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Commissioned Paper 5

Drinking Water Services: A Functional Review of the Ontario Ministry of the Environment

by
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Abstract

This report is a functional review of the organization of the Ontario Ministry of the Environment (MOE), designed to determine what factors limit or prevent the MOE's mandated delivery of drinking water services. The report presents a detailed examination of those MOE functions and organizational units that provide drinking water services, in the context of the existing legislative and regulatory framework. The authors acknowledge the strength of the ministry's integrated approach to air, land, and water issues, which uses advanced environmental management and good planning tools. They conclude, however, that this strength has been offset by other factors that seriously compromise the MOE's capacity to provide comprehensive drinking water services. These factors include staff reductions, increasing breadth of staff responsibilities, reduced access to technical and specialist support, and a complex framework of legislation and regulation. To address issues within the MOE, they recommend the hiring of dedicated, full-time inspectors; the provision of sufficient resources for new programs and policies; the establishment of a fully integrated information system; and the realignment of staff responsibilities to a manageable breadth. They feel that these efforts must be supported by an overarching water policy for the province. This policy would be implemented in part by a drinking water act that would separate drinking water safety from environmental protection, complemented by a new comprehensive environmental protection act. Overall, the authors emphasize the need to ensure that the operational capacity of MOE staff can effectively support the regulatory and policy framework for drinking water.

About the Authors

Jim Merritt is an environmental consultant with a focus on municipal infrastructure, water quality, and information management. From 1997 to 1999, he was assistant deputy minister of operations with the Ontario Ministry of the Environment, responsible for environmental protection and regulatory services, including approvals, environmental assessment, and enforcement. Before this, he led the establishment of the Ontario Clean Water Agency and was the vice-president responsible for water and wastewater facility operations, engineering services, computer systems, and information management. Before 1992, he served with the Ministry of the Environment in a variety of director roles for the Central Region, Policy and Planning Branch, and Administrative Services Branch.

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1 Introduction

This report provides a functional review and description of how the Ontario Ministry of the Environment (MOE) delivers drinking water services. As such, the report:

- describes the MOE's functioning and inner workings as they relate to the delivery of drinking water services;

- uses the MOE's organizational structure to outline how ministry staff carry out tasks and duties on a day-to-day basis) in this context, the report also reviews operations and functions such as program and policy planning and implementation, certification, monitoring, enforcement, abatement, and inspections); and

- discusses how the MOE's operations implement the regulatory requirements for the management and delivery of drinking water services, identifies what agents/actors have primary roles in delivery and describes management, and what their functional relationships are to the MOE.

In preparing this report, we have addressed the question: What factors, if any, limit or prevent the MOE's mandated delivery of drinking water services in Ontario? Other papers prepared for the Walkerton Inquiry examine drinking water services in Ontario from various perspectives. This report endeavours to complete the picture by examining how the ministry has been fulfilling its mandate with respect to these services.

1.1 Organization of This Report

The report is divided into five sections, beginning with this brief description in section 1 of the report's purpose and structure. Section 2 then provides an overview of the regulatory and legislative framework relating to drinking water in Ontario. It describes the legislation, regulations, standards, guidelines, and objectives that influence the management of drinking water in the province.

This paper has been prepared for discussion purposes only and does not represent the findings or recommendations of the Commissioner.

Section 3 outlines the organizational structure of the MOE to show how the system of divisions, branches, and regions is arranged to perform the ministry's tasks. This outline is intended only as an organizational framework; the roles and responsibilities of divisions are described in Section 4.

Section 4 of the report constitutes the largest and most comprehensive section. It examines in detail the MOE functions related to the provision of drinking water services. Each function and its associated MOE organizational units and programs are discussed.

Section 5 concludes the report with an evaluation and discussion of the strengths and weaknesses of the MOE's organization and its approach to the delivery of drinking water services.

1.2 Sources and Time Frame

In preparing this report, we reviewed and analyzed government documents, legislation, programs, and policies, along with evidence and publicly available reports submitted to the Walkerton Inquiry. We derived the bulk of the remaining information from our own knowledge and expertise and from interviews and consultations with former MOE employees.

This report was limited on two fronts. First, it is limited by the time frame examined. We focused on the state of MOE functions in May 2000, at the time of the events in Walkerton. With this date as the central point, we considered both relevant historical events, developments, and information needed to explain the state of MOE operations at that time and changes to the MOE since then.

Second, the report is limited by our sources of information. We included information from individuals and secondary published sources — that is, evidence and testimony already submitted to the Inquiry. In relying on the recollections and memories of individuals for important information about the MOE, we recognize the potential for recalled information to be inaccurate. Wherever this situation has arisen, we have made every effort to verify the validity of the information by consulting other sources. It must also be noted that the Inquiry was taking place while we were writing this report, so direct information from individuals within the MOE about their roles and functions was not available.

This report, therefore, builds on and complements the discussion paper submitted to the Inquiry by Nicholas d'Ombrain, *Machinery of Government for Safe Drinking Water in Ontario*. It differs from the d'Ombrain paper because its chief purpose is to provide an overview of the specific day-to-day functions and operations of the MOE in its management of drinking water services and the relationship of the MOE's organizational structure to that end. In this context, the roles and functions of other ministries and agencies are examined only as they relate to and explain the functions of the MOE itself.

