially reported to the TSB. If the TSB decides to conduct an investigation, the NEB may participate but is prohibited from making public, findings as to the cause and contributing factors of the incident. The TSB has the authority to issue recommendations, to which the NEB may be required to respond. The NEB can investigate to ensure that its regulations were not violated and/or to determine the need for remedial action. In order to avoid duplication of work, the two agencies coordinate their investigations.

In 1999, the TSB released two reports arising from major investigations involving Board regulated facilities. One report included a recommendation regarding the detection and assessment of certain types of corrosion defects found in isolation or together with cracks. The NEB subsequently distributed a safety advisory letter regarding the potential limitations of in-line inspection technology and undertook to send a letter to the CSA Technical Committee identifying concerns regarding defect assessments.

Effective 1 September 1999, all incidents and occurrences as defined under the *Onshore Pipeline Regulations*, 1999 and the *Canada Labour Code Part II* were reported through the TSB Occurrence Hot Line with the TSB forwarding the information to the NEB. This one window reporting system was implemented to reduce the duplication between the two agencies.

Year 2000 (Y2K) Preparedness

With much of the pipeline and electricity utility operations controlled by computers, the NEB recognized the potential impact that a failure of equipment due to Y2K problems could present to public safety and the environment. The NEB was very active in promoting Y2K preparedness throughout 1999. Monitoring of regulated companies' efforts was realized through a coordinated effort with the NEB, the oil and gas industry, the Canadian Electricity Association, NRCan and the National Contingency Planning Group. This initiative provided the information needed to the various government agencies through a single window and single format approach while minimizing the effort required by industry to report on preparedness.

Overall, NEB-regulated companies were very proactive in preparing for Y2K. By December 1999, all regulated companies were ready for the 1999/2000 rollover and the new year was met with no Y2K related incidents reported by NEB-regulated companies.

Research and Development

The Board acts as secretariat for Environmental Studies Research Funds, which finances environmental and social projects pertaining to petroleum exploration, development, and production activities on frontier lands. Three new research projects were initiated in 1999 to reflect increased activities on the East Coast. These projects examine effects of seismic activities on fisheries, cumulative effects assessment, and coastal resource inventory in Newfoundland. These projects are continuing in 2000.

Public Information Services

Stakeholders expect the NEB's processes to be accessible and easy to understand. Whether explaining how to participate in a public hearing, sharing the results of a pipeline safety audit or issuing a decision, the NEB aims to provide information that meets stakeholder needs.

NEB information is available through a variety of processes and tools. As better technology becomes available, the Board is moving toward electronic document production and distribution, while maintaining the commitment to provide paper documents for those who need them.

Year 2000 (Y2K) Activities

The Y2K project work gave the Board an opportunity to introduce current technology and set the stage to steadily improve internal systems to meet its business challenges.

The NEB's preparations during the past two years can be split into two parts: first, ensuring that Board regulated companies were preparing and ready for Y2K; and second, analyzing internal operations to determine Y2K priorities. To meet these needs, the Board created an internal project office which was responsible for carrying out all internal activities and a separate team that communicated with and monitored the energy industry and Board-regulated companies.

A risk assessment of internal Board systems and networks was completed to determine the likelihood of internal computer system failure. Although the results of this assessment indicated a low risk of failure, contingency plans were put in place for all important business processes. Plans were also developed for each business application or computer hardware system that was related to an important business process. All reasonable efforts were taken to minimize the risk of any business disruption from Y2K issues.

The rollover to Y2K necessitated the discontinuation of the Board Document System (BDS). The data on the BDS was preserved and reformatted and will be accessible via Electronic Regulatory Filing (ERF). Legacy Reasons for Decisions and hearing transcripts previously stored on the BDS were moved to computers in the NEB library to allow continued electronic access.

The Board did not encounter any business disruptions during the rollover to Y2K but some minor remediation work continues.

Electronic Regulatory Filing

The NEB is continuing development of the ERF project with the Ontario Energy Board (OEB) and representatives of the regulated energy industry. The ERF system will provide a method of creating, storing, exchanging and re-using regulatory information. This system will be available through its Web site and the NEB has developed processes to ensure the accuracy and security of electronic records stored in the ERF repository.

To test the system using large documents in SGML format[1], M&NP took part in an ERF pilot project. The company successfully created their tolls and tariffs application in SGML. The

1 Standardized General Markup Language (SGML) is an electronic format that allows documents to be stored for long time without relying on specific software packages or versions of technology.

findings from this pilot were used to review the standard document structure.

Guidelines have been created for document formatting which will be used for complex submissions. In addition, standard forms for simple submissions, such as letters of comment and letters of intervention, are being developed. These forms will allow the general public and other interested parties to participate electronically in a hearing process without becoming expert in the ERF Technology. The procedures will also

ensure that individuals who do not have access to the NEB's Web site can participate in Board proceedings using other methods of sending and receiving documents.

The Board is making changes to its procedures to prepare for the ERF environment. A draft proposal for changes to the *NEB Rules of Practice and Procedure* was released for public consultation in November 1999.

Communications Instruments

Internet Web Site

The Board's Web site (www.neb.gc.ca) has been operating since 1996. The site has become a key tool for accessing information about the NEB.

The Board's site includes freely available information about: the Board's regulatory role; NEB special reports about energy exports, energy markets, frontier lands, pipeline safety, and pipeline tolls; current regulatory proceedings including Hearing Orders, Regulatory Agendas and Reasons for Decision; and monthly energy statistics. In 1999, the Board began posting the transcripts of all its public hearings to the site. Prior to this, transcripts had to be purchased from a court reporting service.

News Releases

Information about public hearings, Board decisions, public consultations and major changes to regulations and procedures was sent to the media through 46 news releases in 1999. The Board encourages clients to access news releases via the Board's Web site. News releases are also available from the library, by fax or by mail.

Regulatory Agenda

Since 1982, the Board has published a quarterly *Regulatory Agenda* which provides information about regulatory applications and other Board matters. This document is updated monthly on the Web site and quarterly in paper. The quarterly *Regulatory Agenda* continues to be mailed to those people who request a paper copy.

Information Bulletins

The Board publishes a series of information bulletins and brochures about its activities. This year, a committee of NEB staff members conducted a review of the bulletins. The committee decided that many of the bulletins needed to be updated and written in plain language.

A group of technical experts from throughout the NEB is now re-writing the bulletins. The current set of bulletins and brochures will be available through the NEB library and our Web site (see Supplement III for a list) until the new bulletins are published.

Other Information Services

Library/Publications

The NEB library is the public viewing point for applications submitted to the Board and related public documents. The library maintains a collection of Board publications and hearing documents as well as reference materials, books and periodicals related to the Board's mandate. Library hours are 9 a.m. to 4 p.m. week days. To contact the library, call (403) 299-3561, 1-800-899-1265 or email library@neb.gc.ca.

The library receives over 350 requests per month from the public. The library satisfies over 90 percent of requests from its collection or other Board resources. Clients requesting information not available at the Board are routinely referred to an alternative information source.

Requests for both library information and publications come from walk-in clients, phone calls, facsimile messages, letters and electronic messages. The publications distribution function of the Board is housed at the library. About 150 publication requests are filled each month.

To order publications contact:

Publications Coordinator
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta, Canada T2P 0X8
Email: orders@neb.gc.ca
Phone: (403) 299-3562
Fax: (403) 292-5503
1-800-899-1265

For More Information

For more information on any of the Board's services or activities, call (403) 292-4800 or 1-800-899-1265, send a facsimile to (403) 292-5503 or visit the Board's Web site (www.neb.gc.ca).

Corporate Activities

The NEB as an Employer

The NEB is a federal public service regulator located in Calgary. As a separate employer (which is) under the *Public Service Employment Act*, The Board has the flexibility to take advantage of opportunities inherent to a large organization while adapting many policies and procedures to reflect its unique requirements. For example, the NEB has its own classification system which reflects the spectrum of NEB positions. In addition, terms and conditions of employment are negotiated directly with two unions that represent a large proportion of employees.

