



Great Lakes Pilotage Authority

Report presented to the
Board of Directors

11 April 2008

Special Examination Report



Office of the Auditor General of Canada
Bureau du vérificateur général du Canada

All of the audit work in this report was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.



Office of the Auditor General of Canada
Bureau du vérificateur général du Canada

25 March 2008

To the Board of Directors of
the Great Lakes Pilotage Authority

We have completed the special examination of the Great Lakes Pilotage Authority in accordance with the plan presented to the Board of Directors on 30 April 2007. As required by section 139 of the *Financial Administration Act* (FAA), we are pleased to provide the Board of Directors with the attached final report on our special examination.

Pursuant to section 140 of the FAA, this report contains information that we believe should be brought to the attention of the Minister of Transport, Infrastructure and Communities. Accordingly, after consultation with the Board, the Auditor General will forward a copy of the report to the Minister.

I would like to take this opportunity to express my appreciation to the Board members, management, and the Authority's staff for the excellent cooperation and assistance to us during the examination.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Nancy Cheng', with a stylized flourish at the end.

Nancy Y. Cheng, FCA
Assistant Auditor General

Table of Contents

Main Points	1
Special Examination Opinion	3
Overview of the Great Lakes Pilotage Authority	5
Legislative mandate and powers	5
Objectives	5
Organizational structure	6
Description of operations	6
Focus of the special examination	8
Observations and Recommendations	9
Exempting Canadian ships from compulsory pilotage	9
The current system for exempting Canadian ships from compulsory pilotage needs to be strengthened	9
Safe pilotage service	11
The Authority is applying a risk management methodology	11
The Authority gathers statistics on maritime events	12
Pilot competence is recognized	13
Action is needed to mitigate risks to pilot safety on pilot boats	13
Economical and efficient pilotage	14
Limiting delays is an important factor in ensuring users' needs	14
The pool of potential candidates needs to be monitored	15
Financial self-sufficiency	15
The Authority's financial situation requires close monitoring	15
Fluctuating traffic volume can have a major effect on the Authority's financial situation	16
The Authority needs a tariff structure that will enable it to recover operating costs on a more equitable basis	18
Governance	19
The Authority must avoid real or perceived conflicts of interest	19
Directors' appointments need to be staggered	20
Assessment of Board performance is needed	20
The Authority needs to adopt a code of values and ethics	20
Strategic planning and accountability	21
The Authority needs to establish clear targets and performance indicators	22
Conclusion	23

Appendices

A. Systems and practices examined and criteria used	24
B. List of recommendations	25



Great Lakes Pilotage Authority

Special Examination Report

Main Points

What we examined

The Great Lakes Pilotage Authority (Authority) is a federal Crown corporation created in 1972 under the *Pilotage Act*. It reports to Parliament through the Minister of Transport, Infrastructure and Communities. The Authority's mandate under the Act is to establish and operate an efficient pilotage service within the Great Lakes region in the interests of navigation safety—that is, it employs licensed marine pilots who take over from ship captains and officers at their request or where their ships are subject to compulsory pilotage. The Act also empowers the Authority to designate compulsory pilotage areas, determine ships or classes of ships that are subject to compulsory pilotage, set tariffs to be paid to the Authority, and define the conditions for issuing licences and pilotage certificates. The Authority has a role as both a regulator and a service provider.

The *Great Lakes Pilotage Regulations*, adopted when the Authority was created in 1972, stipulate that ships of more than 300 gross registered tons navigating on the Great Lakes are subject to compulsory pilotage. However, the Authority exempts Canadian ships from compulsory pilotage if they navigate only on the Great Lakes or inland waters of Canada. It bases such exemptions on annual declarations by shipping companies, stating that their officers meet the requirements set out in the *Regulations*.

We examined how the Authority designates compulsory pilotage areas, how it determines which ships are subject to compulsory pilotage, how it sets the pilotage tariffs to ensure its financial self-sufficiency, how it manages human resources, and how it undertakes strategic planning and governance.

Why it's important

Pilotage contributes to public safety by minimizing accidents and environmental damage. More than 60 percent of ships navigating on the Great Lakes are Canadian vessels exempted from compulsory pilotage. The Great Lakes Pilotage Authority therefore needs to have assurance that Canadian masters and deck watch officers are competent to navigate safely without assistance from the Authority's pilots.

The tariffs levied by the Authority for pilotage services need to be fair and reasonable and ensure the Authority's financial self-sufficiency, which is required under the *Pilotage Act*. A significant deficiency in one or more of the systems and practices that we examined could threaten the Authority's ability to carry out its mandate.

What we found

We identified a significant deficiency in the current system of exempting Canadian ships from compulsory pilotage.

- The system of exemption has been in place since 1972 and was originally intended as a temporary measure. Now, 35 years later and despite numerous studies and recommendations calling for action to make the requirements for exemption more stringent, the system continues. The latest report that assessed risks to navigation safety, completed in 2002 and approved by the Board, recommended that the current exemption system be replaced by a pilotage certification process. In our view, the Authority does not have an effective mechanism to provide it with reasonable assurance that Canadian masters and deck watch officers have the competencies and qualifications needed to ensure the safe passage of their ships in compulsory pilotage areas.

We did not identify significant deficiencies in the practices and systems examined in other sectors. As we explain below, we identified good practices as well as opportunities for improvement.

- The Authority's systems and practices provide it with reasonable assurance that it offers an efficient pilotage service meeting user needs. The Authority meets regularly with various stakeholders from the shipping industry to discuss issues that affect them. For example, over time the Authority has been successful in reducing the number and length of delays in providing pilotage service.
- The Authority sets its tariffs on the basis of expected traffic volumes but does not make sufficient allowance for imprecision in its forecasts of traffic volumes. Any significant decline in traffic volume could have a major impact on its revenues and its financial self-sufficiency. For example, between 2002 and 2007 the number of pilot assignments forecast varied from 6 percent under the actual number of assignments to 16 percent over the actual number of assignments. These variations were the primary factor in the Authority's operating losses of more than \$6.5 million during that period. The other major factor was the reduction of revenue in the International District caused by the rise of the Canadian dollar.

