

THE REFORMS IN MARINE PILOTAGE - HAVE THEY SUCCEEDED?

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I. Introduction

Ocean shipping involves the use of numerous other services, one of which is marine pilotage. Marine pilotage is the conduct of ships through unique bodies of water by qualified officers who have acquired specialized knowledge of these local waters. Pilotage in Canada is governed by the *Pilotage Act* of 1972 which provides for the establishment of four pilotage authorities in Canada. These Crown corporations have the responsibility of establishing, operating and administering efficient pilotage services in their respective regions in Canada in the interests of safety. The excessive pilotage costs of the pilotage system led to amendments in 1998 to the *Pilotage Act*.

The basic purpose of this paper is to review whether the amendments in the *Pilotage Act* have had a beneficial effect on the pilotage industry. Section II briefly describes marine pilotage services in Canada. Section III reviews the *Pilotage Act* and regulations, the 1998 Amendments, and the Ministerial and Panel Reviews. Section IV examines whether the proposed reforms have succeeded. Section V reviews the developments after 2006. Finally, a few concluding remarks are made.

II. Brief Description of Marine Pilotage Service in Canada

A) *Pilotage Service:* Pilotage service developed because ports and bodies of water are unique, each with unique hazards. To circumvent these hazards, a pilot is used to guide the vessels throughout these waters. This practice of using pilots is not unique to Canadian waters but also occurs in most parts of the world. A 'river pilot' is a term used for pilots in river channels and approaches to ports. 'Lake pilots' are used in open waters and ports in undesignated waters. Pilotage service also includes related services.

B) *The Structure of Marine Pilotage Service:*

i) Pilotage Regions:

There are four pilotage regions in Canada - the Great Lakes Pilotage Region (GLPA), the Laurentian Pilotage Region (LPA), the Atlantic Pilotage Region (APA) and the Pacific Pilotage Region (PPA) - each of these geographic regions fall under the jurisdiction of an Authority.

* The views expressed are those of the authors and not purported to be those of the Commissioner or the necessarily those of the Competition Bureau, Industry Canada.

GLPA: The GLPA is a subsidiary of the St. Lawrence Seaway Authority.¹ The region is divided into the following districts: 1. The Canadian sector: consisting of a) The Cornwall District, b) The Welland Canal [part of the International District 2], and c) The Port of Churchill; and 2. The International sector: consisting of a) International District 1 [ID1] (including lake Ontario, which contains two divisions), b) International District 2 [ID2] (including Lake Erie, containing three divisions), and c) International District 3[ID3] (including Lakes Huron, Michigan and Superior). All the waters in ID1, ID2 and ID3 are designated waters.

LPA: The Laurentian Pilotage Authority is a public body established pursuant to section 3 of the *Pilotage Act*.² The LPA has divided the region under its jurisdiction into four districts: 1. District 1-1: including all waters of the Port of Montreal; 2. District 1: including all waters between Montreal and Québec; 3. District 2: including all waters between Québec and Les Escoumins; and 4. District 3: including all other waters in the Authority’s territory. Pilotage is compulsory in the first three districts but is not compulsory in the fourth.

APA: The Atlantic Pilotage Authority is a federal crown corporation established pursuant to section 3 of the *Pilotage Act*.³ The APA has established 17 compulsory areas under section 3 of the APA regulations. The compulsory areas are in N.B. (3), Newfoundland (7), Nova Scotia (5) and Prince Edward Island (2).⁴ The APA also provides ice and coastal pilotage as well as pilotage services in non-compulsory areas.

PPA: The Pacific Pilotage Authority is also a federal crown corporation established pursuant to section 3 of the *Pilotage Act*. The PPA region defined in the schedule of the Act is “all Canadian waters in and around the Province of British Columbia.”

ii) The Demand for Pilotage Services: GLPA: Demand for pilots originates from four basic sources on the Great Lakes – Canadian lakers, US lakers, Canadian ships engaged in foreign trade to ports inside or outside the system, and US or foreign ships to ports inside or outside the system. The demand for pilotage services can be measured by the number of pilotage assignments or pilot hours or volume of cargo transported by ship. Over the period 1979-2006, the number of assignments fell by 51.98% as shown in Table 1.

TABLE 1-PILOTAGE ASSIGNMENTS IN THE GLPA 1979-2006

YEAR	1979	1982	1987	1992	1997	2002	2006	% ▲ 1979-2006
NO. OF ASSIGNMENTS	14,434	10,173	7,032	5,091	7,192	6,581	6,931	-51.98

LPA: In the Laurentian region, the demand for pilotage services originates from

mainly two sources -- Canadian vessels engaged in Foreign trade out of the region and Foreign vessels or US vessels to ports inside or outside the system. The number of pilotage assignments over the period 1979-2006 declined by

TABLE 2-PILOTAGE ASSIGNMENTS IN THE LPA 1979-2006

YEAR	1979	1982	1987	1992	1997	2002	2006	% ▲ 1979-2006
NO. OF ASSIGNMENTS	30,979	28,778	24,784	20,339	20,941	19,149	23,247	-24.96

24.96 percent as shown in Table 2.