As an employer one of the Board's strategies is to provide reasonable remuneration and a positive and fulfilling working environment. It recognizes the importance of achieving a balance between work and personal life and supports individual efforts to achieve that balance by offering flexible work arrangements.

Management of the NEB

During 1999, the NEB confirmed its long-term strategic plan (see Supplement II). The updated plan allows for evaluation of its performance, the establishment of priorities and the development of planning processes to achieve results in an effective and cost-efficient manner. It also facilitates the alignment of business unit, team and individual accountabilities.

The multi-disciplinary, team-based structure which exists at the NEB allows for leadership of business lines through Business Unit Leaders and Team Leaders and for the professional development of employees through Professional Leaders of Economics, Engineering and Environment.

40 Years of History

In November 1999, the NEB celebrated its 40th anniversary by inviting present employees, representatives of its various stakeholder groups and past and present officials to participate in a commemorative event at the Westin Hotel in Calgary. Over 600 attended this festive occasion.

The NEB has also arranged for the preparation of a publication on the 40 years of operation of the Board. This book is scheduled for release in 2000.

Financial Spending

Since 1991, up to 90 percent of the NEB's operating costs have been recovered from the regulated community rather than the taxpayer. In 1998 and 1999, a review of the cost recovery process was undertaken to ensure fairness to all participants.

Table 9 shows the Board's expenditure and staff levels for the last five fiscal years. Additional information on budgets and plans may be found in the *NEB 1999-00 Main Estimates*, *Part II* and the *1999-00 Report on Plans and Priorities*, both of which are available from the NEB's Web site at http://www.neb.gc.ca.

Table 9
Historical Expenditures and Staffing

Fiscal Year (April 1 to March 31)	Expenditures $000	Full-time equivalents
1995 - 1996	25,911	279
1996 - 1997	26,855	272
1997 - 1998	28,048	264
1998 - 1999	30,960[a]	277
1999 - 2000[b]	26,583	281

a) In 1998 the NEB made payments of $22.2 million attributable to out-of-court settlements with the energy industry relating to relocation costs of the NEB on the move from Ottawa to Calgary.
b) Estimate

Supplement I
The Board's Mandate

The Board is an independent regulatory tribunal established in 1959. It reports to Parliament through the Minister of Natural Resources Canada (the Minister). The Board is a court of record. With regard to attendance at hearings, the swearing and examining of witnesses, production and inspection of documents and the enforcement of its orders, it has the powers of a superior court. At the end of 1999, the NEB had eight permanent board members, out of a possible total of nine. Permanent board members are appointed for a term of seven years. Four temporary members also served during the course of the year.

The Board's regulatory powers under the NEB Act include granting authorizations for: the construction and operation of international oil, gas and commodity pipelines; construction and operation of international and designated interprovincial power lines; the setting of tolls and tariffs for oil and gas pipelines under its jurisdiction; the export of oil, natural gas and electricity, and the import of natural gas. The Board also has regulatory powers under the COGO Act and certain provisions of the CPR Act for oil and gas exploration and activities on frontier lands not otherwise regulated under joint federal/ provincial accords.

The Board's mandate includes providing expert technical advice to the CNOPB and the CNSOPB, NRCan and Indian and Northern Affairs Canada.

Under the CEA Act, the Board is responsible for conducting environmental assessments of the planning, construction, operation, maintenance and abandonment of energy projects within its jurisdiction. Under the NEB Act and the COGO Act, the Board's environmental activities have evolved into three distinct phases: evaluating the potential environmental effects of proposed projects; monitoring and enforcing terms and conditions attached to project approvals; and the ongoing monitoring of operations.

The Board is responsible for ensuring the safe operations of the pipelines under its jurisdiction and the Board's inspectors are appointed Safety Officers for the administration of the *Canada Labour Code*, *Part II*.

The Board provides advice to the Minister on matters relating to its regulatory expertise upon the Minister's request. The Board also has specific responsibilities under the *Northern Pipeline Act* and the *Energy Administration Act*. Below is a listing of Acts, Regulations, Rules and Guidelines under which the Board operates or has responsibilities.

Acts

National Energy Board Act

Canada Labour Code, *Part II*

Canada Oil and Gas Operations Act

Canada Petroleum Resources Act

Canadian Environmental Assessment Act

Energy Administration Act

Mackenzie Valley Resources Management Act, *c.25*

Northern Pipeline Act

Regulations and Orders Pursuant to the NEB Act

Gas Pipeline Uniform Accounting Regulations

National Energy Board Act Part VI (Oil and Gas) Regulations

Filing of Supply Information in Compliance with the Board's Part VI (Oil and Gas) Regulations (16 May 1997)

National Energy Board Cost Recovery Regulations

National Energy Board Electricity Regulations

National Energy Board Export and Import Reporting Regulations

National Energy Board Order No. M0-62-69, CRC, Vol. XI, c. 1055

National Energy Board Pipeline Crossing Regulations: Part I and Part II

General Order No. 1 Respecting Standard Conditions for Crossings by Pipelines, (December 14, 1978)

General Order No. 2 Respecting Standard Conditions for Crossings of Pipelines, (December 14, 1978)

National Energy Board Rules of Practice and Procedure , 1995

National Energy Board Substituted Service Regulations

Oil Pipeline Uniform Accounting Regulations, CRC, Vol. XI, c. 1058

Oil Product Designation Regulations

Onshore Pipeline Regulations, June 1999

Pipeline Arbitration Committee Procedure Rules, 1986

Power Line Crossing Regulations

Proclamation Extending the Application of Part VI of the Act to Oil, May 7, 1970

Toll Information Regulations

Section 58 Streamlining Initiative - Order XG/XO-100-94 Revision 1 (16 November 1995)

Guidelines and Memoranda of Guidance pursuant to the NEB Act

Adherence to Environmental Information Requirements under the Board's Guidelines for Filing Requirements (23 December 1997)

Filing of Supply Information in Compliance with the Board's Part VI (Oil and Gas) Regulations (16 May 1997)

Filing Procedures for Section 104 Right of entry Order Applications (27 October 1999)

Financial Regulatory Audit Policy of the National Energy Board (23 February 1999)

Guidance Notes for the *Onshore Pipeline Regulations*, 1999 (7 September 1999)

Guidelines for Filing Requirements (22 February 1995)

Guidelines for Negotiated Settlement of Traffic, Tolls and Tariffs (23 August 1994)

Guidelines Respecting the Environmental Information to be Filed by Applicants for Authorization to Construct and Operate Gas Processing and Straddle Plants, Liquid Natural Gas (LNG) Plants and Terminals, Natural Gas Liquids (NGL), Liquid Propane Gas (LPG) and Butane Plants and Terminals, under Part III of the National Energy Board Act (26 June 1986)

Memorandum of Guidance - Concerning Full Implementation of the September 1988 Canadian Electricity Policy (Revised 26 August 1998)

Memorandum of Guidance - Fair Market Access Procedure for the Licensing of Long-term Exports of Crude Oil and Equivalent (17 December 1997)

Memorandum of Guidance - Regulation of Group 2 Companies (6 December 1995)

Memorandum of Guidance - Retention of Accounting Records by Group 1 Companies Pursuant to Gas/Oil Pipeline Uniform Accounting Regulations (30 November 1994)

Performance Measures filed as part of Year-end Quarterly Surveillance Reports (26 January 1996)

Regulations Pursuant to the COGO Act

Canada Oil and Gas Certificate of Fitness Regulations

Canada Oil and Gas Diving Regulations

Canada Oil and Gas Drilling Regulations

Guidance Notes for the Canada Oil and Gas Drilling Regulations

Canada Oil and Gas Geophysical Operations Regulations

Canada Oil and Gas Installations Regulations

Canada Oil and Gas Operations Regulations

Canada Oil and Gas Production and Conservation Regulations

Oil and Gas Spills and Debris Liability Regulations

Regulations Pursuant to the CPR Act

Frontier Lands Petroleum Royalty Regulations

Frontier Lands Registration Regulations

Guidance Notes for Applicant - Applications for Declaration of Significant Discovery and Commercial Discovery, January 1997