Special Examination Opinion

To: The Board of Directors of the Great Lakes Pilotage Authority

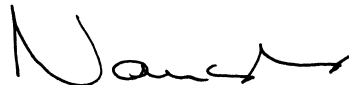
1. Under Part X of the *Financial Administration Act* (FAA), the Great Lakes Pilotage Authority (Authority) is required to maintain financial and management control and information systems and management practices that provide it with reasonable assurance that its assets are safeguarded and controlled; its financial, human, and physical resources are managed economically and efficiently; and its operations are carried out effectively.
2. The FAA also requires the Authority to have a special examination of these systems and practices carried out at least once every five years.
3. Our responsibility is to express an opinion on whether there is reasonable assurance that during the period covered by the examination—from February 2007 to 14 January 2008—there were no significant deficiencies in the systems and practices we examined.
4. We based our examination plan on a survey of the Authority's systems and practices, including a risk analysis. We submitted the plan to the Board of Directors on 30 April 2007. The plan identified the systems and practices that we considered essential for providing the Authority with reasonable assurance that its assets are safeguarded and controlled, that its resources are managed economically and efficiently, and that its operations are carried out effectively. It is these systems and practices that we selected for examination.
5. The plan included the criteria that we selected specifically for this special examination in consultation with the Authority. The criteria were based on our experience with performance auditing. Our choice of criteria was also influenced by legislative and regulatory requirements, professional literature and standards, and practices followed by the Authority and other organizations. Appendix A of this report lists the systems and practices examined, as well as the criteria used.
6. We conducted our examination in accordance with our plan and with the standards for assurance engagements established by the Canadian Institute of Chartered Accountants. Accordingly, our examination included tests and other procedures that we considered necessary under the circumstances. In carrying out this special examination, we relied on an internal audit of the pilot training and development program.

7. In the course of our special examination, we identified a significant deficiency in the current system of exempting Canadian ships from compulsory pilotage. This system of exemption has been in place since 1972 and was originally intended as a temporary measure. Now, 35 years later, and despite numerous studies and recommendations calling for action to make the requirements for exemption more stringent, the system continues. The latest report that assessed risks to navigation safety, completed in 2002 and approved by the Board, recommended that the current exemption system be replaced with a pilotage certification process. In our view, the Authority does not have an effective mechanism to provide it with reasonable assurance that Canadian masters and deck watch officers have the competencies and qualifications needed to ensure the safe passage of their ships in compulsory pilotage areas.

8. In our opinion, based on the criteria established for this special examination, there is reasonable assurance that there were no significant deficiencies in the systems and practices we examined, except for the significant deficiency described in the preceding paragraph.

9. The Report that follows gives an overview of the Authority's activities and provides more detailed information on our examination findings and recommendations.

For the Auditor General of Canada



Nancy Y. Cheng, FCA
Assistant Auditor General

Ottawa, Canada
14 January 2008

Overview of the Great Lakes Pilotage Authority

Legislative mandate and powers

10. The Great Lakes Pilotage Authority (Authority) was established in February 1972 under the *Pilotage Act*. The Authority is a Crown corporation listed in Schedule III, Part I of the *Financial Administration Act* (FAA) and is not an agent of Her Majesty.

11. The Authority's mission is to establish, operate, maintain, and administer an efficient pilotage service in the interests of navigation safety and in the region under its responsibility. The Great Lakes region includes all Canadian waters in the province of Quebec that are south of the northern entrance to St. Lambert Lock, and all Canadian waters in and around the provinces of Ontario and Manitoba.

12. The *Pilotage Act* empowers the Authority to make general regulations, subject to the approval of the Governor in Council, for

- establishing compulsory pilotage areas;
- prescribing the ships or classes of ships subject to compulsory pilotage;
- prescribing the circumstances under which compulsory pilotage may be waived;
- prescribing the requirements that must be met to obtain a pilot licence or a pilotage certificate; and
- prescribing tariffs of pilotage charges to be paid to the Authority. Section 33 of the *Pilotage Act* specifies that the tariffs shall permit the Authority to operate on a self-sustaining financial basis and shall be fair and reasonable.

13. The *Pilotage Act* gives the Authority a monopoly on pilotage services in the Great Lakes region. In addition to providing a service to the marine transportation industry, pilotage contributes to public safety by minimizing accidents and environmental damage.

14. The Authority has two roles: as a regulator and as a service provider.

Objectives

15. In its 2007–11 Corporate Plan, the Authority set the following principal objectives:

- to provide economical, safe, reliable, and comprehensive marine pilotage and related services in its region of responsibility;

- to promote the effective utilization of the Authority's facilities, equipment, and expertise through the productive application of these resources in such activities and geographic areas as may be appropriate in the interests of safe navigation;
- to provide the above services with the aim of achieving and maintaining financial self-sufficiency at the least cost to the user; and
- to be responsive to the government's environmental, social, and economic policies.

Organizational structure

16. As a federal Crown corporation, the Authority reports to Parliament on its activities through the Minister of Transport, Infrastructure and Communities (Minister of Transport). It is governed by a board of directors, which consists of a part-time chair and six members. The members are appointed for three-year terms by the Minister of Transport, with the approval of the Governor in Council. Three members were appointed in recent months and a new Chair of the Board was appointed in March 2007. The Board of Directors appoints the Chief Executive Officer, who is responsible for managing the Authority with the assistance of a director of operations and a treasurer.

Description of operations

17. In the interests of safety, the Authority operates a marine pilotage service in all Canadian waters in and around the provinces of Ontario and Manitoba and in the province of Quebec south of the northern entrance to St. Lambert Lock. Because the Canada–US border runs through part of the St. Lawrence River and the Great Lakes, the two countries share responsibility for pilotage in international waters. A 1977 memorandum of understanding between the Minister of Transport of Canada and the US Secretary of Transportation sets out the terms and conditions for sharing responsibilities, revenues, and expenses related to coordinated pilotage services, including dispatching and pilot boat services in international waters.