APA: In the Atlantic Region, the demand for pilotage services originates from the same two sources noted in the LPA region. The demand for pilotage in the APA region as measured by pilotage assignments is shown in Table 3 hereafter. Over the Period 1979-2006 demand for pilotage services as measured by the

TABLE 3-PILOTAGE ASSIGNMENTS IN THE APA 1979-2006

YEAR	1979	1982	1987	1992	1997	2002	2006	% ▲ 1979-2006
NO. OF ASSIGNMENTS	12,997	11,617	10,413	9,008	9,760	11,806	10,041	-22.74

number of assignments declined by 22.74 percent.

PPA: In the Pacific region, the demand for pilotage services originates also from the two basic sources indicated above. The demand for these services is shown in Table 4. Over the period 1981-2006 for which data were published, the number of pilotage service assignments increased by 7.33 percent.

TABLE 4-PILOTAGE ASSIGNMENTS IN THE PPA 1981-2006

YEAR	1981	1982	1987	1992	1997	2002	2006	% ▲ 1981-2006
NO. OF ASSIGNMENTS	12,061	11,575	15,142	13,814	14,212	12,655	12,945	7.33

In sum, the decline in pilotage services in Eastern Canada is linked to the lack of strong growth in waterborne trade - domestic and international; and the strong tendency towards increasing ship size, which has resulted in fewer assignments. The Pacific region was the only one which recorded a small increase in demand for pilotage services.

iii) The Supply of Pilotage Services: The supply of pilotage services consists of the provision of pilots, pilot boat services, dispatching and communication services, support and other administrative services.

GLPA: In the Canadian sector of the Great Lakes, pilotage services are supplied by the Great Lakes Pilotage Authority. The pilots of the Great Lakes Pilotage region in Canada are employees of the GLPA. Here pilots are members of the

Corporation of St. Lawrence and Seaway pilots in the Cornwall District. Dispatching service are provided by the GLPA from its headquarters at Cornwall at its dispatch office at Port Welland. In the Port of Churchill, few pilotage services are provided as the Port is accessible for only three months of the year. In the international sector, Pilot services are supplied by the GLPA and the United States Coast Guard (USCG). The USCG operates with voluntary associations using pilots who are self employed, i.e., private entrepreneurs. In the International Sector in ID1, Canadian pilots are members of the Corporation of Upper St. Lawrence Pilots, and in ID2 and ID3 they are members of the Corporation of Professional Great Lakes Pilots. Pilot boat services in the ID's are provided by the GLPA either with its own pilot boats or pilot boats under contract and by the US pilot organizations. Dispatching services are provided by the GLPA, the Lakes Pilot Association, Inc., and the Upper Great Lakes Pilots, Inc. Because of the division of the ID's into territories and the division of assignments there is only one supplier of pilot services.

LPA: The LPA is responsible for the provision of pilots, pilot boat services and other administrative services. In District 1-1, pilots are employees of the LPA. In Districts 1 and 2, pilots are members of professional associations which negotiate service contracts for their members. Pilots belong to one of the three corporations or professional associations, Corporations des pilotes du port de Montreal in District 1-1 (represented by the Canadian Merchant Service Guild), Pilotes du Saint-Laurent Central Inc. in District 1, and Corporation of Lower St. Lawrence Pilots in District 2. Pilot boat services are provided by LPA boats at Les Escoumins and boats of independent contractors.

APA: The APA is responsible for the provision of pilotage services in the Canadian Atlantic waters. The majority of pilots here are employees of the APA. The APA also contracts with entrepreneur pilots to provide services in compulsory and non-compulsory areas, they represent roughly twenty-two percent of all pilots. The pilot employees of the Authority are members of the Canadian Merchant Service Guild, the pilots bargaining agent. Pilot boat services are supplied by the APA, private contractors and private boat operators and companies.

PPA: The PPA is responsible for the provision of pilotage services in the waters in and around British Columbia. The majority of the pilots who provide these services are members of a company, the British Columbia Coast Pilots Ltd., which has a contract with the PPA. A few pilots are employees of the PPA. Pilot boat services or helicopter services needed for the boarding of ships by pilots are provided from various stations.