Regulations Pursuant to the CEA Act

Comprehensive Study List Regulations

Exclusion List Regulations

Federal Authorities Regulations

Inclusion List Regulations

Law List Regulations

Projects Outside Canada Environmental Assessment Regulations

Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements

Guide to the Preparation of a Comprehensive Study for Proponents and Responsible Authorities (May 1997)

Regulations Pursuant to the Canada Labour Code

Oil and Gas Occupational Safety and Health Regulations

Oil and Gas Occupational Safety and Health Guidance Notes (April 1992)

Safety and Health Committees and Representatives Regulations

Regulations Pursuant to the MVRM Act

Exemption List Regulations

Mackenzie Valley Land Use Regulations

Preliminary Screening Requirements Regulations

Environmental Impact Assessment in the Mackenzie Valley: Interim Guidelines

Regulations Pursuant to the Northern Pipeline Act

Northern Pipeline Notice of Objection Regulations

Northern Pipeline Socio-Economic and Environmental Terms and Conditions for Northern British Columbia

Northern Pipeline Socio-Economic and Environmental Terms and Conditions for Province of Alberta

Northern Pipeline Socio-Economic and Environmental Terms and Conditions for the Province of Saskatchewan

Northern Pipeline Socio-Economic and Environmental Terms and Conditions for Southern British Columbia

Northern Pipeline Socio-Economic and Environmental Terms and Conditions for the Swift River Portion of the Pipeline in the Province of British Columbia

Order Designating the Minister for International Trade as Minister for Purposes of the Act

Transfer of Duties, in Relation to the Pipeline, of Certain Ministers Under Certain Acts to the Member of the Queen's Privy Council for Canada Designated as Minister for Purposes of the Act

Transfer of Duties, in Relation to the Pipeline, of the National Energy Board Under Parts I, II and III of the Gas Pipeline Regulations to the designated Minister for Purposes of the Act

Transfer of Powers, Duties and Functions (Kluane National Park Reserve Lands) Order

Transfer of Powers, Duties and Functions (Territorial Lands) Order

Regulations Pursuant to the Territorial Lands Act

Canada Oil and Gas Land Regulations

Frontier Guidelines

Guidance Notes for Applicant. Applications for Declaration of Significant Discovery and Commercial Discovery. January 1997

Guidance Notes for the Canada Oil and Gas Drilling Regulations

Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands (April 1994)

Offshore Waste Treatment Guidelines (September 1996)

The Board's Mandate

Supplement II
The Board's Strategic Plan

Purpose

We promote Safety, Environmental Protection and Economic Efficiency in the Canadian public interest while respecting individuals' rights and within the mandate set by Parliament in the regulation of pipelines, energy development and trade.

Vision

We will be a respected leader in safety, environmental and economic regulation.

Values

At the NEB, we are committed to realizing our Vision by:

- Building our relationships on trust, honesty and mutual respect
- Cooperating with each other in the greater interest of the organization
- Being responsible and accountable for our actions
- Recognizing and encouraging the efforts, achievements and ideas of others
- Promoting learning, innovation and creativity
- Being open to change that enables personal and organizational growth
- Taking actions and decisions that are fair, objective and respected

Goals	Measures
NEB-regulated facilities are safe and perceived to be safe	• Maintain or improve safety performance as measured by key indicators • Maintain or improve public confidence as measured by key indicators
NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals' rights	• Maintain or improve environmental performance based on key indicators • Maintain or improve performance of environmental assessment process and routing process based on key indicators
Canadians derive the benefits of economic efficiency	• Pipeline companies' and shipper representatives' satisfaction with the environment and processes created by the Board in which issues concerning increased competition and traffic, tolls and tariffs are resolved • Shipper and pipeline company satisfaction with the level of pipeline tolls and with the range and choice of services • Board Member and external party satisfaction with Board-produced information • Maintain or improve key indicators of regulatory efficiency

Goals

The NEB meets the evolving needs of the public to engage in NEB matters

Measures

- Maintain or improve the level of public awareness of, and satisfaction with, the Board's information services and the assistance available to participants in the Board's regulatory proceedings
- Improve effective citizen engagement as measured by key indicators

Strategies

- Interact and communicate with the public to build confidence and understanding
- Collect and manage essential information
- Develop knowledge and skills and apply what we learn
- Focus efforts on results and explicitly assess risks and gaps

Supplement III Documents

Information Bulletins

The Board publishes information bulletins on the subjects listed below:

- Pipeline Route Approval Procedures
- The Public Hearing Process
- Non-Hearing Procedures
- How to Participate in a Public Hearing
- The Board's Publications
- Traffic, Tolls and Tariffs
- The National Energy Board Library
- Electricity
- Protection of the Environment
- Pipeline Tolls and Tariffs: A Compendium of Terms
- The Frontier Information Office
- Pipeline Safety
- Pipeline Regulation: An Overview for Landowners and Tenants

Major Documents Published in 1999

Pipeline Facilities

Maritimes & Northeast Pipeline Management Ltd.
Point Tupper lateral facilities, GH-4-98
Reasons for Decision, January 1999

Maritimes & Northeast Pipeline Management Ltd.
Detailed Route, MH-3-98
Decision dated 26 January 1999 on Route Objections by

- Mr. Franklin Irving
- Mr. William MacDonald

Vector Pipeline Limited Partnership
Natural Gas Pipeline, GH-5-98
Reasons for Decision, March 1999

Alliance Pipeline Ltd.
Detailed Route, MH-1-99
Decision dated 5 May 1999 on Route Objections by

- Alex and Mary Banga
- Mr. Paul Vincent Dyke
- Ms. Katherine Murphy O'Flynn

Decision dated 18 May 1999 on Route Objection by

- John and Linda Irving

Decisions dated 28 May 1999 on Route Objections by

- Ms. Margaret Cook
- Mr. Vernon Tymkow,

Alliance Pipeline Ltd.
Detailed Route, MH-2-99
Decisions dated 20 July 1999 on Route Objections by

- Mr. Bryan Ellingson
- Lloyd & Katherine Olley
- Dale & Gwen Smith

Decisions dated 29 July 1999 on Route Objections by

- Don and Linda Liland,
- Franklin and Joan Moller,
- Brian and Teresa Fast
- Peter and Levke Eggers

Maritimes & Northeast Pipeline Management Ltd.
Halifax Lateral Pipeline Project, GH-2-99
Comprehensive Study Report, July 1999

Maritimes & Northeast Pipeline Management Ltd.
Halifax lateral facilities, GH-2-99
Reasons for Decision, October 1999

Maritimes & Northeast Pipeline
Management Ltd.
Saint John lateral facilities, GH-4-99
Reasons for Decision, November 1999

Maritimes & Northeast Pipeline
Management Ltd.
GC-95 satisfaction of condition no. 22,
GH-6-96
Letter Decisions, 17 & 21 December 1999

Tolls and Tarriffs

BC Gas Utility Ltd.
Access & Tolls, RH-2-98
Reasons for Decision, March 1999

Gas Exports

Enron Capital & Trade Resources Canada Corp.,
GHW-1-99
Letter Decision, 13 May 1999

Imperial Oil Resources Limited, GH-1-99
Reasons for Decision, June 1999

ProGas Limited, GHW-2-99
Letter Decision, 20 August 1999

Electricity Facilities

Canadian Niagara Power Company Limited
Rehabilitate an International Power Line,
Letter Decision, 14 May 1999

Ontario Hydro
Alterations to International Power Line L51D
Letter Decision, 21 May 1999

Electricity Exports

British Columbia Hydro and Power Authority
Letter Decision, 6 January 1999

Cominco Ltd.
Letter Decision, 25 January 1999

Duke Energy Marketing Canada Ltd.
Letter Decision, 26 January 1999

Marketing d'Énergie HQ Inc.
Letter Decision, 23 June 1998

Constellation Power Source, Inc.
Letter Decision, 10 September 1999

Bonneville Power Administration
Letter Decision, 27 September 1999

Canadian Niagara Power Company Limited
Letter Decision, 30 September 1999

Fraser Paper Inc. (Canada)
Letter Decision, 30 September 1999

Southern Company Energy Marketing L.P.
Letter Decision, 7 October 1999

Manitoba Hydro
Letter Decision, 16 December 1999

PG&E Energy Trading - Power L.P.
Letter Decision, 16 December 1999

New Brunswick Power Corporation
Letter Decision, 22 December 1999

Frontier

Inuvialuit Petroleum Corporation
Declaration of Commercial Discovery
Ikhil Gas Field
Letter Decision, 23 June 1999