2 Regulatory Framework for Drinking Water in Ontario

A complex matrix of federal and provincial legislation, regulations, standards, guidelines, and policies relate to the provision and delivery of drinking water in Ontario. This section examines the relevant content of the legislation. Subsequent sections consider the specific roles and functions of agencies and departments that oversee, monitor, and enforce that legislation.

The majority of environmental concerns, including water in Ontario, are regulated according to a body of law called 'administrative law.' Administrative law requires departments, ministries, and agencies "to act only within their jurisdiction (the powers conferred on them by law), and to exercise their powers in accordance with certain minimal rules of procedural fairness."[1] The system of rules that industries, government staff, and the public are expected to follow, however, are not usually found in statutes, regulations, or bylaws. They are located in government policies, guidelines, objectives, and criteria that can be collectively called policies. Until the creation of the *Drinking Water Protection Regulation* in August 2000,[2] drinking water quality in Ontario was regulated according to a system of guidelines and objectives — in other words, policies.

According to Estrin and Swaigen, "These policies are the very backbone of our regulatory system, because they govern how agencies will interpret, administer, and enforce the law, and determine how agencies will exercise the broad discretion often granted to them by the law. Policies are necessary to provide

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[1] D. Estrin and J. Swaigen, 1993, "How the Legal System Works," in D. Estrin and J. Swaigen, eds., *Environment on Trial: A Guide to Ontario Environmental Law and Policy*, 3rd ed. (Toronto: Emond Montgomery Publications Ltd.), p. 9.

[2] *Drinking Water Protection Regulation*, O. Reg. 459/00, under the *Ontario Water Resources Act*, RSO 1990, c. O-40, as am.

the flexibility that rules often lack when they are cast in concrete, as laws are, and to guide the exercise of administrative discretion."[3]

This section will consider the internal rules and guidelines used by government agencies and ministries (i.e., policies and objectives), in addition to the legal framework governing drinking water quality in Ontario, with specific attention to statutes, acts, and regulations.

2.1 Drinking Water, the Constitution, and Federal-Provincial Division of Powers

The *Constitution Act* of 1982 addresses natural and environmental resources according to the division of authority between the federal and provincial governments. Section 91 of the act lists the federal government's legislative authority, and section 92 of act lists the provincial government's legislative authority. These two sections identify which level of government has legal power, authority, and responsibility over water and natural resources.

The federal, provincial, and territorial governments together have established *Guidelines for Canadian Drinking Water Quality*.[4] These guidelines are developed by the Federal-Provincial Subcommittee on Drinking Water and updated approximately every two years. The subcommittee reports to the Federal-Provincial-Territorial Committee on Environmental and Occupational Health, composed of senior health, labour, and environmental representatives from federal, provincial, and territorial governments. The guidelines "form the voluntary basis of the water standards, objectives and – rarely – regulations that the provinces promulgate to govern the provision of safe drinking water throughout Canada."[5]

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[3] Estrin and Swaigen, 1993, p. 12.

[4] Canada, Health Canada, Federal-Provincial Subcommittee on Drinking Water, 1996, *Guidelines for Canadian Drinking Water Quality,* 6th ed. (Ottawa: Health Canada).

[5] N. d'Ombrain, 2002, *Machinery of Government for Safe Drinking Water in Ontario*, prepared for the Walkerton Inquiry, p. 11 [online], [cited December 2001]. Published in 2002 as *Machinery of Government for Safe Drinking Water* (Toronto: Ontario Ministry of the Attorney General), Walkerton Inquiry Commissioned Paper 4, Walkerton Inquiry CD-ROM, <www.walkertoninquiry.com>.

2.1.1 The Federal Government and Constitutional Authority

The federal government has limited involvement in the provision or assurance of safe drinking water in Canada, but some argue that it also has an unrealized potential for a more prominent role.[6] According to Section 91 of the *Constitution Act*, the federal government has legislative authority over water resources. One of its main areas of legislative authority is its constitutional power over fisheries under the *Fisheries Act*.[7] "Section 35 of the *Fisheries Act* prohibits the carrying on of works or undertakings that result in the harmful alteration, disruption, or destruction of fish habitat. Section 36 … prohibits persons from depositing, or permitting the deposit of a deleterious substance into water frequented by fish. *Fisheries Act* regulations limit the effluent discharges into the aquatic environment from [processes such as] pulp and paper mills, petroleum refineries, chlor-alkalai plants, meat and poultry plants, metal mining operations, and potato processing plants."[8] As a result, if a harmful substance is compromising the quality of a drinking water source, and if this drinking water source contains fish, the *Fisheries Act* may be triggered. However, other federal legislation is also applicable.

Within the Section 91 preamble, a residual clause exists that permits the federal government to make laws for the "peace, order, and good government of Canada" (POGG) and gives authority for federal regulation of environmental matters. The POGG clause has been applied only with respect to issues of national concern or of a national dimension. "This has been interpreted as a power to make laws that would otherwise be within the exclusive realm of the provincial governments when a problem usually considered to be local in nature has become so severe that it has achieved a 'national dimension'… This doctrine has been used once to uphold a federal environmental law that would normally be within the exclusive jurisdiction of a province."[9] In the case *R. v. Crown Zellerbach* (1988), "The Supreme Court of Canada upheld the anti-dumping provision of the *Ocean Dumping Control Act* to an area of the ocean under the jurisdiction of the province of British Columbia. The court characterized