III. Pilotage Regulations in Canada

Pilotage services in Canada are basically regulated pursuant to the *Pilotage Act* besides the regulations and *Memorandum of Arrangements*. In this section, the *Pilotage Act* and amendments to it will be reviewed followed by recent developments and the recent proposed amendments.

A) *Pilotage Act*: The major aspects of economic regulation are: 1) the creation of pilotage Authorities and geographic pilotage areas; 2) the economic objectives that pilotage Authorities are to pursue and the arrangements for the provision of pilotage service, 3) the conditions governing the entry of personnel into the pilot profession, and 4) the prescription of pilotage tariffs.

First, the creation of pilotage Authorities and geographic pilotage areas are provided for in sections 3 and 4 and the Schedule of the *Pilotage Act*. The boundaries of any pilotage region may be extended with the approval of the Governor-in-Council pursuant to subsections 4(4)(a) and (d). Though the pilotage regions are specified in the Schedule, the *Act* is silent on the criteria the Authority should follow in establishing compulsory pilotage areas. Further, regulations may also be made regarding the establishment of compulsory pilotage areas and prescribing circumstances for the waiver of compulsory pilotage with the approval of the Governor-in-Council.

Second, the objectives that an Authority shall pursue according to section 18 of the *Pilotage Act* are to establish, operate, maintain and administer in the interests of safety an efficient pilotage service. The terms 'interests of safety' in this section are considered to include directly, the safety of lives, ships and property and indirectly, preservation of the environment, the smooth flow of maritime commerce and the avoidance of marine casualty resulting in prohibitive costs. The word 'efficient' in this section has taken an economic connotation. To provide pilotage services the Authority may employ such officers and employees as are necessary. Further, the Authority may enter into a contract with a corporate body for the provision of services of licenced pilots. If this occurs, the Authority is prevented from employing pilots. This has been considered a serious impediment to lowering costs of pilotage services.

Third, entry into the pilotage profession is controlled through the issuance of licences and certificates. Conditions governing the issuance of licences and certificates are specified in sections 2, 22, 25 and 44 of the *Pilotage Act*. There are restrictions on these licences and certificates such as age, nationality and current employment status. The Authority is also empowered to make regulations which affect entry, the most pertinent relate to prescribing classes of licences and classes of pilotage certificates that may be issued, prescribing the qualifications required for licences and certificates, limiting the number of

licences that may be issued for any compulsory area, prescribing the manner of issuing licences and pilotage certificates which are contained in subsections 14(1)(e), (f), (j) and (k).

Fourth, the prescription of tariffs of pilotage charges to be paid to that Authority for pilotage including tariffs of pilotage charges (eg. pilot boats, use of telecommunications equipment, etc.) shall be made by the Authority with the approval of Governor-in-Council. Further, pursuant to section 33(3) of the *Pilotage Act*, the tariffs of pilotage charges prescribed by the Authority shall be fair and reasonable and consistent with providing a revenue together with any revenue from other sources, sufficient to permit the Authority to operate on a self-sustaining financial basis. When an Authority proposes to prescribe a tariff of pilotage charges, any interested person may object on grounds that it is prejudicial to the public interest (as defined in section 5 of the CTA). Where a notice of objection is filed, sections 34(4) and 35 of the *Pilotage Act* requires the CTA to: (a) make an investigation of the proposed charge; (b) make a recommendation thereon to the Authority; and (c) file a copy of the recommendation with the Minister of Transport forthwith. The Authority is obligated under section 35 of the *Pilotage Act* to abide by the recommendation.

B) *The Amendments to the Pilotage Act:* As a solution, to the problems of the Pilotage Authorities (excessive cost) the *Pilotage Act* was amended. The amendments of October 1, 1998 can be categorized into organizational, financial, and administrative. The financial amendments were the most significant from the economic perspective. They relate to tariffs (ss. 34-35); appropriation by Parliament (s. 36); and borrowing (s. 53). These amendments are described in greater detail.

The amendments relating to tariffs have hastened the process for setting of tariffs, they allow new tariffs to come into force thirty days after publication (s. 34(1)), this however does not apply to tariffs fixed pursuant to a recommendation of the Canadian Transportation Agency (s. 35(5)). Formerly, there was an additional constraint under section (s. 34(1)). In the event of a notice of objection to a new tariff, its effective date could be delayed till the Agency disposed of the objection and made a recommendation (s. 34(1)(b)). Further, the new amendments also placed a time limit of 120 days to rule on any tariff objection unless a shorter time has been prescribed by the Governor in Council (ss. 35(2) and (30)). In the event that the Agency recommends a charge lower than that prescribed by the Authority, the person who has paid the higher charges shall be reimbursed with interest (s. 35(4)). Furthermore, the Governor in Council may vary or rescind the recommendation of the Agency (s.35(7)). The provision regarding requirements to be met by tariffs have also been amended, it deletes the requirement that the