Shiha Energy Transmission Ltd., MH-4-99
Pursuant to Section 58 of the NEB Act for the
Liard pipeline project.
Preliminary Question of Jurisdiction,
Decision from the Bench, 13 October 1999

Chevron Canada Resources
Development Plan for Liard K-29 Gas Well
pursuant to subsection 5.2(2) of COGO Act
Letter Decision, 24 December 1999

Regulatory

Onshore Pipeline Regulations, 1999
23 June, 1999

Guidance Notes for the Onshore Pipeline
Regulations, 1999
7 September 1999

Other

Regulatory Agenda - January, April, July and October, 1999

National Energy Board, *1998 Annual Report*
April 1999

Annual Report Pursuant to *Access to Information Act and Privacy Act*
1 April 1998 - 31 March 1999

Canadian Energy Supply and Demand to 2025
June 1999

Short-term Natural Gas Deliverability from the Western Canada Sedimentary Basin 1998-2001
September 1999

Natural Gas Resource Assessment Northeast British Columbia - Working Document - January 1994 (revised November 1999)

Supplement IV
Legal Proceedings

Applicants	Applications	Decisions
Rocky Mountain Ecosystem Coalition (RMEC) (Application dated 17 September 1998)	***National Energy Board*** An application for review by the Board was filed by RMEC. The Applicant sought review of all of the Board's decisions as a responsible authority under the Canada Environmental Assessment Act in respect to the environmental scoping of the Alliance Pipeline Project.	On 1 October 1998, the Board dismissed the application for review.
(Applications served 11 January 1999)	***Federal Court Trial Division*** Two judicial review applications were filed; one seeking an order of mandamus in respect of the environmental assessment required under the Canadian Environmental Assessment Act and one seeking to quash the Board's decision on the basis of natural justice. A motion to dismiss both applications was heard on 5 July 1999.	One application was dismissed as a result of the 5 July 1999 motion and the other directed to be transferred to the Federal Court of Appeal. This latter application was abandoned by the Applicant in November 1999.
Union Gas Limited v National Energy Board (Application dated 5 May 1998)	***Federal Court of Appeal*** An application for judicial review was filed in the Federal Court of Appeal in which an order of mandamus was sought from the Court to compel the Board to provide additional reasons for its GH-1-97 Decision concerning tolling methodology for the Trans Québec & Maritimes Pipeline Inc. (TQM) - PNGTS Extension.	On January 25, 1999 the application for judicial review was wholly discontinued without costs by Union Gas Limited.
Alberta Department of Energy v Northstar Energy Corporation Ltd. (Application dated 25 May 1998)	***Federal Court of Appeal*** An Application for Leave to Appeal a Board ruling on jurisdiction and a subsequent final decision of the Board which authorized Northstar Energy Corporation to construct and operate an extra-provincial pipeline was filed in 1998. The grounds for the application were that the Board had no jurisdiction to authorize a pipeline which extended slightly beyond the boundaries of the Province of Alberta.	The Federal Court granted the leave to appeal and stayed the Board's GH-1-98 Decision. An appeal was subsequently filed by the Province of Alberta. At the end of 1999 this appeal had not been heard.
Canadian Hunter Exploration Ltd. v National Energy Board et al (Application dated August 22, 1996)	***Federal Court of Appeal*** An Application for Leave to Appeal dated 22 August 1996 was lodged by Canadian Hunter Exploration Ltd. The application challenged a decision of the Board which granted a section 58 exemption order for the construction and operation of an extra-provincial pipeline but which also	The appeal was allowed and the order of the Board set aside.

	directed that upstream facilities that were formerly under the jurisdiction of the Province be brought under the jurisdiction of the Board. Leave to Appeal was granted 6 November 1996 and an appeal was subsequently filed. The matter was set down for hearing in Vancouver for 15 March 1999.	
Alliance Pipeline Project - Detailed Route Hearing - MH-1-99 and MH-2-98 - Mr. Vernon Smith	***National Energy Board*** On 12 March 1999, the Board decided on its own motion to review its decision regarding Order GPL-A-159-2-99 dated 11 February 1999 approving some plans, profiles and books of reference for the Alliance Pipeline Project. The Board decided to review its decision because it inadvertently did not consider a proposed alternate route submitted by Mr. Vernon Smith in his objection received by the Board on 9 January 1999. This in the view of the Board raised a doubt as to the correctness of its decision in approving some plans, profiles and books of reference. The Board provided Alliance Pipeline Ltd., Mr. Vernon Smith and intervenors in Mr. Smith's upcoming detailed route hearing with the opportunity to file submissions in respect of the merits of the review.	On 31 March 1999, the Board upheld its decision to approve the plans, profiles and books of reference in question.
Maritimes & Northeast Pipeline Management Ltd. (M&NP) - Detailed Route Hearing MH-3-98 - Ms. Shelagh Lynch	***National Energy Board*** On 4 February 1999, Ms. Shelagh Lynch applied for a review and stay of the Board's decision regarding the detailed route hearing the Board held in the matter of M&NP's pipeline in the Maritimes. During the MH-3-98 detailed route hearing, Ms. Lynch expressed concerns over the proximity of M&NP's proposed route to a wetland associated with a beaver pond on her property. Ms. Lynch proposed an alternate route which took the pipeline route outside the one kilometre wide corridor which was approved at the certificate hearing. During the detailed route hearing, the Board heard Ms. Lynch's objection and listened to her evidence on the alternate route but approved the proposed detailed route of M&NP as being the best possible route. However, in its decision the Board required M&NP to prepare and file a site report of the beaver pond and surrounding area of the Lynch and Hughes/Morrigan properties to determine whether a wetland as described in the Environmental Impact Assessment was present. If a wetland were found to exist, M&NP was also required to provide a site specific monitoring and mitigation plan for the wetland. Both those reports were filed by M&NP.	On 31 March 1999, the Board decided, after review of all submissions, that no prima facie case had been made to cast a doubt as to the correctness of the Board's findings in MH-3-98 decision. Therefore, the Board denied the application for review and stay of the MH-3-98 decision.

British Columbia Wildlife Federation and The Steelhead Society of British Columbia v. British Columbia Hydro and Power Authority (Application dated 4 February 1999)	The Applicants filed an application for leave to appeal the 6 January 1999 decision of the Board. Leave to appeal was granted and a Notice of Appeal served on the Board on 19 May 1999.	At the end of 1999 this case had yet to be heard by the Court.
Athabasca Chipewyan First Nation v. British Columbia Hydro and Power Authority (Application dated 5 February 1999)	The Applicants filed an application for leave to appeal the 6 January 1999 decision of the Board. Leave to appeal was granted and a Notice of Appeal served on the Board on 1 June 1999.	At the end of 1999 this case had yet to be heard by the Court.
Vernon Smith v. Alliance Pipeline Limited and the National Energy Board (Application served 4 May 1999)	An application for leave to appeal a letter decision of the Board dated 13 March 199 was filed by the Applicant. A stay of the detailed route hearing was also sought pending the outcome of the appeal.	The application was discontinued by the Applicant in June 1999.
Union of Nova Scotia Indians et al v Maritimes and Northeast Pipeline Management Ltd. et al (Application dated 16 November 1998)	***Federal Court of Appeal*** The Applicants filed an application for judicial review in respect of a decision of the Board which declared that Maritimes & Northeast Pipeline had satisfied a condition pertaining to aboriginal roles and responsibilities contained in a Certificate of Public Convenience and Necessity issued to the company. On 19 November 1998, the Applicants filed a motion for an Order deeming the judicial review application to be an Application for Leave to Appeal. On 22 February 1999 the Court decided that the application for judicial review was properly filed because the Union of Nova Scotia Indians was not a party to the proceeding which resulted in the decision of the Board concerning the satisfaction of Condition No. 22 of Certificate GC-95. As a result, the Union of Nova Scotia Indians lacked standing to appeal the Board decision. The case was heard in Ottawa on 19 and 20 October 1999.	The Court quashed the Board decision in its judgment rendered 20 October 1999.
Maritimes & Northeast Pipeline Management Ltd. et al v. Union of Nova Scotia Indians et al (Application dated 21 April 1999)	***Supreme Court of Canada*** Maritimes & Northeast Pipeline filed an application for leave to appeal from the 22 February 1999 decision of the Federal Court of Appeal which confirmed the validity of the application for judicial review filed by the Union of Nova Scotia Indians.	At the end of 1999 this application had yet to be heard by the Court.
Alliance Pipeline Ltd. - Mr. Joe and Ms Lil Bokenfohr - Right of Entry Orders (Filed 3200-A159-1-16 and 3200-A159-1-17	***National Energy Board*** On 17 September 1999, the Board denied requests for review filed by counsel for Mr. Joe and Ms. Lil Brokenfohr of the Board's decision of 16 July 1999 regarding certain right of entry (ROE) orders with respect to the Alliance Pipeline Project.	On 26 August 1999, the Board decided to seek comments from the parties on whether counsel for the Bokenfohrs application for