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[6] d'Ombrain, 2002, p. 15. It is also important to note that Health Canada is the regulatory agent of materials and products that are used in the water treatment and supply process.
[7] *Fisheries Act*, RSC 1985, c. F-14.
[8] J. Abouchar, 2002, *The Legal Framework for Water Resources Management and Water Pollution Control Applicable in Ontario in May 2000* (Toronto: Ontario Ministry of the Attorney General), Walkerton Inquiry Paper, p. 1.
[9] Estrin and Swaigen, 1993, p. 23.

the legislation as being 'for the prevention of marine pollution,' and said that this was a matter of national concern."[10]

The federal government also has control and responsibility for federal lands within the province of Ontario. These federal lands include First Nations reserves, national parks, military bases, research facilities, and ports and harbours. Federal lands are thought to be subject to provincial laws governing drinking water, but in practice the province does not regulate water and sewage, and it is "not clear who is responsible for overseeing the provision of water and sewer services to these federal facilities."[11]

> In the absence of federal law, it may be presumed that the province's laws of general application, including the *Ontario Water Resources Act*, apply; but as a practical matter they do not. Water and sewage facilities on federal lands, including reserves and military bases, are not regulated by the province (although here as in many other aspects of public responsibility the federal government follows provincial standards) nor are orders issued or prosecutions undertaken. The federal government pays for all such works, although the province has from time to time provided technical expertise and even built facilities.[12]

2.1.2 The Provincial Government and Constitutional Authority

The *British North America Act* of 1867 granted provinces a number of sources of regulatory authority over water. Section 109 gave the provinces jurisdiction over natural resources and was reinforced by the addition of section 92A in the *Constitution Act* of 1982, "which provides the provinces with exclusive jurisdiction over the development, conservation, and management of non-renewable resources."[13] Section 92 also "provides provincial jurisdiction over local works and undertakings, property and civil rights, all matters of a local and private nature, and municipal institutions. These powers give provinces ample authority to regulate the management of water resources and their protection from pollution."[14]

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[10] R. v. Crown Zellerbach (1988) 3 CELR (NS) 1, 84 NR 1 (SCC).
[11] d'Ombrain, 2002, p. 74.
[12] Ibid., pp. 74–75.
[13] Abouchar, 2002, p. 1.
[14] Ibid., p. 1.

Under this "ample authority" to regulate water resources, the matrix of laws that make up the regulatory regime for drinking water in Ontario is intricate. At the centre of this regulatory system are the *Ontario Water Resources Act* (*OWRA*),[15] the *Ontario Drinking Water Standards* (formerly the Ontario Drinking Water Objectives),[16] and the *Drinking Water Protection Regulation*,[17] an amendment to the *OWRA*. We will consider each of these below, along with other relevant legislation, policies, and guidelines.

2.2 The Province of Ontario's Legislative Framework for Delivery of Drinking Water

In 1956, the provincial government established the Ontario Water Resources Commission to protect the quality of drinking water in Ontario. The commission had been preceded by the Pollution Control Board (1952), which adopted the Objectives for Water Quality in Ontario in 1953.[18,19]

The commission was granted powers over all aspects of the development and provision of water and sewage services, including financial services. "Its substantive powers were considerable, and the origins of many of today's [water delivery] functions are clearly visible."[20] The commission was not responsible directly to any one ministry, but the minister designated under the *OWRA* was usually the minister responsible for health.

With the creation of the Ministry of the Environment (MOE) in 1972, a broader vision of provincial water management emerged, coinciding with a broader environmental agenda. The MOE absorbed the Ontario Water Resources Commission and its functions. At the same time, the Ministry of Health retained its presence and role, and health officers today still play a

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[15] *Ontario Water Resources Act*, RSO 1990, c. O-40, as am. Abbreviated as *OWRA*.
[16] Ontario, Ministry of the Environment, 2001a, *Ontario Drinking Water Standards (ODWS)*, revised [online], [cited November 15, 2001], <www.ene.on.ca/envision/WaterReg/Pibs4065.pdf>.
[17] *Drinking Water Protection Regulation*, O. Reg. 459/00, under the *OWRA*.
[18] d'Ombrain, 2002, p. 8.
[19] J. Benidickson, 2002, *The Development of Water Supply and Sewage Infrastructure in Ontario, 1880-1990s: Legal and Institutional Aspects of Public Health and Environmental History,* prepared for the Walkerton Inquiry, [online], [cited December 2001]. Published in 2002 as *Water Supply and Sewage Infrastructure in Ontario, 1880–1990s: Legal and Institutional Aspects of Public Health and Environmental History* (Toronto: Ontario Ministry of the Attorney General), Walkerton Inquiry Commissioned Paper 1, Walkerton Inquiry CD-ROM, <www.walkertoninquiry.com>.
[20] d'Ombrain, 2002, p. 8.

central role in the protection and delivery of safe drinking water, principally with respect to biological threats to public health. Nonetheless, the MOE is responsible for the administration of the primary piece of legislation governing the safe delivery of drinking water – the *OWRA*.

Several other pieces of legislation and regulations exist that influence the regulatory framework associated with drinking water in Ontario. We will note each of these in turn in this section, identifying the relevant administrative bodies (e.g., ministries) only in relation to the legislation. In later sections, we will discuss the roles and responsibilities of the actors in more detail.

Finally, an important note of clarification, and one that is often overlooked: municipalities are empowered to provide potable drinking water but are *not* required to do so. Likewise, the MOE is *not* responsible for providing water. Therefore, *no* agent or administrative body is legally required or responsible to provide drinking water in Ontario.