18. The Great Lakes pilotage region consists of
- Cornwall District;
 - International District No. 1;
 - International District of Lake Ontario;

- International District No. 2 (including the Welland Canal);
- International District No. 3 (including lakes Huron, Michigan, and Superior; and
- the Port of Churchill, Manitoba (in operation three to four months a year).

19. According to the *Great Lakes Pilotage Regulations*, pilotage is compulsory for every ship of more than 300 gross registered tons navigating in the region, except for certain ships such as ferries and some tugs. The Regulations exempt Canadian ships from this requirement only when they navigate the Great Lakes (lakers) and are under the conduct of a Canadian master or deck watch officer. That officer must be a regular member of the ship's crew who holds a valid certificate of competency at the proper grade and class (issued by Transport Canada) and has been certified by the owner of the ship as having completed no fewer than 10 passages in the compulsory pilotage area within the last three years. US lakers are also exempted from the pilotage requirement if they are under the conduct of US officers certified pursuant to the laws of the United States. As a result, compulsory pilotage applies mainly to foreign ocean-going ships.

20. Pilots employed by the Authority are assigned to provide pilotage services to ships that are subject to compulsory pilotage or that request the services. As of 31 December 2007, the Authority had 62.5 full-time equivalents for pilot positions and 19 full-time equivalents for other permanent employees (including 9 dispatchers). The pilots are unionized and organized into four units corresponding to the geographic areas in which they work. The pilots' four collective agreements expired on 31 March 2007. In March 2007, the Authority and the pilots signed an agreement that there would be no strikes or lock-outs before 2012. At the end of our examination, negotiations were under way on all the collective agreements.

21. The pilots board ships from pilot boats contracted by the Authority or controlled by its US counterpart (US pilots also carry out pilotage duties in the international districts) or when the ships are in the Seaway locks. The Authority has negotiated contracts for pilot boat services at Port Weller and Port Colborne. The two pilot boats there, including crews, are available at a flat monthly rate and cost the Authority a total of about \$500,000 a year.

22. Pilot services are provided on assignment 24 hours a day, 7 days a week. As specified in the *Great Lakes Pilotage Regulations*, the master of a ship or its agent must give notice at least 12 hours before the pilot is

required to be on board the ship. The Authority's dispatch and assignment services have been managed from its head office in Cornwall since 2004, when the Authority consolidated its two dispatching centres at one location.

23. An integrated computerized system is used to manage assignments in accordance with the rules set out in the pilots' collective agreements; the system also monitors the location of ships in the Great Lakes and determines the pilotage charges to be billed to users. US authorities control all activities (assignment of pilots and billing) in International District No. 3.

24. The navigation season in the Great Lakes region is about nine months of the year. It usually begins in late March and ends in late December, on dates set by the St. Lawrence Seaway Management Corporation. The Authority must coordinate its efforts and operations with other organizations: Canada's St. Lawrence Seaway Management Corporation and the United States' Saint Lawrence Seaway Development Corporation, which operate the lock facilities and maintain maritime traffic control systems within the region; the Canadian Coast Guard, which provides aid to navigation; and the United States Coast Guard, which is responsible for US pilotage matters in international waters.

Focus of the special examination

25. In the examination plan we submitted to the Board on 30 April 2007, we indicated that our examination would deal with the following principal results to be achieved by the Authority.

- delivery of a safe pilotage service;
- delivery of an economical and efficient pilotage service;
- financial self-sufficiency; and
- appropriate governance, planning, and accountability.

26. For our examination we evaluated the systems and practices that contribute to the achievement of essential results while achieving the Authority's statutory control objectives—that is, safeguarding and control of assets, economical and efficient management of resources, and effective conduct of operations. Appendix A of this report lists the systems and practices examined, as well as the criteria used.

Observations and Recommendations

Exempting Canadian ships from compulsory pilotage

The current system for exempting Canadian ships from compulsory pilotage needs to be strengthened

27. We identified a significant deficiency with regard to the current practice of exempting Canadian ships from compulsory pilotage. The Great Lakes Pilotage Authority (Authority) does not have an effective mechanism to provide it with reasonable assurance that Canadian masters and deck watch officers have the necessary competencies and qualifications to ensure the safe passage of ships in compulsory pilotage areas.

28. The Authority exempts Canadian ships from compulsory pilotage if they meet the requirements set out in the *Great Lakes Pilotage Regulations*. Exemptions for Canadian ships were introduced when the *Pilotage Act* came into force in 1972. They were intended as temporary measure to protect the acquired rights of Canadian masters and deck watch officers until they could qualify for a pilotage certificate.

29. To obtain exemptions, Canadian shipping companies submit a yearly declaration to the Authority certifying that their masters and deck watch officers meet the requirements set out in the *Great Lakes Pilotage Regulations*. In particular, within the three preceding years they must have completed at least 10 passages of the compulsory pilotage area for which the exemption is requested. The Authority does not check the competencies and qualifications of Canadian masters and deck watch officers of ships granted exemptions.

30. This situation has remained unchanged since our previous special examination, reported in 2003. We noted then that the Authority should obtain more information from shipping companies. Studies and reports on the subject of exemption requirements and practices in the past also raised the issue of the lack of an objective, transparent procedure for certifying that Canadian masters and deck watch officers have the required competence. In response, the Authority planned to deal with this issue through its proposed amendment to the Regulations.

31. This issue is important because Canadian ships account for 60 percent of traffic in the St. Lawrence Seaway (according to reports issued from 2002 to 2006). Although those reports cover only part of the region, the Authority advised us that the statistics are good indicators of the overall traffic flow in the Great Lakes.

32. During the past 35 years, many discussions and studies have examined the issue of exemptions for Canadian ships and the requirements for obtaining an exemption. Most of the reports and studies—including a report published in 1999 by the Canadian Transportation Agency (CTA) entitled *Ministerial Review of Outstanding Pilotage Issues*—make recommendations to strengthen current practices and tighten the requirements for issuing exemptions. In the past, the Authority has tried to make the requirements more stringent but failed to gain the support of all key stakeholders and reach agreement with them.