tariffs should be consistent with providing the Authority with a revenue, though it continues to require them to be fixed at a level that permits the Authority to operate on a self-sustaining financial basis and shall be fair and reasonable(s. 35(3)). In addition, the basic financial amendment to the Act forbids any appropriation by Parliament to enable the Authority to discharge an obligation or liability as a result of losses, except under the *Emergencies Act* or any other Act in respect of emergencies (s. 36). Another related amendment is that it also allows the Authorities to borrow money in Canada or elsewhere for the purpose of defraying its expenses in an amount not more than the maximum fixed for the Authority by the Governor in Council (s. 53). This provision now specifies that a maximum can be stipulated. Further, the amount is to be fixed by the Governor in Council. Before the amendments were made, no such requirement was placed on the Authority and it could also issue debentures as may be determined by the Minister of Finance (ss. 36(a) and (b)).

C) *The Ministerial Review of Outstanding Pilotage Issues:* In accordance with s. 53 (i.e., requiring a review a year after coming into force of this section), the Minister appointed the Canadian Transportation Agency to conduct a review in a letter dated August 12, 1998. The section of this report on financial self-sufficiency and cost reductions indicated that: First, in the LPA region, the industry is concerned about three issues: productivity payments; docking pilots in District 2; and double pilotage. Regarding productivity payments, some parties felt that they are counterproductive, resulting in unreasonable pilotage payments to the corporation which do not help the LPA achieve financial self-sufficiency.⁵ With respect to double pilotage, the LPA pays the pilot corporations for two pilots but receives payment from users for only one pilot. In addition, the possibility of merging the LPA and the GLPA was considered as a means to reduce cost but was rejected. In the PPA region, the high cost of pilotage in the Fraser River has been a matter of concern. The factors that contribute to this high cost are: the application of two units of pilotage charges; the pilot boat costs required to serve both pilot groups; and the additional charges related to the BC Coast pilot and the river pilot between Westminister and the coast. The Panel pointed out the need to distinguish between overtime payments and payments for productivity (i.e., for assignments above the norm set for each pilot during normal work time) and raised doubts as to whether such productivity payments benefit users of the service. In light of the above, the Panel recommended that steps be taken to improve efficiency and reduce costs which were to be reported to the Minister.

Despite the careful review by the Panel, it acknowledged that in the area of financial self-sufficiency they did not conduct an in-depth review. In addition, a number of important issues were not addressed by the Panel - rate setting

methodology, fairness of tariffs when there is no request for new tariffs, commercialization and privatization of pilotage services, provision of competitive pilotage services, etc. - being beyond the terms of their reference.

D) *Canada Marine Act Review*

On May 26, 2002, David Collenette, Minister of Transport at that time appointed a expert Panel to undertake consultations and make recommendations on the *Canada Marine Act*. To assist in this process, Transport Canada issued a Guidance Document. It briefly reviewed some of the recent developments, focussing on two issues expressed by the Canadian Shipowners Association (CSA): financial autonomy of the Authorities; and representation on Boards. Regarding the first, the “CSA would like to see amendments to subsection 33(3) of the *Pilotage Act* to provide a clear definition of the criteria used to determine what constitutes a self-sufficient financial basis and a fair and reasonable tariff.” Regarding the second, the CSA was of the view that section 3 of the *Pilotage Act* should be amended to include a greater number of users on the pilotage boards through which the authorities are governed to achieve a greater balance of interests.

On June 4 2003, a Report to the Minister by the Panel on the review of the *Canada Marine Act* was tabled in the House of Commons. It made two recommendations: one on arbitration; and the other on the composition of pilotage boards (given the limits of the Panel’s mandate). Regarding arbitration, the current arbitration provision (s. 15.2) does not provide the arbitrator the power to obtain information from the parties. This makes the process of mediation more difficult given the conflicting objectives of financial self-sufficiency and reasonable pricing. Stakeholders therefore suggested amending this section to allow an arbitrator to request additional information similar to s. 164(1) in the *Canada Transportation Act*. Regarding composition of pilotage boards, stakeholders believe that the definition, composition and responsibilities of Pilotage Authorities’ boards of directors should be clarified to ensure fairness and balance. They also believe direct representation by users would be better.

It then made a few observations one of which was on pilotage - i.e., expeditious implementation of the outstanding recommendations. These are: the scope of application of the Pilotage Risk Management Methodology; the process for developing a system to assess masters’, officers’ and pilots’ competence and quality of services; and the GLPA enhancement of requirements to exempt vessels from compulsory pilotage. If acted upon, these recommendations would result in a more competitive industry helping to fill the goals of the CMA and the National Transportation Policy.