2.2.1 *The Ministry of the Environment Act*

Under the *Ministry of the Environment Act*,[21] the minister of the environment is empowered to appoint the employees necessary to conduct the ministry's business. The minister is responsible for the administration of legislation assigned to him or her by the statute, regulation, or Order-in-Council.

2.2.2 *The Ontario Water Resources Act*

The *Ontario Water Resources Act* (*OWRA*) is the central piece of legislation that the MOE administers to protect the quality of surface and groundwater. Section 29 of the *OWRA* provides the minister with supervisory authority for all surface and groundwaters in Ontario, and the act permits the ministry to inspect those waters for pollution.[22] Although, in principle, the MOE is responsible for all aspects of water in Ontario, in practice, the focus of its responsibility is on water quality management. The exceptions to this are the

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[21] *Ministry of the Environment Act*, RSO, c. M-24.

[22] The *Environmental Protection Act* (*EPA*) complements the *OWRA* in several ways and provides similar powers to the Ministry of the Environment for controlling water pollution. See subsection 2.3 for an overview of the *EPA*.

MOE's role in administering Permits to Take Water, and its renewed commitment to groundwater management. Otherwise, responsibility for the protection, management, and preservation of Ontario's water supplies (i.e., quantity) rests mainly, but not exclusively, with the Ministry of Natural Resources.

The *OWRA* empowers the MOE and the persons it delegates authority to (e.g., minister, directors, peace officers) "to control and regulate the collection, production, treatment, storage, transmission, distribution, and use of water for public purposes, and to make orders with respect thereto."[23] Abouchar explains that the *OWRA* and its regulations:[24]

- prohibit the discharge into water of polluting materials that may impair the quality of water;
- enable the MOE to take remedial and enforcement action to protect water quality;
- provide a regime for licensing water taking, water wells, water supply and treatment facilities, and sewage works; and
- enable the Ontario Clean Water Agency to operate municipal and sewage works.

Before considering the regulations and guidelines of the *OWRA* that govern the *quality* of drinking water, we will briefly summarize the legislation that provides the Ontario Clean Water Agency with the authority to operate, maintain, and supervise the delivery of drinking water.

2.2.2.1 *The Ontario Clean Water Agency*

The Ontario Clean Water Agency (OCWA) was established under the *Capital Investment Plan Act* of 1993.[25] With this act, the government of Ontario announced a capital investment plan for Ontario "under which the government, municipalities and other public bodies, and the private sector would work

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[23] *OWRA*, s. 10(3).
[24] Abouchar, 2002, p. 3.
[25] *Capital Investment Plan Act*, 1993, SO 1993, c. 23.

together to make significant investments in the province's infrastructure."[26] Under the act, the minister of the environment is the minister responsible for the administration of the OCWA.[27] Until the early 1990s, the MOE operated many and regulated all of Ontario's drinking water systems. This changed in 1993 because of concern that the ministry should not be regulating its own operations.[28] As a result, the operational functions were entrusted to the OCWA, while the ministry still exercised broad powers of direction over the agency. D'Ombrain notes that the minister of the environment recommends the appointment of the chief executive officers of the OCWA, and he or she has a role in recommending appointments to its board of directors, which manages the OCWA. The board is composed of four serving deputy ministers or their alternates, and includes the deputy minister of the environment.[29]

Under the act, the OCWA was able to "make agreements for the provision of water service and sewage service and the financing of water works and sewage works" through full-service partnerships with municipalities.[30] Hence, the act removed the operational authority of the MOE, while the OCWA acquired all of these powers and subsequently became subject to all agreements for waterworks, sewage works, water service, or sewage service originally that the ministry had been subject to.

The creation of the OCWA must be considered in the broader government trends of decentralization and devolution of service delivery that became widespread in the 1990s. The 1993 *Capital Investment Plan Act* provided the OCWA with the authority to purchase municipal water supply services, but following the 1997 *Municipal Water and Sewage Transfer Act*,[31] "the agency was mandated to transfer ownership of water and sewage facilities to municipalities together with outstanding indebtedness."[32] As a result, the OCWA today operates 429 water and sewage facilities, making it the largest operator of water and wastewater facilities in Canada.[33]

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[26] *Capital Investment Plan Act,* preamble.
[27] *Capital Investment Plan Act,* s. 3(3).
[28] d'Ombrain, 2002, p. 30.
[29] Ibid., p. 42.
[30] *Capital Investment Plan Act,* section 52.
[31] *Municipal Water and Sewage Transfer Act*, 1997, SO 1997, c. 6, Sched. A.
[32] d'Ombrain, 2002, p. 41.
[33] Ontario Clean Water Agency (OCWA), 2001, *Corporate Profile* [online], [cited December 18, 2001], <www.ocwa.com/corpprof.htm>.

Even with these important changes in operational authority over water services, all service providers/operators function under the same body of legislation governing the management of water quality. Central to this system is the MOE's role in issuing permits, licences, and certificates for the operation of water service facilities, its authority to issue compliance orders and stop orders, and its authority to levy fines and enforce its statutes.

2.2.2.2 *Permits to Take Water*

The Environmental Assessment and Approvals Branch within the Operations Division of the MOE plays a central role in regulating water service delivery because of its function as the issuer of permits, licences, and Certificates of Approval for the operation of facilities. Permits and most orders are issued in the division's regional offices.