33. After the publication of the Canadian Transportation Agency's 1999 report, Transport Canada and the four Canadian pilotage authorities jointly developed a Pilotage Risk Management Methodology (PRMM) to be used for all assessments undertaken with the aim of amending the authorities' regulations.

34. In summer 2001, the Authority hired a consultant to assess whether current requirements and practices surrounding exemptions for ships ensured an acceptable level of navigation safety in the Great Lakes pilotage sectors. This assessment was carried out using PRMM. The final report, completed in 2002, recommended that the current system for issuing exemptions on the basis of an annual declaration from shipping companies be replaced with a pilotage certification process.

35. Since our 2003 special examination, the Authority has developed and submitted to Transport Canada two draft amendments to the *Great Lakes Pilotage Regulations*, most recently in November 2004 dealing with the introduction of a pilotage certification process for the Great Lakes.

36. Because this draft amendment did not receive support from all key stakeholders, the Minister of Transport directed the Authority to make several clarifications and to further assess the effect that the proposed amendment would have on the Canadian shipping industry. To date, the Authority has not been able to clearly demonstrate that it has analyzed the proposed amendments sufficiently.

37. In March 2007, the Minister of Transport reminded the Authority that it is responsible for making sure that Canadian officers have the necessary competencies and qualifications to ensure the safe passage of ships in compulsory pilotage areas.

38. Given that in 2002 the Board of Directors accepted the recommendation to replace the existing exemption system, we expected the issue to have been resolved in 2007, when we started this special examination. In meetings with various stakeholders,

the majority indicated that the current system is no longer appropriate and changes are needed. Moreover, a number of them told us that the risks will increase, given the shrinking pool of candidates for the positions of master and deck watch officer, the aging population of Canadian officers, and the decline in candidates' number of years of experience. Accordingly, the conditions set in 1972 for issuing exemptions need to be reviewed in light of current conditions, and all parties need to reach agreement.

39. We noted that in recent years the Authority has increased its efforts to find an alternative solution that is acceptable to all key stakeholders. As we completed our special examination, the Authority was continuing to work with stakeholders.

40. Recommendation. As a regulatory agency responsible for navigation safety, the Great Lakes Pilotage Authority should implement a more effective mechanism to provide reasonable assurance that Canadian masters and deck watch officers have the competencies and qualifications needed to ensure the safe passage of ships in compulsory pilotage areas.

Authority's response. A more stringent exemption or certification system would strengthen the Authority's ability to ensure the future safety and efficiency of the navigation system. The Authority continues to work with Transport Canada and the major stakeholders to address this deficiency. It expects regulatory amendments that will address the deficiency to be published in 2008.

In the meantime, the Authority monitors incidents involving Canadian ships very closely and is satisfied that the current system of exemption has not jeopardized the safe passage of ships in the region.

Safe pilotage service

41. The Authority is responsible for setting conditions to ensure an acceptable level of navigation safety in the Great Lakes region. We expected the Authority to designate compulsory pilotage areas and ships subject to compulsory pilotage on the basis of assessed risk.

The Authority is applying a risk management methodology

42. The Canadian Transportation Agency's 1999 report recommended that pilotage authorities adopt a risk-based approach to designating compulsory pilotage areas and ships subject to compulsory pilotage. The report recommended that the Authority review the factors and conditions for designation every five years and use a Pilotage Risk Management Methodology if navigation risks significantly change.

43. An analysis of maritime events involving tugs and barges in waters under the Authority's responsibility identified an increase in risks to navigation. Accordingly, the Authority commissioned a study in summer 2007 focusing on changes in technology and traffic volumes for the tugs and barges in the Great Lakes, in order to assess whether there was a need to amend the Regulations. The study was done using the Pilotage Risk Management Methodology; the report was completed in December 2007 and the industry was invited to comment. Once the consultation process is completed, the Authority will have the information it needs to decide whether the Regulations need to be amended.

The Authority gathers statistics on maritime events

44. In order to carry out its mandate to ensure safety, the Authority needs an overall picture of maritime events in its territory, such as accidents and incidents as well as their causes and consequences.

45. The Authority has gathered comprehensive, relevant information on maritime events in which its pilots have been involved. Results show an event rate of less than 0.5 percent in the past five years, which is in line with the Authority's objective and with other authorities. Since 2001, the Authority's annual report has included more detailed statistics, such as the nature and number of maritime events involving ships piloted by Authority employees.

46. In our 2003 special examination report, we noted that the Authority could obtain useful information for identifying trends and assessing the need for regulatory amendments by regularly asking the Transportation Safety Board of Canada for statistics on maritime events in its territory.

47. As a regulator, the Authority needs to regularly gather statistics on maritime events in the Great Lakes region, analyze the data in order to identify and assess the causes of the events, and ensure that its regulations are still appropriate. At the end of 2006, the Authority asked the Transportation Safety Board to obtain statistics on accidents and incidents in the Great Lakes region that occurred between 2002 and 2006. We note that management has analyzed the statistics and extracted five years' worth of data on maritime events, categorized by type of event, involving ships exempted from compulsory pilotage. We encourage the Authority to gather statistics on marine events on a more frequent basis. We have been informed by management that this type of analysis will be performed on an annual basis at the end of each season.

Pilot competence is recognized

48. We found that the Authority has in place appropriate practices and systems to provide reasonable assurance that the pilots it employs have the competencies needed to provide safe pilotage.

49. All of the shipping industry stakeholders we consulted said they recognized the competence of the Authority's pilots. The Authority has implemented various initiatives to maintain or improve its pilots' competence. For example, it has a five-year training plan, which it prepares together with the pilots. A permanent committee on training follows up on the plan and identifies training needs. Since 2002, all Authority pilots have taken simulator training, mainly to give them an opportunity to practise emergency manoeuvres and acquire experience in certain situations. All pilots must take this training for a week every five years. We noted that comments and recommendations were given orally to the pilots, but the Authority is not officially informed of the pilots' results.