IV. Have the 1998 Amendments to the *Pilotage Act* Succeeded?

In this section, two indicators of success shall be examined: 1) Self-sufficiency; and 2) Efficiency. Self-sufficiency will be defined as: i) The absence of major losses over the nine year period 1998-2006; and ii) A comparison of the current nine year period with the previous nine year period. Efficiency will be measured as: i) Productive efficiency - assignments per pilot; and ii) Cost efficiency - pilot cost index vs consumer price index. The definitions are somewhat arbitrary given the absence of these definitions in the *Pilotage Act* and the limited data available.

1) Self-sufficiency

GLPA: For seven out of the nine years, the GLPA incurred losses, totalling \$8.81 million for the period 1998-2006. In 2002, 2003, 2004, 2005 and 2006 it introduced tariff increases of 3%, 7.5%, 15%, 5.5% and 5.1% which enabled it to reduce its operating loss but as observed by the Agency "it had not yet achieved financial self-sufficiency by the end of 2005." For the period 1989-1997, the GLPA's profits were \$3.714 million. The first four years were not profitable and the Authority incurred a loss of \$4.931 million which it covered with government appropriations (of \$4,099 million). The Authority entered the current period (1998 onwards) with a surplus. In sum, the GLPA had not achieved self-sufficiency for the period 1998-2006, by mid 2003 it had dissipated its accumulated retained earnings due to the fact that it froze tariffs from 1994 to 2001 and rebated 5% of Canadian tariffs (i.e., \$400,000 per year) in 1999 and 2000.

LPA: Out of the nine years, the LPA incurred losses in four totalling \$2.89 million for the period 1998-2006 thus not achieving self-sufficiency. This was pointed out by the Agency and also by other observers. For example in October 2005 the Agency noted that the 'the Authority is in a precarious financial situation, as acknowledged by the Authority itself during the hearing'. The accumulated deficit at the time was approximately \$10.2 million. Similarly, the Auditor General's Special Examination Report indicated that the Authority's deficit totalled \$6.93 million at the end of the 2004 fiscal year and 'expressed concerns regarding the Authority's future capacity for self-sufficiency'. Out of the preceding nine years (1989-1997), the LPA incurred losses in all, totalling \$31.1 million. In this period, it made a loss ten times as much as that compared to the most current period, which it covered with government appropriations of \$29.52 million. This comparison suggests that the LPA's financial picture is improving but not good. In sum, the LPA had not achieved self-sufficiency for the period 1998-2006. Despite its profit in 2006 and its projected profits for 2007, it is likely that this Authority will take several years before it returns to financial

stability, despite Cabinet overturning a rejection of a proposed LPA cumulative 9.9% tariff increase by the Agency in 2005.

APA: The APA incurred losses in three of the nine years resulting in a profit of \$2.55 million over the period, achieving self-sufficiency for the period 1998-2006. For the preceding nine years, this Authority incurred losses of \$2.085 million (five out of the nine years) which were covered by government appropriations of \$3.734 million. It was far more successful in the most recent period where it not only made a profit but also made profits for a greater number of years, indicating that it was successful in achieving its goal of self-sufficiency and sustainability.

PPA: The PPA made profits in 5 of the nine years ending up with a total profit of \$2.4 million for the period 1998-2006 thereby achieving self-sufficiency for this period. As indicated by the Agency in 2001 "The Authority has experienced losses in past years but has always been in a position to cover such losses with cash reserves. It has therefore continued to meet the requirement of being financially self-sustaining." From 1989-1997, the PPA made profits of \$876,000 being profitable in 5 of the nine years. This indicates that it has been more successful for the period 1998-2006 in achieving its goal of self-sufficiency and sustainability.

2) Efficiency

GLPA: For the period 1998-2006, the number of 'assignments per pilot' declined from 141.9 to 112.7 (or 20.57%) and is somewhat larger due to the choice of the initial year. The decline in number of assignments was largely responsible for a fall in this indicator of efficiency. The fall was somewhat cushioned by the decline in the number of pilots. For the preceding nine years, 'assignments per pilot' increased by 41.5%. The average pilot cost index per assignment in the GLPA has increased from 221 to 328 (i.e., an increase of 107 or 48%), for the period 1998-2006. In comparison, the CPI increased from 207 to 248 (i.e., 41 or 20%), this can be compared to the preceding nine years where it increased by much less (i.e., 28 or 15.4%). In sum, the above two measures indicates that the GLPA has been unable to operate efficiently for the period under consideration. This differs from the Agency conclusion that "the Authority's pilotage services are provided in a reasonably efficient manner and at reasonable costs." The results would have been much worse if the Authority had not "In recent years, ... reduced the number of administrative staff, ... consolidated the dispatching services in one centre and ... reduced the number of pilots in the face of declining traffic." The Agency's remarks were probably influenced by the fact that it had a large surplus for the preceding nine years and that it had not raised tariffs for

a few years.