On 30 June 1999, the Board issued ROE orders for the properties of Joe Bokenfohr and Joe and Lil Bokenfohr, two different but adjacent tracts. The Board, in reaching its decision to issue ROE orders, inadvertently overlooked a letter from Mr. Bokenfohr. As a result, on 6 July 1999, the Board decided to conduct a review of its original decision and wrote to Alliance asking for its submissions in relation to the letter of Mr. Bokenfohr and as well its affidavits of service in relation to the lands in question for its sections 87 and 34 notices. Mr. Bokenfohr was then given until 8 July 1999 to file a response.

The Board considered the applications of Alliance for the ROE orders and the submissions of Mr. Bokenfohr. On 16 July 1999, the Board determined it was proper and in the public interest to grant the ROE orders in relation to the properties in question. It affirmed the original orders and lifted the stay of those orders imposed on 6 July 1999.

By letter dated 3 August 1999, counsel for the Bokenfohrs requested that the Board "review and amend the Bokenfohr right of entry orders to reflect a schedule such as that which Alliance has agreed to in its other applications where I have filed objections." In a letter dated 23 August 1999, counsel for the Bokenfohrs wrote to the Board respecting the problems arising from the construction of the right of way on Mr. Bokenfohr's land and declared that "One thing the Board ought to do immediately in Mr. Bokenfohr's case is amend the right of entry order to get rid of the two year 'temporary' classification of working area where much of the damage has been done. Alliance should be responsible for this area indefinitely."

review of 3 August 1999 and the reference to an amendment to the ROE orders in the 23 August 1999 letter raised a doubt as to the correctness of the Board's 16 July 1999 decision. In September the Board dismissed the review application but directed that an erratum issue in respect of the original order.

Assembly of Nova Scotia Mi'kmaq Chiefs, Union of Nova Scotia Indians and the Confederacy of Mainline Mi'kmaq (NSMC et al) - Maritimes & Northeast Pipeline Management Ltd. - Halifax Lateral (File 3200-M124-3

National Energy Board

On 12 November 1999, the NSMC et al. requested that the Board review its decision in respect of Conditions 20 and 21 of the proposed certificate for the construction of the Halifax Lateral.

Condition 20 of the Halifax Lateral certificate concerns negotiations between M&NP and the Assembly of Nova Scotia Mi'kmaq Chiefs regarding the process for consultations and input of the Assembly with respect to the construction of the project. Counsel for the NSMC et al. was concerned about the wording "construction of the project" in Condition 20 and questioned whether the omission of "the pipeline construction and operation" in the certificate was inadvertent.

As a result of the matters outlined above, the Board decided that it was not prepared to proceed with the request for a review. However, since the Board has not made any substantive decision regarding the application, should the NSMC et al. decide to re-file a request for review in accordance with section 44 of the Rules, the Board would be willing to consider the application at that time.

Counsel for the NSMC et al. was also concerned that the time allotted for good faith negotiations to take place was too short.

On 23 November 1999, the Board advised the NSMC et al. that it had re-designated the original hearing panel and referred to that panel for its review the NSMC et al. suggestion that the Board's limited terminology in Condition 20 may have been inadvertent. The panel reported to the Board that the omission from Condition 20 of the words "operation and decommissioning" was not inadvertent.

On the same date, the Board also advised the NSMC et al. that in their submission the Board noted that it appears that they may have other submissions in regard to Condition 20 and they had not made any submissions in the text of their letter on Condition 21. The Board stated that it was unclear as to whether or not the NSMC et al. were requesting a review of Condition 21. The Board further noted that the application for review is not in conformity with section 44 of the National Energy Board Rules of Practice and Procedure, 1995 (the Rules) which sets out the requirements for an application for review pursuant to subsection 21(1) of the NEB Act.

Heartland Resources Inc. (Heartland) - Mobil Oil Canada Ltd. (Mobil) - Goldboro Gas Plant (File 3200-M122-1-1

National Energy Board

On 30 November 1999, the Board dismissed an application from Heartland seeking a review of Mobil's application dated 15 January 1998 and the Board's decision regarding an exemption from filing the Plan, Profile and Book of Reference regarding the construction of the slugcatcher and the gas plant at Goldboro, Nova Scotia. The exemption had the effect of allowing the construction of the project without the necessity of a detailed route hearing process.

In its application, Heartland stated that by virtue of its mineral exploration licence it had an interest in the subject lands, but had not received notice of the application for exemption. Heartland's position was that Mobil's failure to give notice, deprived Heartland of its rights under the National Energy Board Act.

The Board noted that Heartland has not previously sought a review or any other remedy from the Board either before or during construction, despite being aware of the intended location of the plant since 17 March 1998. Mobil has acted on the order and has completed its project. Therefore, the Board was of the view that the questions raised in Heartland's application had been rendered moot by the passage of time and the construction of the gas plant. As a result, the Board has decided to dismiss Heartland's application for review.

Supplement V
Companies Regulated by the NEB

The following is a list of the pipeline companies and electric power entities which own or operate interprovincial or international pipelines or power lines under the Board's jurisdiction. The pipeline companies have been divided into two groups. Group 1 Gas and Oil Pipelines are the major pipeline companies which are subject to active regulatory oversight by the National Energy Board. Group 2 consists of all other pipeline companies under the Board's jurisdiction.

For purposes of cost recovery, there are three classifications: large, intermediate and small. The criteria for determining a company's classification is based on its size, throughput and cost of service.

Group 1 Gas Pipelines

TransCanada PipeLines Limited, B.C. System

Alliance Pipeline Ltd.

Foothills Pipe Lines Ltd.

Maritimes and Northeast Pipeline Management Ltd.

TransCanada PipeLines Limited

Trans Québec & Maritimes Pipeline Inc.

Westcoast Energy Inc.

Group 1 Oil and Products Pipelines

Cochin Pipe Lines Ltd.

Enbridge Pipelines Inc. (formerly Interprovincial Pipe Line Ltd.)

Enbridge Pipelines (NW) Inc. (formerly Interprovincial Pipe Line (NW) Ltd.)

Trans Mountain Pipe Line Company Ltd.

Trans-Northern Pipelines Inc.

Group 2 Gas Pipelines

AEC Suffield Gas Pipeline Inc.

Bellator Exploration Inc.

Burlington Resources Canada Energy Ltd.

Canadian Hunter Exploration Ltd.

Canadian-Montana Pipe Line Company

Canadian Natural Resources Ltd.

Canor Energy Ltd.

Centra Transmission Holdings Inc.

Champion Pipe Line Corporation Limited

Chauvco Resources Ltd

Chief Mountain Gas Co-op Ltd.

Consumers' Gas (Canada) Limited

Cube Energy Corp.