50. In its 1999 report, the Canadian Transportation Agency recommended that in consultation with stakeholders, pilotage authorities develop and implement a fair and equitable system for assessing the competency of pilots and the quality of their services. In our 2003 special examination report, we noted that the pilotage authorities and the Canadian Marine Pilots' Association had developed the Pilot's Continued Proficiency Report, which provides extensive information on pilots' navigation experience and training but does not include an assessment of their performance.

51. We found that the Authority does not formally assess pilots' performance, although carrying out individual performance assessments is an essential feature of human resources management. We encourage management to require a written report on each pilot who takes training and to record relevant information in the Pilot's Continued Proficiency Report. This information is essential to the formal assessment of the pilots' performance. Management informed us that a formal assessment of pilots' performance was implemented in January 2008.

Action is needed to mitigate risks to pilot safety on pilot boats

52. In summer 2007, the Authority conducted man-overboard drills with the crews of all Canadian and US pilot boats. The purpose of the drills was to ensure that the crews had the skills needed to rescue someone who had fallen overboard and that the pilot boats had the proper equipment for these manoeuvres. At the end of our

examination, the Authority's Director of Operations had received a report and was in the process of analyzing it. We noted that the report highlighted certain risks and irregularities. Subsequently, management has informed us that it has completed its analysis and that the needed action to mitigate the risks is under way.

Economical and efficient pilotage

Limiting delays is an important factor in ensuring users' needs

53. We expected the Authority to have a sufficient number of pilots available, at a reasonable cost, to handle traffic volumes and provide an acceptable level of service.

54. We found that the Authority's systems and practices provide reasonable assurance that it offers efficient pilotage service that meets users' needs. Service may be considered efficient if the number of pilots the Authority employs allows it to offer pilotage that is affordable and of good quality. While the Authority has no control over the number of ships or the timing of their arrival, it needs to be able to meet users' requests for service at any time and with no more than minimal delays.

55. Limiting the number of delays and their duration is an important factor in user satisfaction. The industry estimates that a one-hour delay adds about \$2,000 to its costs. Nevertheless, with pilot payroll costs representing more than 80 percent of the Authority's total expenditures, it is not feasible for the Authority to increase the number of available pilots solely to limit delays. The Authority ensures that it has a minimum number of pilots at all times able to provide pilotage services for five or six ships a day. It considers that an average of 105 to 115 assignments a year per pilot is reasonable to ensure the targeted level of service.

56. Working with the industry, the Authority has reduced ship delays by assigning pilots on an overtime basis. During peak periods, it can serve more ships by recalling pilots from leave. As stipulated in the collective agreements, the Authority is required to pay its pilots at the overtime rate for all call-backs during leave periods. Relying more on overtime enabled the Authority to reduce the number of delays from 335 in the period between 1997 and 2001 to 133 between 2002 and 2006.

57. To improve the quality of service for users, the Authority meets regularly with various stakeholders from the shipping industry. The stakeholders we met with said they were satisfied with the level of pilotage service provided by the Authority.

The pool of potential candidates needs to be monitored

58. The population of working pilots is aging—the average age of the Authority pilots is 53. While the Authority does not consider pilot recruitment a problem at present, it could become a problem in the future given the rapid decline in the number of potential candidates from the Canadian shipping industry. The decline can be attributed largely to a substantial reduction in the number of Canadian ships and lower enrolment in maritime studies programs.

59. To allow for more flexibility in human resources management, the Authority decided this year to eliminate mandatory retirement for pilots at age 65 and to extend from two to five years the period in which candidates who pass apprentice pilot recruitment exams remain on the eligibility list.

60. The Authority has indicated to us that it will regularly assess the risk of pilot shortages and will take appropriate action.

Financial self-sufficiency**The Authority's financial situation requires close monitoring**

61. The Authority sets tariffs to allow for full cost recovery plus a small margin of profit. The *Pilotage Act* was amended in 1998 and since that time pilotage authorities are required to operate on a self-sustaining financial basis. The Authority accumulated a surplus and was self-sufficient before that amendment came into force.

62. As marine traffic increased in the 1990s, the Authority did not raise tariff rates to cover its increased operating costs. Rather in order to reduce its cumulative surplus of the late 1990s, it lowered tariffs by 5 percent in 1999 and 2000. Since 2000, traffic has generally been lighter than anticipated, and the Authority has increased its tariffs by about 35 percent to offset operating costs.

63. However, the Authority has reported losses that total \$6.5 million from 2002 to 2007, and its financial position changed from a surplus of \$3.1 million in December 2001 to a cumulative deficit of \$3.4 million in December 2007. Exhibit 1 shows the financial results of the Authority over the past six years.

64. We noted that the net income for the Authority during this period has consistently fallen short of the budget forecast. The Authority plans to eliminate its cumulative deficit by 2013 through gradual increases in its tariff rates. Although the Authority generated a small surplus in 2006 and 2007, its financial situation needs to be monitored closely to ensure that it remains self-sufficient.

Exhibit 1 Financial highlights

	Year ending 31 December (\$thousands)					
	2007	2006	2005	2004	2003	2002
Revenues	18,969	18,447	15,570	13,820	11,650	13,289
Expenses						
Pilot salaries and benefits	13,514	13,071	11,991	11,471	9,935	10,359
Operation and administration	5,193	5,055	4,412	4,431	4,354	4,491
Total	18,707	18,126	16,403	15,902	14,289	14,850
Net income (loss)	262	321	(833)	(2,082)	(2,639)	(1,561)
Budget forecast*	519	545	309	53	8	50
Cumulative surplus (deficit)	(3,408)	(3,670)	(3,991)	(3,158)	(1,076)	1,563

* Figures are from the Summary of the Corporate Plan of the Great Lakes Pilotage Authority.

Source: Annual reports of the Great Lakes Pilotage Authority

Fluctuating traffic volume can have a major effect on the Authority's financial situation

65. All the stakeholders that we interviewed believe that the demand for pilotage services is difficult to predict. The locks in the Seaway limit transportation by container and thus the diversity of products transported; mining products (mainly iron and steel) and grain shipped in bulk account for more than half of the cargo shipped in the region. Traffic volumes depend greatly on economic conditions, domestic and international government policies on products, and climate conditions. These factors can cause traffic volumes to vary from year to year, and also from month to month during the nine-month navigation season.