LPA: Over period 1998-2006, the number of 'assignments per pilot' rose from 126.5 to 141.7 (or 12.02%). The increase in number of assignments after 2005 and the fall in the number of pilots has largely been responsible for the rise in this indicator of efficiency. For the preceding nine years, it increased by 18%. The average pilot cost index per assignment in the LPA has increased from 310 to 472 (162 or 52%), for the period 1998-2006. This increase can be compared to the increase of 20% for the CPI and an increase in the average pilot cost index of 48% for the preceding nine years. The dramatic increase in the cost index can be attributed to 'productivity payments'. Productivity payments (see footnote 5) are payments for handling assignments above the 120 workload. From 1998 to 2006, the Authority paid more than \$6 million in productivity payments. In sum, though the two measures of efficiency move in opposite direction, from a financial perspective efficiency declined. This was indicated by the Agency as early as 2002 in its statement that "various contractual clauses ... only inflate its yearly expenditure, leading the Agency to the conclusion that the Authority is operating with some significant inefficiency." In 2007, the Agency further indicated "The Agency has addressed the productivity clause on a number of occasions. How often does it need to be repeated that the effects of the clause are wholly deleterious because it is used so extensively?" Even the Minister requested the Authority in June 2006 to eliminate the productivity clause in the CPSCS service contract.

APA: In the APA, the number of 'assignments per pilot' increased from 187 to 216 or 15.5% over the period 1998-2006. This resulted from a proportionately greater increase in assignments than pilots. For the preceding nine years, productive efficiency fell by 12.9% in contrast. The average pilot cost index per assignment in the APA increased from 274 to 399 (i.e., by 125 or 46%) which is more than twice the increase in the CPI. This can be compared to the preceding nine years where it increased by 77 or 41%. On balance, had it not been for the large increase in the index of pilot cost the increase in efficiency would be more definitive.

PPA: In the PPA, the number of 'assignments per pilot' has risen from 113.4 to 123.2 or 8.65%. This resulted notwithstanding a decline in the number of assignments as the number of pilots have decreased even more. For the preceding nine years, the increase in productive efficiency was much less (4%). The average pilot cost index per assignment in the PPA increased from 236 to 308 (i.e., an increase of 30%), this can be compared to the CPI which increased by 20%. In the preceding nine years, the average pilot cost index per assignment

increased by 42%. Given these statistics, the PPA has been the most successful of the Authorities in controlling costs. This is not surprising as the PPA has taken a number of measures to reduce costs and improve efficiency for example, operation of a boarding station to Pipe Island resulting in saving in pilotage hours to the cruise industry, closure of the Prince Rupert dispatch office, and relocation of the Vancouver head office. In sum, the two measures suggest that efficiency has been improving.

3) Summary

In conclusion, the two indicators of success indicate that the two Eastern Pilotage Authorities, the GLPA and LPA have not fared well. The other two pilotage authorities, APA and PPA, have fared reasonably well. One of the measures of efficiency, index of pilot cost, indicates that the costs of all the authorities have risen considerably more than the CPI. This has led to several objections by interveners to proposed tariff increases by the Authorities. Overall, the 1998 amendments have had a marginal positive effect.

V. Developments After 2006

In light of the above, it is not surprising that the Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities tabled amendments to the *Pilotage Act* on June 19, 2007 in the House of Commons. The five key amendments are designed to help ensure the financial self-sufficiency of pilotage authorities while maintaining high levels of safety. These amendments can briefly be summarized as follows: 1) to include in the objects of an Authority the requirement to be financially self-sufficient (s. 18); 2) to give the Minister flexibility to conduct an investigation when a notice of objection is received about amendments to regulations regarding qualification of pilots or compulsory pilotage areas (s. 21(2)); 3) to ensure that an arbitrator considers certain factors (i.e., requirement to be self-sufficient and the Authority's corporate plan) when selecting a final offer (s. 15.2); 4) to require the Canadian Transportation Authority to consider certain factors (i.e., requirement to be self-sufficient and the Authority's corporate plan) when making an amendment to a tariff regulation (s. 35); and 5) to make it possible for an Authority to engage in certain employment practices (i.e., engaging both employee pilots and contracted corporate pilots with a Pilot Corporation) for provision of pilotage services (s. 15).