Under the *OWRA*, any facility with a capacity to draw 50,000 litres or more of surface or groundwater a day must have a Permit to Take Water (PTTW) issued by the MOE.[34] The permits address only the *quantity* of water to be removed, not water *quality*. See subsection 4.1.8 for more information about PTTW. The Certificate of Approval for communal waterworks deals with the *quality* of water withdrawn under a PTTW.[35]

2.2.2.3 *Certificates of Approval*

The responsibility for obtaining approval for the construction and operation of water or sewage works under the *OWRA* lies with the legal owner of the works.[36] A Certificate of Approval stipulates the conditions that must be met in order for a facility to operate. Subsections 1 through 7 of Section 52 of the *OWRA* make the following points regarding the requirements for approval:[37]

- No person shall establish, alter, extend or replace new or existing water works except under and in accordance with an approval granted by a

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[34] *OWRA*, s. 34.
[35] R. Shaw, testimony to the Walkerton Inquiry, March 8 and April 17–19 and 23, 2001, "Permit to Take Water," slide presentation, p. 16.
[36] *OWRA,* ss. 52 and 53.
[37] *OWRA,* s. 52(1-7).

Director. [Under the *OWRA*, a director is an individual who is specifically and legally designated by the minister of the environment. Thus, an individual designated as a director within the administrative apparatus of the MOE may not be the same as a director designated in the *OWRA*.]

- The Director may require an applicant to submit plans, specifications, engineer's report and other information and to carry out and report on tests or experiments relating to water supply prior to approval.

- Where any person undertakes or proceeds with the establishment of any water works, or the extension of or change in any existing water works, without having first obtained approval of a Director, a Director may order the person provide at their own expense facilities the Director considers necessary.

- The Director can refuse, grant, alter, impose new, or revoke approval if it is in the public interest to do so.

- Water works shall at all times be maintained, kept in repair, and operated in such manner and with such facilities as may be directed by a Director.

- No person shall use or operate water works for which an approval is required unless the required approval has been granted and complied with.

It is not possible to generalize the terms and conditions of ministry approvals because every certificate contains legally enforceable requirements for a specific facility. Thousands of certificates exist, each different, but they usually have five general sections relating to:[38]

- Performance Criteria – Site- and project-specific performance criteria that the proposed works must be able to meet to protect public health and the environment

- Monitoring and Recording – The conditions relating to flow monitoring and the number and frequency of parameters to be sampled and recorded

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[38] Ontario, Ministry of the Environment, 2000b, *Model Conditions for Certificates of Approval. Surface Water Supply* (Toronto: Queen's Printer), pp. 1–8.

- Operations and Maintenance – The conditions outlining the level of operation and maintenance required for the facility

- Notification and Reporting – The conditions (concerns or problems) requiring an owner of a facility to notify the medical officer of health and the MOE, and the information that must be contained in routine reports submitted to the MOE on facility operations

- Final Approval – Requirements for approval of detailed designs before construction can begin

Certificates of Approval can refer to any guidelines, objectives, or standards for water quality. For example, a facility certificate can refer to U.S. standards for water quality if need be, and then those become the operational requirements for that facility under that certificate. However, many certificates for water treatment and distribution facilities in Ontario are very old and make no reference to water quality requirements or other conditions.

2.2.2.4 *Licensing*

In addition to Certificates of Approval for facilities, the *Water Works and Sewage Works Regulation* stipulates that operators must be licensed to operate waterworks facilities and divides facilities into four categories:[39]

- wastewater collection facilities
- wastewater treatment facilities
- water distribution facilities
- water treatment facilities

Facilities are classified as Class I, II, III, or IV according to the characteristics of the facility described in Schedule 1 of the *Water Works and Sewage Works Regulation*. The classification depends on the number of people served, type of service, number of pumping stations, number of force mains, age of facilities, number and type of by-pass chambers, and special features.

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[39] *Water Works and Sewage Works*, O. Reg. 435/93, under the *OWRA*.

The owners of facilities are required to ensure that all operators are properly licensed, have access to operations and manual guidelines, and are properly trained. They must also ensure that records are kept and accessible in the facility for at least two years. According to Section 19 of the *Water Works and Sewage Works Regulation*, the operator in charge must:[40]

- take all steps reasonably necessary to operate the processes within his or her responsibility in a safe and efficient manner in accordance with the relevant operations manuals;

- ensure that the processes within his or her responsibility are measured, monitored, sampled, and tested in a manner that permits them to be adjusted when necessary;

- ensure that records are maintained of all adjustments made to the processes within his or her responsibility; and

- ensure that all equipment used in the processes within his or her responsibility is properly monitored, inspected, and evaluated and that records of equipment operating status are prepared and available at the end of every operating shift.

Complementing this system of licences, certificates, and permits is the MOE's administrative capacity to command corrective action by those who contravene laws, regulations, or operating procedures. This authority comes from the ministry's capacity to issue orders under the *OWRA*. The ministry also has the power to inspect facilities.

2.2.2.5 *Power to Inspect*

The *OWRA* provides the legal authority for provincial officers to do inspections. The power of provincial officers to inspect under the *OWRA* is in some respects greater than that of police officers because provincial inspection officers do not require a court order.

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[40] Ibid., ss. 13–20.