66. Forecasting traffic is an important exercise because it serves as a basis for the Authority to prepare its corporate plan and to change its tariffs as appropriate.

67. Despite ongoing attempts to forecast traffic as accurately as possible, from 2002 to 2007, the number of pilot assignments forecast varied from 6 percent under the actual number of assignments to 16 percent over the actual number of assignments. These variations were the primary factor in the Authority's operating losses of more

than \$6.5 million during that period. The other major factor was the reduced revenue in the International District caused by the rise of the Canadian dollar. Exhibit 2 shows the number of forecast and actual pilot assignments from 2002 to 2007, and Exhibit 3 provides the profit margin or loss per pilot assignment over the same period.

68. Salaries and benefits of pilots constitute most of the Authority's expenditures. These costs, along with many of the other operating costs, are largely fixed costs. Thus, when there is a significant and unforeseen variance in forecast versus actual number of pilot assignments, this could have a major effect on the Authority's financial results. In the summer of 2006, the Authority levied a temporary surcharge of 2 percent and maintained this levy in 2007 to reduce the use of its line of credit.

Exhibit 2 Number of forecast and actual pilot assignments

Number of pilot assignments	Year ending 31 December					
	2007	2006	2005	2004	2003	2002
Forecast	6,440	6,600	6,550	6,800	6,800	7,300
Actual	6,838	6,931	6,443	6,398	5,737	6,581
Variance (%)	6	5	(2)	(6)	(16)	(10)

Source: Annual reports of the Great Lakes Pilotage Authority

Exhibit 3 Average revenue and cost per pilot assignment (in dollars)

Pilot assignments	Year ending 31 December					
	2007	2006	2005	2004	2003	2002
Revenue per assignment	2,774	2,639*	2,416	2,160	2,030	2,019
Cost per assignment	2,736	2,615	2,546	2,485	2,491	2,256
Profit margin (loss)	38	24	(130)	(325)	(461)	(237)

* The 2006 revenue per pilot assignment excludes the profit on the sale of a building.

Source: Annual reports of the Great Lakes Pilotage Authority

69. Recommendation. The Great Lakes Pilotage Authority should monitor its financial situation closely and adjust its plans as needed to ensure that it achieves its plan to eliminate its cumulative deficit by 2013. In particular, given that marine traffic volumes are inherently difficult to forecast, the Authority should consider making further allowance for traffic variations when setting its tariffs.

Authority's response. The Authority agrees with the recommendation. It will continue to work with all stakeholders, including customers, service partners (St. Lawrence Seaway Management Corporation), and Transport Canada to obtain the most accurate and reliable information so that reasonable forecasts of traffic and financial position can be done. The Board of Directors has approved a five-year plan that raises tariffs in a controlled manner while at the same time virtually eliminating the deficit. This plan is supported by the Authority's customers and their representative, the Shipping Federation of Canada.

The Authority needs a tariff structure that will enable it to recover operating costs on a more equitable basis

70. In previous reports, we have noted that surpluses in some of the Authority's districts were used to offset deficits in others. We recommended that to minimize such cross-financing the Authority analyze the financial components of each district and determine how to improve the profitability of those with a deficit. In 2002 and 2003, the Authority increased tariffs in two such districts (Cornwall and Lake Ontario), but in 2007 cross-financing between districts continued.

71. Tariff increases in subsequent years were general increases intended to reduce the cumulative deficit of the Authority. Management has informed us that it intends to examine the situation in depth and review its tariff structure for the coming navigation season.

72. The Authority's tariff structure, which dates back to 1980, provides for pilotage charges levied on the basis of ship size and class (there are four classes, the smallest ships being Class 1). In 2005, after an in-depth analysis of operations, management found that for a number of years the tariffs for class 1 and class 2 ships had not been high enough to cover the actual costs of pilotage services.

73. Management also noted a change in the composition of Great Lakes shipping traffic, with growing numbers of small ships and declining numbers of large ships. For example, class 1 traffic accounted for 32 percent of assignments in 2002 and 47 percent in 2005. The trend continued in 2007. The inability to identify the increase in

demands for service from class 1 and 2 ships and to adjust tariffs accordingly has cost the Authority lost revenues in recent years.

74. After consulting with the industry, the Authority raised its class 1 tariffs by 8 percent in June 2006 and by 7 percent in January 2007.

75. The Authority's tariff structure ought to be fair and reasonable, and pilotage tariffs ought to be set to ensure financial self-sufficiency. Clear performance indicators would help identify significant changes in the composition of shipping traffic, which have a direct impact on revenues.

76. Recommendation. The Great Lakes Pilotage Authority should regularly examine the composition of shipping traffic and review its tariff structure accordingly to ensure that it achieves the proper level of revenue by ship class and district.

Authority's response. The Authority agrees with the recommendation. It has been performing this review of traffic composition for the last three years, and it has started to adjust tariffs so that every district is self-sufficient. The Authority's tariff adjustment will give the three operating districts that lost money in 2007 tariffs that will allow a break-even for 2008.

The Authority will continue to review the composition of its traffic and adjust its policies accordingly.

Governance

77. Governance entails the structures, systems, and practices used to monitor an organization's direction and management, enabling it to fulfill its mandate and achieve its objectives. Our examination of the Authority's governance practices focused mainly on clarity of governance roles and responsibilities as well as the quality of information available to the Board of Directors for decision making and reporting.

The Authority must avoid real or perceived conflicts of interest

78. The Authority is governed by a board of directors consisting of a part-time Chair and up to six other members. Since the creation of the Authority, the Board has comprised two representatives each from pilot corporations, users, and the public. This composition derives from custom followed over the years rather than from any requirement of the *Pilotage Act*.