VI. Conclusion

In Eastern Canada, the demand for pilotage services declined substantially over the period 1979-2006 (31.1%) but marginally over the period 1998-2006 (1.49%). This decline is linked to the lack of strong growth in the waterborne trade; and to the strong tendency towards increasing ship size. In Western

Canada, in contrast, the demand for pilotage services recorded a small increase (7.3%) for the entire period but a small decline (2.4%) for the period 1998-2006.

In 1998, the *Pilotage Act* was amended, to deal with the concerns of earlier studies that the three eastern pilotage authorities incurred 'excessive costs' whose losses were covered by government appropriations. This was followed by a Ministerial Review of outstanding pilotage issues in 1998 and the appointment of the Canada Marine Panel in 2002.

To examine whether the 1998 amendments were a success two indicators were examined: 1) Self-sufficiency; and 2) Efficiency. Overall, the pilotage authorities incurred a total loss of \$6.746 million for the period 1998-2006. The aggregate conceals how the individual pilotage authorities fared. Both the GLPA and the LPA had difficulties in meeting the obligation of self-sufficiency imposed on the Authorities under the *Pilotage Act*, incurring losses. The APA and the PPA fared much better. Overall productive and financial efficiency measures also indicate that apart from the PPA, the Eastern pilotage authorities did not fair well. What was particularly noticeable was the substantial increase in average cost per assignment in the LPA, four times as much as the CPI. The Agency identified the 'productivity clause' in several decisions as the cause of the financial problem but as of May 2007 little had been achieved, despite requests from the Minister.

The indicators clearly indicate that amendments did not have all their intended effect, though some success was achieved. This is not surprising, as the government recently tabled changes to the *Pilotage Act* which contained five key amendments? It is typically difficult to predict whether these amendments will be successful as regulated monopolies can bring about all types of distortions. The recent dilemma involving the Agency decision being overturned by Cabinet highlights this difficulty. As one member of the Agency noted "To this member, the relegation of the 'public interest' to secondary status in a Crown Corporation with problematic structural, governance and financial practices in order to breathe life into it for a fleeting time is wrong."

An alternative way to address the above problem is to consider ways in which competition can be introduced into the provision of pilotage services. In the absence of competition, the efficient level of costs will never be known. As indicated by the US Department of Justice: regulation does not appear essential to effective, safe provision of pilotage services and that free market forces are a more effective method to determine efficient prices and allocation of resources especially in the absence of a natural monopoly.⁶

An even more important concern to Canada is if the eastern pilotage authorities fail to increase their efficiency, Canada's eastern ports will become less competitive with

US ports and/or shipping by water will become less competitive with alternative modes of transportation. This has not only been emphasized by several interveners but also acknowledged by a member of the Agency.

TABLE 5 - PROFIT (LOSS) OF THE PILOTAGE AUTHORITIES 1998-2006 ('000)

YEAR	GLPA	LPA	APA	PPA	ALL PILOTAGE AUTHORITIES
1998	1,701	464	670	385	3,220
1999	-353	476	964	325	1,412
2000	(1,093)	-370	743	-418	(1,138)
2001	(2,276)	-160	-193	-561	(3,190)
2002	(1,561)	412	252	622	-275
2003	-2639	572	975	1713	621
2004	-2082	-3387	426	-599	(5,642)
2005	-833	-3314	-312	-96	(4,555)
2006	321	2421	-973	1032	2,801
1972-2006	-8.81	-2.89	2.55	2.403	6746

SOURCE: ANNUAL REPORTS OF THE PILOTAGE AUTHORITIES. NUMBERS ARE ROUNDED.

TABLE A2-GLPA NO. OF PILOTS, ASS., ASS PER PILOT, COST AND REV. PER ASS. AND INDICES (1998-2006)

YEAR	PILOTS	ASSIGNMENTS	ASS. PER PILOT	PILOT COST PER ASS. (\$)	INDEX OF PILOT COST	PILOT REV. PER ASS. (\$)	INDEX OF PILOT REV.
1998	64	9,085	141.9	1266	221	1845	245
1999	67	8,108	121	1356	236	1759	233
2000	69	8,605	124.7	1425	248	1735	230
2001	69	7,879	114.2	1391	242	1796	238
2002	63	6581	104.5	1574	294	1964	260
2003	63	5737	91.1	1732	302	1993	264
2004	62	6398	103.2	1793	302	2131	283
2005	59.5	6443	108.3	1861	324	2402	319
2006	61.5	6931	112.7	1886	328	2621	348

*=INCLUDES SEMI-RETIRED PILOTS. STATISTICS WITH A / INDICATES: EMPLOYEE PILOTS/CONTRACT PILOTS.