For the administration of the *OWRA* and regulations, a provincial officer may, without warrant or court order, at any reasonable time and with any reasonable assistance, make inspections, including:[41]

- Entering any part of the natural environment to ascertain the extent, if any, to which any material of any kind has impaired any waters, the causes of any impairment, and how any impairment may be prevented, eliminated or ameliorated and the waters and natural environment restored;

- Entering any part of the natural environment to ascertain the quality or quantity of waters;

- Entering any place in or from which the provincial officer reasonably believes a material that may impair the quality of any waters is being, has been or may be discharged,

  a. Into or in any waters,
  b. Onto any shore or bank of any waters, or
  c. Into any part of the natural environment;

- Entering any place that the provincial officer reasonably believes is likely to contain documents related to,

  – An activity or undertaking that is, or is required to be, the subject of a permit, licence, approval, requirement, direction, report, notice, agreement, or order under [the *OWRA*],

  – An activity or undertaking that is exempted by a regulation from any requirement to have a permit, licence, or approval under [the *OWRA*] and that is regulated by the provisions of the regulation, or

  – The discharge of a material of any kind that may impair the quality or quantity of any waters; and

[41] *OWRA*, s. 15(1).

- Entering any place that the provincial officer reasonably believes,

  – Is, or is required to be, subject to or referred to in a permit, licence, approval, requirement, direction, report, notice, agreement or order under [the *OWRA*], or

  – Is subject to or referred to in a regulation that provides for an exemption from any requirement to have a permit, licence, or approval under [the *OWRA*], where the regulation includes provisions that regulate the place.

Despite their substantial inspection powers, provincial officers must proceed carefully in case the knowledge acquired during the inspection leads the MOE to prosecute a violation. As a result, the line between an inspection and the accumulation of evidence is not always clear and can become a challenging legal question.

2.2.2.6 *Compliance Orders*

Section 16(1) of the *OWRA* states that a provincial officer may issue a compliance order to any person that the provincial officer reasonably believes is contravening or has contravened:

- a provision of the *OWRA* or the regulations;

- a provision of an order, notice, direction, requirement, or report made under the *OWRA*; or

- a term or condition of a licence, permit, or approval made under the *OWRA*.

Such an order requires the person to whom it is directed to comply with any directions set out in the order within the time specified. These compliance requirements may be related to:[42]

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[42] *OWRA*, s. 16(3).0

- achieving compliance with a provision, term, or condition;
- preventing the continuation or repetition of the contravention;
- securing any land, place, or thing;
- repairing, maintaining, or operating waterworks in such a manner and with such facilities as specified in the order;
- sampling, analyzing, or reporting the quality or quantity of any waters;
- providing alternate water supplies where the contravention has caused damage to or endangered or is likely to cause damage to or engender existing water supplies;
- submitting a plan for achieving compliance with the provision, term, or condition, including the engagement of contractors or consultants satisfactory to a provincial officer;
- submitting an application for an approval, licence, or permit;
- monitoring and recording in relation to the natural environment and waters and reporting on the monitoring and recording; and/or
- posting notice of the order.

The issuance of a compliance order is one mechanism that the MOE employs to advance corrective action. However, orders do not represent a one-directional and one-time regulatory effort by provincial officers. A continuing and evolving process of consultation, feedback, and monitoring between operators and regulators exists when operational concerns arise. (See subsection 4.1.4 for a discussion of compliance activities.) Thus, orders represent one enforcement instrument employed to encourage corrective action to take place. Ultimately, if facility operators do not take corrective action, do not comply with issued orders, and/or ignore MOE requests for corrective action, they can be prosecuted for violation of a statute, regulation, Certificate of Approval, permit, or order.

2.2.2.7 *Prosecutions*

Section 107 (1-3) of the *OWRA* states that any person is guilty of an offence who:

- contravenes the act or regulations;
- fails to comply with an order, notice, requirement, or report made under the act; or
- contravenes a term or condition of a licence, permit, approval, or report made under the act.

Enforcement activities necessary to generate a prosecution include:[43]

- inspections to verify compliance;
- investigations of violations;
- measures to compel compliance without resorting to formal court action, such as directions by the minister or enforcement officers, ticketing, and issuing of compliance orders by enforcement officers; and
- measures to compel compliance through court action, such as injunctions, prosecution, court orders upon conviction, and civil suits for recovery of costs.

Section 108(1) of the *OWRA* states that every *individual* convicted of an offence under the act is liable for the following:

- On a first conviction, for each day or part of a day on which the offence occurs or continues, to a fine of not more than $20,000; and
- On each subsequent conviction,

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[43] Canadian Environmental Defence Fund, 2001, "The Ebb and Flow of Environmental Enforcement in Ontario:15 Years of Irregular Data," paper presented from party with standing by D. Donnelly, S. Tabassum, and B. Mausberg to the Walkerton Inquiry, May, p. 15. Available online at <www.walkertoninquiry.com/part2info/partieswithstanding/pdf>.

a. For each day or part of a day on which the offence occurs or continues, to a fine of not more than $50,000,

b. To imprisonment for a term of not more than one year, or

c. To both such fine and imprisonment.

Section 108(2) states that every *corporation* convicted of an offence under the act is liable:

- on a first conviction, for each day or part of a day on which the offence occurs or continues, to a fine of not more than $100,000; and

- on each subsequent conviction, for each day or part of a day which the offence occurs or continues, to a fine of not more than $200,000.

The fines and terms of imprisonment noted above are applicable to all offences under the *OWRA*.