Devon Energy Corp.

ELAN Energy Inc.

Fletcher Challenge Energy Canada Inc.

Forty Mile Gas Co-op Ltd.

Gibson Petroleum Co. Ltd.

Huntingdon International Pipeline Corporation

Husky Oil Operations Ltd.

Interenergy Sheffield Processing Company (Canada) Ltd.

Many Islands Pipe Lines (Canada) Limited

Mid-Continent Pipelines Limited

Minell Pipeline Ltd.

Mobil Oil Canada Ltd.

Murphy Oil Company Ltd. (gas and oil pipelines)

Niagara Gas Transmission Limited

Northstar Energy Corporation

Novagas Canada Pipelines Ltd. (formerly Novagas Clearinghouse Pipelines Ltd.)

Olympia Energy Inc.
Peace River Transmission Company Limited
Penn West Petroleum Ltd.
Petrorep Resources Ltd.
Portal Municipal Gas Company Canada Inc.
Quest Oil and Gas Ltd.
Renaissance Energy Ltd. (gas and oil pipelines)
Revenue Canada Customs and Excise
Rigel Oil and Gas Ltd.
St. Clair Pipelines Ltd.
Stampeder Exploration Ltd.
Suprex Energy Corporation
Talisman Energy Inc
Tidal Resources Inc.
Union Gas Limited
Wascana Energy Inc.
177293 Canada Ltd.
661151 Alberta Ltd.

Group 2 Oil and Products Pipelines

Amoco Canada Petroleum Company Ltd.
Aurora Pipe Line Company
Dome Kerrobert Pipeline Ltd. and Pan Canadian Kerrobert Pipeline Ltd.
Dome NGL Pipeline Ltd.
Dome NGL Pipeline Ltd. and Amoco Canada Petroleum Company Ltd.
Enbridge Pipelines (Westpur) Inc. (formerly Westspur Pipe Line Company Inc.)
Ethane Shippers Joint Venture
Express Pipeline Ltd.
Federated Pipe Lines (Northern) Ltd.
Genesis Pipeline Canada Ltd.
Husky Oil Operations Ltd.
Imperial Oil Resources Limited
ISH Energy Ltd.
Joint Ventures of the Bi-Provincial Upgrader
Manito Pipelines Ltd.
Montreal Pipe Line Limited
Nevis Ltd.
Northwest Transmission Company Limited
Novacor Chemicals (Canada) Ltd.
Petroleum Transmission Company
Pioneer Natural Resources Canada Inc.
Pouce Coupé, Pipe Line Ltd.
PrimeWest Energy Inc.
Rigel Oil and Gas Ltd.
SCL Pipeline Inc.
Sun-Canadian Pipe Line Company Limited
Wascana Pipe Line Ltd.

Commodity Pipelines

E. B. Eddy Forest Products Ltd.
Fraser Inc.
Genesis Pipeline Canada Ltd.
Penn West Petroleum Ltd.
Souris Valley Pipeline Limited
Stone Consolidated Corporation

Electric Power Utilities and Others

British Columbia Hydro and Power Authority
Canadian Niagara Power Inc.
The Canadian Transit Company
Cominco Ltd
Cornwall Electric
The Detroit and Windsor Subway Company
Farms (including cottage and isolated loads)
Fraser Paper Inc.(Canada)
Hydro-Québec
Lac La Croix Power Authority
Maine and New Brunswick. Electrical Power Co.
Manitoba Hydro
New Brunswick Power Corporation
Ontario Hydro Company Services Inc.
Ontario Power Generation Inc.
PDI Canada Inc.
Roseau Electric Cooperative Inc.
Saskatchewan Power Corporation
St. Clair Tunnel Company
Stone-Consolidated Corporation
West Kootenay Power Ltd.

Supplement VI
Cooperation with Other Organizations

The Board cooperates with other agencies, to reduce regulatory overlap and provide more efficient regulatory services. In addition, the Board provides assistance to other countries who seek to benefit from the Board's long experience and success as a leading regulatory agency.

Natural Resources Canada (NRCan)

In 1996, the Board signed a Memorandum of Understanding (MOU) with NRCan to reduce duplication and increase cooperation between the agencies. This MOU covers items such as data collection, the enhancement of energy models and special studies. The MOU was renewed in January 2000.

Canadian Environmental Assessment Agency (CEAA)

The Board has been working with the CEAA over the past year to develop a new process to reduce regulatory uncertainty for projects requiring a Comprehensive Study Report. Two pilot projects were undertaken using the new process, and further public consultation is expected in the coming year.

Northern Pipeline Agency (NPA)

The Board provides technical and administrative assistance to the NPA, which, pursuant to the *Northern Pipeline Act*, has primary responsibility for overseeing the planning and construction of the Canadian portion of the proposed Alaska Natural Gas Transportation System by Foothills Pipe Lines Ltd.. Mr. Kenneth W. Vollman, Chairman, serves as Administrator and Designated Officer of the NPA.

Transportation Safety Board of Canada (TSB)

While the Board has exclusive responsibility for regulating the safety of oil and gas pipelines under federal jurisdiction, it shares the responsibility for investigating pipeline incidents with the TSB. The roles and responsibilities of each body with regard to pipeline accident investigations are outlined in a MOU between the two Boards.

Yukon Territory Department of Economic Development (DED)

The Board continues to work with Yukon officials to facilitate the transfer of oil and gas regulatory responsibilities in accordance with the Yukon Accord Implementation Agreement. The Board provides expert technical advice to the DED.

Alberta Energy and Utilities Board (AEUB)

The Board has an MOU with the AEUB on Pipeline Incident Response. The agreement provides for mutual assistance and a faster and more effective response by both boards to pipeline incidents in Alberta.

During 1999, the Board continued its involvement in a Pipeline Task Force with the AEUB. The purpose of this task force is to develop consistent and compatible regulatory requirements. It is expected that this process will result in more efficient use of organizational resources, leading to a reduced regulatory burden on both the pipeline industry and the public.

The Board and the AEUB maintained their commitment to using the common reserves database

for oil and gas reserves in Alberta. Both Boards are committed to developing more efficient methods for maintaining estimates of reserves and to exploring other opportunities for cooperation.

Canada-Newfoundland Offshore Petroleum Board (C-NOPB) and Canada-Nova Scotia Offshore Petroleum Board (CNSOPB)

The Chairs of the NEB, the C-NOPB, and the CNSOPB together with executives from Newfoundland and Nova Scotia Departments of Energy and NRCan, form the Oil and Gas Administrators Advisory Council (OGAAC). The OGAAC membership discuss and decide on horizontal issues affecting their respective organizations to ensure harmonization and a common approach on oil and gas exploration and production issues across Canada. The NEB, C-NOPB, and CNSOPB staff also work together to review, update and amend regulations and guidelines affecting oil and gas activities on Accord Lands.

The NEB's staff also provides technical expertise to NRCan, C-NOPB, and CNSOPB on technical matters of mutual interest, such as reservoir assessment, occupational safety and health, diving, drilling and production activities. Two CNSOPB staff also served as NEB Inspection Officers during the construction of the offshore portion of the Sable Offshore Energy Project pipeline from the Thebaud platform to the Goldboro gas plant.

Human Resources Development Canada (HRDC)

The Board has an MOU with HRDC to administer the Canada Labour Code for NEB-regulated facilities and activities and to coordinate these safety responsibilities under the COGO Act and the NEB Act.

Ontario Energy Board (OEB)

The Board is continuing joint development of its ERF initiative with the OEB and key participants from the regulatory community. This joint development will ensure that regulatory participants who deal with both Boards will see a consistent approach in the electronic filing and retrieval of regulatory documents.

Saskatchewan Department of Energy and Mines (SEM)

The Board and the SEM have worked together on some resource issues, but a formal agreement has not been signed.

Nova Scotia and Newfoundland

The Board has an MOU with NRCan by which the Board provides advice and assistance to NRCan and the provinces of Newfoundland and Nova Scotia in drafting federal and provincial versions of regulations which pertain to the offshore areas under joint resource management accords.