TABLE A4-LPA NO. OF PILOTS, ASS., ASS PER PILOT, COST AND REV. PER ASSIGNMENT AND INDICES (1998-2006)

YEAR	PILOTS	ASSIGNMENTS	ASS. PER PILOT	PILOT COST PER ASS. (\$)	INDEX OF PILOT COST	PILOT REV. PER ASS. (\$)	INDEX OF PILOT REV.
1998	8/166	22018	126.5	1503	310	1649	309
1999	8/168	21654	123	1550	320	1700	318
2000	8/165	20713	119.7	1629	336	1761	330
2001	9/168	18655	105.4	1767	364	1950	365
2002	9/164	19149	110.7	1952	402	2180	408
2003	9/164	19599	113.3	1916	404	2150	403
2004	9/161	20439	120.2	2214	456	2233	418
2005	8/154	22197	137	2271	468	2,273	426
2006	7/157	23247	141.7	2292	472	2531	474

STATISTICS WITH A / INDICATES: EMPLOYEE PILOTS/CONTRACT PILOTS.

TABLE A6-APA NO. OF PILOTS, ASS., ASS PER PILOT, COST AND REV. PER ASSIGNMENT AND INDICES (1998-2006)

YEAR	PILOTS	ASSIGNMENTS	ASS. PER PILOT	PILOT COST PER ASS. (\$)	INDEX OF PILOT COST	PILOT REV. PER ASS. (\$)	INDEX OF PILOT REV.
1998	35/17	9726	187	464	274	961	291
1999	35/17	11090	213	452	267	973	295
2000	38/14	11498	221	494	292	1022	310
2001	41/14	11751	214	547	324	1021	309
2002	43/14	11806	207	611	361	1172	355
2003	43/13	12510	223	620	367	1275	386
2004	43/11	11848	219	645	382	1331	403
2005	44/10	11690	216	674	399	1369	415
2006							

TABLE A8-PPA NO. OF PILOTS, ASS., ASS PER PILOT, COST AND REV. PER ASSIGNMENT AND INDICES (1998-2006)

YEAR	PILOTS	ASSIGNMENTS	ASS. PER PILOT	PILOT COST PER ASS. (\$)	I N D E X O F PILOT COST.	PILOT REV. PER ASS. (\$)	I N D E X O F PILOT REV.
1998	117	13267	113.39	1975	236	2810	238
1999	114	13776	120.84	1972	236	2824	239
2000	112	14585	130.22	2040	244	2844	241
2001	114	13435	117.85	2049	252	2986	253
2002	109	12655	116.1	2133	255	3201	271
2003	109	12952	118.8	2203	263	3370	286
2004	110	13002	118.2	2416	289	3458	292
2005	110	13219	120.2	2500	299	3593	305
2006	105	12945	123.2	2579	308	3794	322

*=INCLUDES SEMI-RETIRED PILOTS. STATISTICS WITH A / INDICATES: EMPLOYEE PILOTS/CONTRACT PILOTS.

ENDNOTES

1. Its boundaries are defined in the schedule of the *Pilotage Act* as "all Canadian waters in the province of Québec south of the northern entrance to St. Lambert Lock and all Canadian waters in and around the Province of Ontario and Manitoba."
2. The Laurentian Pilotage region is defined in the scheduled of the *Pilotage Act* as "all Canadian waters in and around the Province of Québec, north of the northern entrance to St. Lambert Lock except the waters of Chaleur Bay south of Cap d'Espoir in latitude 48 degrees 25 minutes 08 seconds N., longitude 64 degrees 19 minutes 06 seconds W."
3. The APA region defined in the schedule of the Act is "all Canadian waters in and around the Provinces of Nova Scotia, Prince Edward Island, Newfoundland and New Brunswick including the waters of Chaleur Bay in the Province of Québec, south of Cap d'Espoir in latitude 48 degrees 25 minutes 08 seconds N., longitude 64 degree 19 minutes 06 seconds W."
4. The areas in each of the Provinces are: 1. New Brunswick: Miramichi, Restigouche, and Saint John; 2. Newfoundland: Bay of Exploits, Stephenville, Humber Arm, St. John's, Holyrood, Clarendville and Placentia Bay (Come by Chance); 3. Nova Scotia: Sydney, Bras d'Or Lakes, Canso, Halifax and Pugwash; and 4. Prince Edward island: Charlottetown and Confederation Bridge.
5. The productivity payment issue - 30 and 50 percent of regular payments in Districts 1 and 1.1 - results in the LPA paying out more per assignment than it receives from the industry. For example it receives \$5000 from the industry; pays \$4000 to the corporation and \$2000 as productivity payment or a total of \$6000.
6. *Comments of the Department of Justice, Regarding Great Lakes Pilotage Review, Before the United States Coast Guard, Department of Transportation, Docket No. 87-034, May 12, 1988.*