More severe fines and terms of imprisonment apply to:

- certain offences under the act "that posed, poses, or may pose a risk of impairment of the quality of any waters";[44]

- occasions when a provincial officer is obstructed or provided with false or misleading information, or a person refuses to furnish information;[45] or

- occasions when a person fails to comply with an order, notice, direction, requirement, or report made under the act, or contravenes a term or condition of a licence, permit, approval, or report under the act.[46]

Convictions on these specific offences carry the following the penalties:

- Every corporation convicted of an offence under [the above conditions] … is liable, in substitution for any penalty elsewhere provided, for each day or part of a day on which the offence or part of a day on which the

[44] *OWRA,* s. 109(1).
[45] *OWRA,* s. 98(1–4).
[46] *OWRA,* s. 107(2–3).

offence occurs or continues, to a fine of not more than $1,000,000 on a first conviction and not more than $2,000,000 on each subsequent conviction.[47]

- Every individual convicted of an offence under [the above conditions] … is liable, in substitution for any penalty elsewhere provided,

  – For each day on which the offence occurs or continues, to a fine of not more than $100,000 on a first conviction and not more than $200,000 on each subsequent conviction;

  – To imprisonment for a term of not more than two years less one day; or

  – To both such fine and imprisonment.[48]

Finally, it should be noted that on October 10, 2000, Minister of the Environment Dan Newman introduced a bill in the Ontario Legislature titled the *Toughest Environmental Penalties Act, 2000*[49] that would amend the penalty structure of the *OWRA*, the *Pesticides Act*,[50] and the *Environmental Protection Act*.[51] As of April 2001, the *Toughest Environmental Penalties Act* had not yet been proclaimed.[52] The new act would:[53]

- increase the maximum fine for a first conviction for a corporation from $1 million to $6 million per day, and for a subsequent conviction from $2 million to $10 million per day;

- increase the maximum fine for a conviction for an individual from $100,000 to $4 million per day, and for subsequent convictions from $200,000 to $6 million per day; and

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[47] *OWRA*, s. 109(4).
[48] *OWRA*, s. 109(5).
[49] *Toughest Environmental Penalties Act, 2000,* SO 2000, c. 22.
[50] *Pesticides Act*, RSO 1990, c. P – 11.
[51] *Environmental Protection Act*, RSO 1990, c. E. 19. Abbreviated as *EPA*.
[52] Canadian Environmental Defence Fund, 2001, p. 23.
[53] Ontario, Ministry of the Environment, 2001b, "Ontario government introduces toughest penalties in Canada for major pollution offences," news release, October 10 [online], <www.ene.gov.on.ca/envision/news/0067.htm>.

- increase the maximum jail terms for a person convicted of a major offence from two years to five years.

For the system of licensing, certification, permits, orders, and prosecutions described here to operate, some baseline of standards, objectives, or criteria is needed against which compliance, monitoring, and quality can be compared. Until 2000, the Ontario Drinking Water Objectives were used.[54] These objectives were not legally binding but provided guidance in approving the operation and quality of water supply systems. Following the events at Walkerton and the issuance of the *Ontario Drinking Water Protection Regulation,*[55] the Ontario Drinking Water Objectives became the *Ontario Drinking Water Standards*.

2.2.2.8 *The Ontario Drinking Water Objectives and Standards*

The Ontario Drinking Water Objectives (ODWO) were first published in 1964. They specified minimum requirements for bacteriological sampling from distribution systems, but were not legally binding. However, this does not mean that they were not brought into legal force. The ODWO could be cited as the water quality standards that a facility needed to meet under its Certificate of Approval. In that case, the ODWO came into force legally under the legislative authority of the certificate under the *OWRA*.

The ODWO set out the maximum acceptable concentration (MAC) of substances in drinking water that can cause harm to human health or that may interfere with the taste, smell, or appearance of drinking water. The ODWO also set out how and how often samples should be tested, and steps to be taken when samples are above certain limits. Under the ODWO, the operating authority of a facility established the frequency of microbiological analysis and location of sampling points under the direction of the MOE. The ODWO set out three circumstances for operators to notify their MOE district office:

- mandatory – when drinking water is judged unsafe;
- recommended – when drinking water quality is deteriorating; and
- recommended – when the MACs of potentially harmful substances are exceeded.

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[54] Ontario, Ministry of the Environment, 1994, *Ontario Drinking Water Objectives (ODWO),* revised ed. (Toronto: Queen's Printer).
[55] *Drinking Water Protection Regulation,* O. Reg. 459/00, under the *OWRA*.

In the event that drinking water is judged unsafe, the ODWO required that the testing laboratory immediately notify the MOE district office, which would then contact the medical officer of health and the operating authority to initiate the collection of special samples and/or corrective action. Under the ODWO, it was up to the medical officer of health, with advice from other relevant parties, to determine if a boil water advisory was needed.

The introduction of the *Drinking Water Protection Regulation* on August 8, 2000, gave the Ontario Drinking Water Objectives the force of law, and they became the *Ontario Drinking Water Standards (ODWS)*. The standards were established to help meet the legislated requirements governing waterworks under the *OWRA* and are used in conjunction with the *Drinking Water Protection Regulation*. The MOE uses the *ODWS* in approving facilities capable of supplying more than 50,000 litres of water a day and those that provide drinking water to more than five private homes. In addition, the new regulation provides a structure for certifying and licensing laboratories, and articulates water-testing requirements for facility owners.