British Columbia Ministry of Energy and Mines (MEM)

The Board and MEM maintained their commitment to using a common reserves database for oil and gas reserves in British Columbia. Both boards are committed to developing more efficient methods for maintaining estimates of reserves and to exploring other opportunities for cooperation.

Canadian Association of Members of Public Utility Tribunals (CAMPUT)

During 1999, Board members and staff played a leading role in organizing and speaking at CAMPUT conferences, including the forthcoming May 2000 International Forum on Energy Regulation. Members and staff also sat on the executive committee of the Association, promoting the education and training of members and staff of public utility tribunals.

National Association of Regulatory Utility Commissioners (NARUC)

Board members regularly participate in meetings of the U.S. NARUC, particularly with respect to

developments in U.S. gas markets that may affect cross-border trade in natural gas.

Cooperation with Other Countries

During 1999, the Board cooperated with several foreign countries by providing information on the Board's regulatory role and other energy-related matters. Consultations were held with the U.S. Federal Energy Regulatory Commission and the Comisión Reguladora de Energía of Mexico, as well as with visiting officials from Australia, China, Columbia, England, Japan, Peru and Russia.

The Board also participated in a World Bank seminar on regulation and on the Energy Regulators Forum within the Asia Pacific Economic Cooperation initiative, comprised of 18 member countries on the Pacific Rim dedicated to improving economic ties.

The Board participated in a project with the Canadian Institute of Resources Law which worked on the revision of oil and natural gas reserves definitions in the Federation of Russia. There is a desire within Russia to more closely align the Russian definitions and methodologies with the common practices of the west, Canada and the United States in particular. This work continues.

Supplement VII
List of Appendices

The following Statistical Reports are published separately as Appendices to the *Annual Report*. Electronic copies can be found on the Board's Web site and printed versions are available from the Publications Office call (403) 299-3562 or 1-800-899-1265, send a facsimile to (403) 292-5503 or visit the Board's Web site (www.neb.gc.ca).

Appendix A

A1 Crude Oil and Equivalent Supply and Disposition

A2 Estimated Established Reserves of Crude Oil and Bitumen at 31 December 1998

A3 Natural Gas Supply and Disposition

A4 Estimated Established Reserves of Marketable Natural Gas at 31 December 1998

A5 Natural Gas Liquids Supply and Disposition

A6 Geophysical Activity

A7 Exploration and Development Expenditures

A8 Sales of Exploration Rights in Western Canada

A9 Sales of Exploration Rights in Frontier Regions

A10 Electricity Generation and Disposition

Appendix B

B1 Orders Issued During 1999 Approving Oil Pipeline Facilities Including Pipeline Construction Not Exceeding 40 Kilometres in Length

B2 Exports of Canadian Crude Oil and Equivalent - 1998 and 1999

B3 Exports of Canadian Crude Oil and Equivalent - 1995 to 1999

B4 Exports of Petroleum Products by Month - 1999

B5 Exports of Petroleum Products by Company - 1998 and 1999

Appendix C

C1 Certificates Issued During 1999 Approving the Construction of New Gas Pipelines Exceeding 40 Kilometres in Length

C2 Orders Issued During 1999 Approving Gas Pipeline Construction not Exceeding 40 Kilometres in Length

C3 Licences and Long-Term Orders to Export Natural Gas as at 31 December 1999

C4 Licences and Long-Term Orders to Import Natural Gas as at 31 December 1999

C5 Natural Gas Exports by Export Point, 1995 to 1999

C6 Total Net Exports of Propane and Butanes, 1998 and 1999

Appendix D

D1 Financial Information - Group 1 Oil Pipeline Companies with Multi-year Incentive Toll Agreements

D2 Financial Information - Group 1 Oil Pipelines with Tolls based on Cost of Service

D3 Financial Information - Group 1 Gas Pipeline Companies

Appendix E

E1 Certificates and Permits Issued During 1999 for International Power Lines

E2 Amending Orders Issued During 1999 for International Power Lines

E3 Revoking Orders Issued During 1999 for International Power Lines

E4 Licences Issued During 1999 for the Export of Electricity

E5 Permits and Orders Issued During 1999 for the Export of Electricity

E6 Electricity Exports - 1999

E7 Electricity Trade Between Canada and the United States - 1999 (by Province)

E8 Electricity Trade between Canada and the United States - 1999 (by American Region/State)

Supplement VIII
Metric Conversion Table

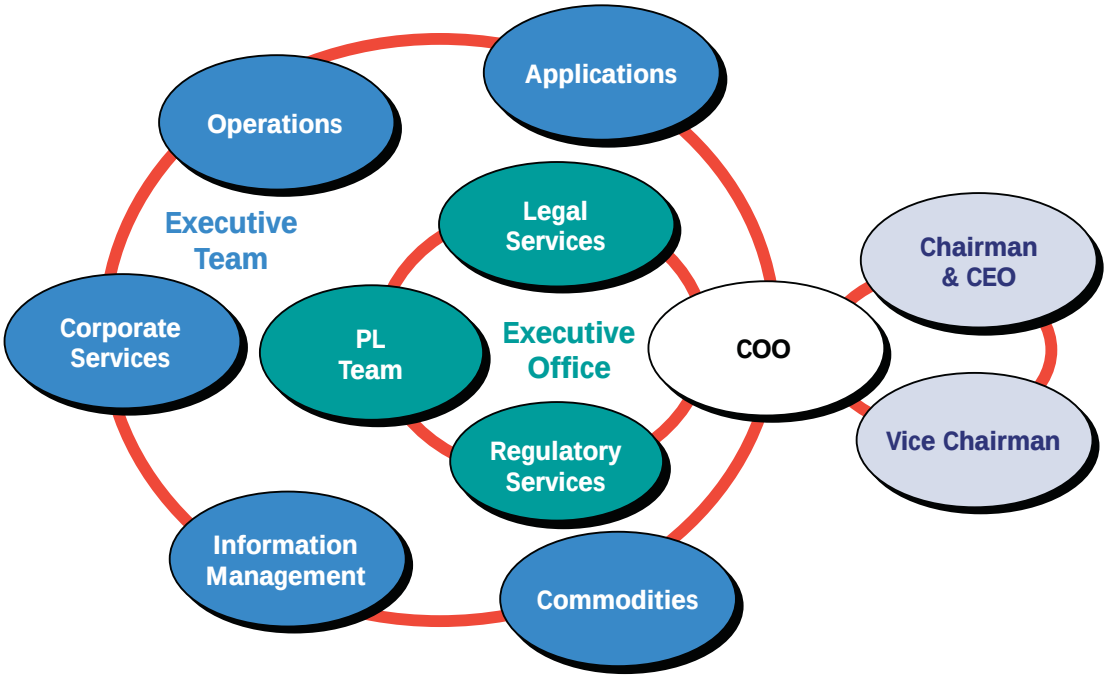
The Board uses the International System of Units. The energy content of a 30-litre tank of gasoline is approximately one gigajoule. A petajoule is one million gigajoules. On average, Canada consumes about one petajoule of energy for all uses (heat, light and transportation) every 50 minutes.

The following conversion table is provided for the convenience of readers who may be more familiar with the Imperial System.

Approximate Conversion Factor

metre	=	3.28 feet
kilometre	=	0.62 mile
hectare	=	2.47 acres
cubic metre of oil	=	6.3 barrels
cubic metre of natural gas	=	35.3 cubic feet
gigajoule	=	0.95 thousand cubic feet of natural gas at 1 000 Btu per cubic foot or 0.165 barrels of oil, or 0.28 megawatt hours of electricity
gigajoule	=	10^9 joules
petajoule	=	10^{15} joules
gigawatt hour	=	10^6 kilowatt hours
terawatt hour	=	10^9 kilowatt hours

NEB Organization



Senior Board Staff

Gaétan Caron	Chief Operating Officer
Judith Hanebury	General Counsel
Brenda Kenny	Business Leader, Applications
Terrance Rochefort	Business Leader, Commodities
John McCarthy	Business Leader, Operations
Byron Goodall	Business Leader, Information Management
Valerie Katarey	Business Leader, Corporate Services
Michel Mantha	Secretary of the Board
Glenn Booth	Professional Leader, Economics
Bonnie Gray	Professional Leader, Environment
Frank Gareau	Professional Leader, Engineering

Business Unit Responsibilities

The Board is structured into five business units, reflecting major areas of activity: Applications, Operations, Commodities, Information Management and Corporate Services. Three other units, Legal Services, Professional Leadership and Regulatory Services provide specialized services to the five business units.