79. For the Board of Directors to be effective and to act in the best interest of the Authority, it needs to be independent and objective. Given its current composition, there could be situations that lend

themselves to potential conflict of interest. Such situations could arise when the Board discusses and makes decisions on matters where the interests of groups represented by members of the Board are at stake, such as amendments to the *Great Lakes Pilotage Regulations*, collective agreements bargaining, and requests for tariff increases. In our view, the Board of Directors needs to be vigilant and ensure that its members declare any real or perceived conflict of interest.

Directors' appointments need to be staggered

80. The *Financial Administration Act* stipulates that as far as possible, terms of directors be staggered to ensure that no more than half of the terms expire in the same year. The staggering of terms helps to maintain the Board's corporate knowledge as a whole. In the past year, four new Board members have been appointed.

Assessment of Board performance is needed

81. We noted that the Board has not assessed its own performance to determine how effectively it fulfills its governance responsibilities. Performance assessment could also serve to help identify the training needed by Board members.

82. Recommendation. The Board of Directors should work with the government to ensure that terms of future appointments are staggered over a given period. The Board should assess its own performance to determine how effectively it fulfills its governance responsibilities.

Authority's response. *The Authority agrees with the recommendation. The Privy Council and the Minister of Transport, Infrastructures and Communities control the appointment process. The Authority will continue to work with both parties to assure timely appointments.*

The Board initiated a formal evaluation process for its performance late in 2007 and should complete the exercise early in 2008. It is the intention of the Board to undertake this process on an annual basis.

The Authority needs to adopt a code of values and ethics

83. We expected that in order to carry out their role effectively, Board members would be provided with sufficient relevant and timely information for decision making. Our interviews with Board members showed that they are generally satisfied with the information they receive. At present, the main tools used to monitor performance are monthly activity reports from the Chief Executive Officer and the analysis of financial results, which is used to identify budget discrepancies.

84. The Board of Directors is responsible for ensuring that the Authority develops a code of values and ethics to guide the conduct of its members and employees. We noted that although its by-laws contain some conflict-of-interest guidelines, the Authority has no code of values and ethics. Such codes are being used increasingly in both the public and private sectors.

85. Recommendation. The Board of Directors should develop a code of values and ethics, which could be modelled after the *Values and Ethics Code for the Public Service*.

Authority's response. The Authority presently has a Directive on Conflict of Interest on this issue. It will review it in 2008 and amend it accordingly to reflect the intent of the new Federal Accountability Act.

Strategic planning and accountability

86. Strategic planning makes it possible for an organization to establish the activities it will undertake and the underlying reasons for these activities, while focusing on the future. Strategic planning includes assessing and, if necessary, changing the organization's direction to cope with changing circumstances. The Board of Directors plays a key role in strategic planning. The Corporate Plan is a tool that guides the definition of organizational objectives and the allocation of resources, while the annual report is used to account for results achieved.

87. We examined strategic planning systems to assess whether the Authority's direction and plans are realistic, take government priorities into account, and are based on appropriate analysis of the industry, the market, risks, and financial and operational implications.

88. Our examination found that the Authority's planning process allows for proper identification of overall directions. The management team meets early enough in the process to determine the basis for the corporate plan. Managers take stock of past results and review the business environment and issues that are important to the Authority.

89. The Board of Directors is responsible for approving the Authority's strategic direction and adopting specific measures to implement it. In past years, directors as well as managers of the Authority have attended a yearly planning session, an opportunity to openly discuss strategic matters, risks, and other issues. Many Board members have been newly appointed to the Board in the past 12 months; however, management has not held a yearly planning seminar to prepare the 2008–12 Corporate Plan. It plans to organize a seminar in 2008. At its August 2007 meeting, the Board approved

the assumptions made for drafting the corporate plan and budget. We encourage the Authority to resume its yearly planning sessions.

90. Among its governance responsibilities, the Board is expected to monitor how the main risks to the Authority are managed and taken into account in planning and decision making. Like any board, the Authority's Board of Directors needs to obtain assurance that management has identified the main risks to the organization, that systems and practices are in place to manage them, and that measures have been taken to mitigate the risks.

91. Together with its internal auditor, the Authority carried out a risk analysis in late 2004 and submitted the report to the Board of Directors for discussion. The report identified seven major risks. The risk assessment report was used as a basis for preparing a five-year internal audit plan. Management informed us that it would use internal audits to help find ways of mitigating risks and to increase its operational effectiveness and efficiency.

The Authority needs to establish clear targets and performance indicators

92. The Authority's Corporate Plan briefly describes most of its objectives and the strategies for achieving them. We found that the majority of the objectives are not linked to performance indicators or quantified targets and consequently do not correlate clearly with the results presented in the Annual Report. This makes it difficult to determine to what extent the expected results have been achieved. The Annual Report currently includes only one indicator of performance: the percentage of the ships under the conduct of Authority pilots that are involved in maritime accidents or incidents.

93. A vital aspect of accountability is comparing actual results with expected results for a set of financial and non-financial performance indicators. Such a comparison focuses on results rather than activities. We noted that management collects monthly statistics on operations, such as the number of ships and delays. However, it does not compare this information with targets set previously.

94. In our 2002 special examination report, we suggested some performance indicators that the Authority could use to facilitate the assessment of its results. Examples include pilotage service delays, client satisfaction level, and maritime events involving pilot boats. In the current special examination, we noted very little progress toward

implementing a formal performance measurement framework that would enable the Authority to assess the effectiveness and efficiency of its operations.

95. Recommendation. The Great Lakes Pilotage Authority should better define its objectives and express them in specific, measurable terms so that it can formulate corresponding strategies to achieve them. In addition, the Authority should define specific performance indicators to improve its performance measurement framework, in order to properly assess the effectiveness and efficiency of its operations.

Authority's response. The Authority has scheduled a Strategic Planning exercise for June 2008, at which time the Authority's strategic direction will be reviewed and adjusted as required. This special examination report will be reviewed at the planning meeting to assist the Board in setting the direction of the Authority.

The Authority, with the assistance of its outside consultants and in consultation with the other three pilotage authorities, will review performance measures that are appropriate and meaningful for our organization and the services it provides. This performance framework will be included in the next Corporate Plan cycle (2009–2013) and reported in the Authority's 2008 Annual Report.