Unit Descriptions

Applications

The Applications Business Unit is responsible for the processing and assessment of regulatory applications submitted under the NEB Act. These fall primarily under Parts III, IV and VI of the Act, corresponding to facilities, tolls and tariffs and export applications. The Applications Unit is also responsible for the financial surveillance and audits of NEB-regulated pipelines. The Business Leader of Applications is accountable for this Unit.

Commodities

The Commodities Business Unit is responsible for assisting the Board in fulfilling its mandate through energy industry and marketplace surveillance, including the outlook for the demand and supply of energy commodities in Canada, the updating of guidelines, and regulations relating to energy exports as prescribed by Part VI of the NEB Act. It is also responsible for the disposition of applications for short-term exports of gas, oil and natural gas liquids, imports of natural gas and the disposition of applications concerning electricity exports and international power lines. The Business Leader of Commodities is accountable for this Unit.

Operations

The Operations Business Unit is accountable for safety and environmental matters pertaining to facilities under the NEB Act, the COGO Act and the CPR Act. It conducts safety and environmental inspections and audits, investigates accidents, monitors emergency response procedures, regulates the development of hydrocarbon resources in non-accord frontier lands, and develops regulations and guidelines with respect to the above. The Business Leader of Operations is accountable for this Unit.

Corporate Services

The Corporate Services Business Unit is responsible for providing those services necessary to assist the Board in its management of human, material and financial resources. The Business Leader of Corporate Services is accountable for this Unit.

Information Management

The Information Management Business Unit is responsible for developing and implementing an information management strategy for the Board and disseminates the information required by external stakeholders. The Business Leader of Information Management is accountable for this Unit.

Legal Services

The Legal Services Team provides legal advice for both regulatory and management purposes. General Counsel is accountable for this Team.

Professional Leadership Team

The Professional Leadership Team has the responsibility for maintaining and enhancing technical expertise within the Board in the economic, environment, and engineering fields. Each of the three leaders is accountable for his or her respective professional field.

Regulatory Services

The Regulatory Services Team provides high-level administrative and regulatory support. The Secretary of the Board is accountable for this Team.

Kenneth W. Vollman, Chairman

Mr. Vollman has spent his entire career in the energy field. He moved from the private sector to the Board in 1973 and worked in a variety of increasingly responsible staff and management positions. He was designated as Chairman in 1998 after serving as a Member and Vice-Chairman.

Mr. Vollman holds a Master of Science degree in Mechanical Engineering from the University of Saskatchewan.

Judith A. Snider, Vice-Chairman

Ms. Snider has held positions at the law firms of Macleod Dixon and Code Hunter, joining the partnership of the latter in 1987. In 1992, she became General Counsel of the Board.

Ms. Snider holds a Bachelor of Science degree in Mathematics from Carleton University and a Bachelor of Laws degree from the University of Calgary. She is a member of the Alberta bar.

- On 3 December 1999, Kenneth W. Vollman was re-appointed as Chairman of the Board for a seven-year term.
- On 29 July 1999, Judith A. Snider was appointed Vice-Chairman of the Board.
- On 26 January 1999, Jean-Paul Théoret was appointed a Member for a term of seven years.
- On 29 July 1999, Elizabeth Quarshie, Deborah W. Emes and Carmen L. Dybwad, were appointed Members for a term of seven years.
- On 31 March 1999, Anita Côté-Verhaaf retired from the Board.
- On 28 May 1999, Diana Valiela resigned from the Board.
- C. Mervin Ozirny was reappointed temporary Board Member until 30 November 1999. Mr. Ozirny had been a temporary Board Member since 31 October 1997.
- On 8 December 1999, Henry A. Regier was appointed a temporary Board Member for the Joint Panel Review of the Canadian Millennium Pipeline Project.
- On 25 May 1999, Paul Trudel was appointed a temporary Board Member for a period of 60 days.
- On 27 August 1999, Gaétan Caron completed a two-year term as a temporary Board Member

Rowland J. Harrison

Mr. Harrison has extensive experience as an advisor on energy regulation to provincial, territorial, federal and foreign governments. He has been Professor of Law at the University of Ottawa, Dalhousie University, the University of Calgary and the University of Alberta. Most recently, he was a partner in the Calgary office of Stikeman, Elliott, a national and international Canadian law firm.

Mr. Harrison holds a Bachelor of Laws Degree from the University of Tasmania, Australia and a Master of Laws degree from the University of Alberta. He is a member of the bars of Nova Scotia, Ontario and Alberta.

John S. Bulger

Dr. Bulger held the position of Senior Manager, Regulatory Affairs, at Maritimes and Northeast Pipeline in Halifax, Nova Scotia. From 1995 to 1997, he worked as a private consultant on key energy issues in Canada and abroad. Prior to 1995, he held positions with Gaz Métropolitain and DuPont of Canada in Montreal.

Dr. Bulger received his Bachelor of Science from McGill University and his Ph.D. in Physical Chemistry from York University. He holds a graduate diploma in Business from McGill University.

Jean-Paul Théorêt

Since 1990, Mr. Théorêt had been a Commissioner of the Régie de l'énergie, previously the Régie du gaz naturel du Québec. From 1985 to 1989, he was also a Member of the National Assembly, Parliamentary Assistant to the Minister of Industry, Trade and Technology and Vice-Chairman of the Committee on Labour and the Economy in the National Assembly.

Mr. Théorêt studied economics at Cornell University and law at the University of Montreal.

Elizabeth (Liz) Quarshie

Ms. Quarshie held various senior management positions at Cogema Resources, Inc. in Saskatoon, Saskatchewan. Her last position was Director of Compliance, Audit and Evaluation.

Ms. Quarshie holds a graduate degree in Environmental Engineering from Washington State University and is a Member of the Association of Professional Engineers and Geoscientists of Saskatchewan. In addition, she is a Certified Professional Environmental Auditor.

Deborah W. Emes

Ms. Emes was Manager, Strategic Services for the British Columbia Utilities Commission, where she worked from 1990 to 1999. Prior to joining the BCUC, she held positions as an economist in both the private and public sectors.

Ms. Emes received her Bachelor of Arts degree in Economics from the University of Saskatchewan and her Master of Arts degree in Economics from the University of Calgary. In addition, she is a Chartered Financial Analyst.

Carmen L. Dybwad

Dr. Dybwad has held several senior positions with both the Saskatchewan Power Corporation and the Government of Saskatchewan. Most recently she was an assistant professor at the University of Regina where she taught economics and public administration.

Dr. Dybwad holds a Ph.D. in Planning from the University of Waterloo and a Master of Arts and Bachelor of Arts degrees in Economics from the University of Regina.

Anita Côté-Verhaaf

Mrs. Côté-Verhaaf held various positions at Gaz Métropolitain, Inc., the last of which was Executive Advisor, Regulatory Affairs. Previously she held positions at Lavalin-Econosult inc., and the Research Centre for Economic Development at the University of Montreal.

Mrs. Côté-Verhaaf earned her Master of Science degree in Economics at the University of Montreal.

Diana Valiela

Dr. Valiela had extensive experience in ecology and specialized expertise in environmental and natural resources law. Prior to joining the Board, she practiced law with the firm of Lawson Lundell Lawson & McIntosh. Previously, she was the owner and manager of an environmental science and management consulting firm, and head of the Environmental Quality Objectives Division in Environment Canada's Pacific and Yukon Regional Offices.

Dr. Valiela earned her Bachelor of Arts in Biological Sciences from Rutgers University, a Master's and Ph.D. in Zoology from Duke University, and a Bachelor of Laws degree from the University of British Columbia.

Canada