Conclusion

96. As noted in our special examination opinion, we have concluded that during the period covered by the examination there was a significant deficiency with regard to the current system of exempting Canadian ships from compulsory pilotage. Throughout this report we have also identified various opportunities for the Authority to enhance the quality of its systems and practices.

Appendix A Systems and practices examined and criteria used

Systems and practices examined	Criteria
Designation of compulsory pilotage areas and ships subject to compulsory pilotage	The designation of compulsory pilotage areas and ships subject to compulsory pilotage is based on an assessment of navigation risks to ensure the safe movement of ships in the Great Lakes area.
Human resources management	<p>Ships subject to compulsory pilotage are under the conduct of licensed pilots or Canadian officers who have the competencies and abilities required to ensure safe pilotage.</p> <p>The Authority maintains a number of pilots employed in sufficient numbers and at a reasonable cost, based on the anticipated volume of traffic, reasonable productivity standards, and an acceptable level of quality and service, to respond to strategic and operational needs.</p>
Financial self-sufficiency	Pilotage tariffs are fair and reasonable and, at the same time, are set at levels that should ensure the Authority's financial self-sufficiency.
Governance, planning, and accountability	<p>The Board of Directors ensures that roles and responsibilities related to management activities are properly defined and implemented, and that an efficient governance system protects the interests of the Authority and enables it to be accountable for the responsibilities conferred on it under the <i>Financial Administration Act</i> or otherwise.</p> <p>The Authority clearly communicates its direction and plans. These are realistic, take into account government priorities, and are based on appropriate analysis of the operating environment, the market, risks, and financial and operational implications.</p> <p>The Authority's Board of Directors and management team have access to relevant and timely management and financial information to support decision making and reporting.</p>

Appendix B List of recommendations

The following is a list of recommendations found in the Special Examination Report. The number in front of the recommendation indicates the paragraph where it appears in the report. The numbers in parentheses indicate the paragraphs where the topic is discussed.

Recommendation	Response
Exempting Canadian ships from compulsory pilotage	
<p>40. As a regulatory agency responsible for navigation safety, the Great Lakes Pilotage Authority should implement a more effective mechanism to provide reasonable assurance that Canadian masters and deck watch officers have the competencies and qualifications needed to ensure the safe passage of ships in compulsory pilotage areas. (27–39)</p>	<p>A more stringent exemption or certification system would strengthen the Authority's ability to ensure the future safety and efficiency of the navigation system. The Authority continues to work with Transport Canada and the major stakeholders to address this deficiency. It expects regulatory amendments that will address the deficiency to be published in 2008.</p> <p>In the meantime, the Authority monitors incidents involving Canadian ships very closely and is satisfied that the current system of exemption has not jeopardized the safe passage of ships in the region.</p>
Financial self-sufficiency	
<p>69. The Great Lakes Pilotage Authority should monitor its financial situation closely and adjust its plans as needed to ensure that it achieves its plan to eliminate its cumulative deficit by 2013. In particular, given that marine traffic volumes are inherently difficult to forecast, the Authority should consider making further allowance for traffic variations when setting its tariffs. (61–68)</p>	<p>The Authority agrees with the recommendation. It will continue to work with all stakeholders, including customers, service partners (St. Lawrence Seaway Management Corporation), and Transport Canada to obtain the most accurate and reliable information so that reasonable forecasts of traffic and financial position can be done. The Board of Directors has approved a five-year plan that raises tariffs in a controlled manner while at the same time virtually eliminating the deficit. This plan is supported by the Authority's customers and their representative, the Shipping Federation of Canada.</p>
<p>76. The Great Lakes Pilotage Authority should regularly examine the composition of shipping traffic and review its tariff structure accordingly to ensure that it achieves the proper level of revenue by ship class and district. (70–75)</p>	<p>The Authority agrees with the recommendation. It has been performing this review of traffic composition for the last three years, and it has started to adjust tariffs so that every district is self-sufficient. The Authority's tariff adjustment will give the three operating districts that lost money in 2007 tariffs that will allow a break-even for 2008.</p> <p>The Authority will continue to review the composition of its traffic and adjust its policies accordingly.</p>

Recommendation	Response
Governance	
<p>82. The Board of Directors should work with the government to ensure that terms of future appointments are staggered over a given period. The Board should assess its own performance to determine how effectively it fulfills its governance responsibilities. (80–81)</p>	<p>The Authority agrees with the recommendation. The Privy Council and the Minister of Transport, Infrastructures and Communities control the appointment process. The Authority will continue to work with both parties to assure timely appointments.</p> <p>The Board initiated a formal evaluation process for its performance late in 2007 and should complete the exercise early in 2008. It is the intention of the Board to undertake this process on an annual basis.</p>
<p>85. The Board of Directors should develop a code of values and ethics, which could be modelled after the <i>Values and Ethics Code for the Public Service</i>. (83–84)</p>	<p>The Authority presently has a Directive on Conflict of Interest and on this issue. It will review it in 2008 and amend it accordingly to reflect the intent of the new <i>Federal Accountability Act</i>.</p>
Strategic planning and accountability	
<p>95. The Great Lakes Pilotage Authority should better define its objectives and express them in specific, measurable terms so that it can formulate corresponding strategies to achieve them. In addition, the Authority should define specific performance indicators to improve its performance measurement framework, in order to properly assess the effectiveness and efficiency of its operations. (92–94)</p>	<p>The Authority has scheduled a Strategic Planning exercise for June 2008, at which time the Authority’s strategic direction will be reviewed and adjusted as required. This special examination report will be reviewed at the planning meeting to assist the Board in setting the direction of the Authority.</p> <p>The Authority, with the assistance of its outside consultants and in consultation with the other three pilotage authorities, will review performance measures that are appropriate and meaningful for our organization and the services it provides. This performance framework will be included in the next Corporate Plan cycle (2009–2013) and reported in the Authority’s 2008 Annual Report.</p>