2.2.2.9 *Drinking Water Protection Regulation*

The *Drinking Water Protection Regulation (DWPR)* came into force on August 26, 2000. This date follows the events at Walkerton and some have noted that the *DWPR* represents the MOE's regulatory response to this event.[56] The *DWPR* applies to all water treatment and distribution systems that require approval under the *OWRA*. Any person who applies for an approval must do so in accordance with the *ODWS*, as stated in the *DWPR*.[57]

Under the *DWPR*, several new and much more explicit measures are legally required, as compared with the previous provisions in the ODWO. Sections 5 through 14 outline regulations for water treatment and distribution systems relating to:

- minimum levels of treatment;
- sampling and analysis;
- notice to the medical officer of health and the MOE;
- corrective action;
- the posting of warning notices;

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[56] Canadian Environmental Defence Fund, 2001, p. 24.
[57] *Drinking Water Protection Regulation*, s. 4(1).

- access to public information;
- the issuance of quarterly reports;
- the issuance of an independent engineers' reports for the MOE; and
- the maintenance of documents and other records.

Key requirements under the new regulations include:[58]

- improved testing and treatment of water;
- mandatory regular water sampling by all waterworks with testing by accredited labs;
- stricter procedures for reporting contamination;
- upgrading existing water treatment systems and facilities;
- the issuance of quarterly reports by waterworks;
- notification of both the medical officer of health and the MOE of adverse water quality; and
- public access to all sample results, approvals, and orders.

The addition of the *DWPR* to the *OWRA* and the implementation of the legally binding *ODWS* form a stronger regulatory framework for ensuring safe drinking water in Ontario than existed before the Walkerton events. The regulation places the onus on the owners of facilities to ensure that water treatment, testing, reporting, publicizing of results, and corrective action are done. However, the regulation does not regulate or provide any guidelines for the activities of the regulator (i.e., the MOE).[59]

The *OWRA,* along with its accompanying body of regulations, objectives, and enforcement mechanisms, is the primary piece of legislation relating to the protection of drinking water in Ontario, but several other bodies of legislation and regulations, although not water-specific, complement the regulatory framework for water. These are discussed in the following subsections.

2.3 The *Environmental Protection Act*

Ontario's *Environmental Protection Act* (*EPA*) prohibits the discharge of contaminants into the natural environment, including water.[60] "The *EPA* generally

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[58] Canadian Environmental Defence Fund, 2001, p. 24.
[59] d'Ombrain, 2002, p. 70.
[60] *EPA*, ss. 6 and 14.

addresses the release of pollution and waste materials, which can cause the impairment of environmental quality, lead to damage or injury to property, plant or animal life, and/or have an adverse effect on human health. It has been used interchangeably with the *OWRA* to control water pollution. In Ontario, the *EPA* addresses the issue of water pollution through a general prohibition against pollutant discharge into the environment and also through remedial and preventative administrative orders."[61] For example, Section 6 of the act prohibits the discharge into the environment of any contaminant in excess of that prescribed in the regulations, and Section 14 prohibits the discharge into the environment of any contaminant out of the normal course of events that causes or is likely to cause an adverse effect. Again, the definition of 'environment' includes water. Most significantly, the act's remedial actions apply to water pollution through the use of control orders, stop orders, remedial orders, and preventive orders.

On its own, the *OWRA* provides a system for managing water supply, distribution, and treatment facilities. However, the *EPA* and the *OWRA* together "provide similar powers to the MOE to control water pollution through clean-up or preventive orders, and through the creation of provincial offences for violations of the statutes. Typically, when the MOE lays a charge respecting water pollution or issues a pollution control order, it refers to sections in both the *OWRA* and the *EPA*. Frequent amendment of the *EPA* has clarified its provisions related to MOE powers to prevent or clean up water pollution. The *OWRA* has not been amended as frequently so that reference to both acts is needed to provide the proper legal basis for MOE actions to prevent or clean up water pollution."[62] Importantly, water pollution resulting from animal waste is exempt from several sections of the *EPA* if the waste is disposed of in accordance with 'normal farming practices.'

2.4 The *Farming and Food Production Protection Act*

Although the farming industry is subject to the *EPA* and the *OWRA*, the disposal and management of animal wastes is exempt from regulation under these acts provided that wastes are disposed of in accordance with 'normal farm practices.' The Normal Farm Practices Protection Board exists to referee the provisions of the *Farming and Food Production and Protection Act*, which the Ministry of

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[61] Canadian Environmental Defence Fund, 2001, p. 22.
[62] Abouchar, 2002, p. 6.

Agriculture and Rural Affairs oversees.[63] Under Section 4 of the act, the board is empowered:[64]

- to inquire and resolve a dispute respecting an agricultural operation and to determine what constitutes a normal farm practice; and

- to make necessary inquiries and orders to ensure compliance with its decisions.

The act provides a range of protection for farming operations:[65]

- A farmer is not liable in nuisance to any person for a disturbance resulting from an agricultural operation carried on as a normal farm practice.

- No court shall issue an injunction or other order that prohibits a farmer from carrying on the agricultural operation because it causes or creates a disturbance.

- No municipal by-law applies to restrict a normal farm practice carried on as part of an agricultural operation.

The effect of this legislation is to protect farmers against restrictive municipal by-laws, as well as civil actions by individuals and groups.[66]

Abouchar explains that by extension, farm operations are exempt from several sections of the *EPA* including Section 8 stop orders "even when there is an immediate danger to human health, life, or property since stop orders do not apply to contaminants flowing from 'any plant, structure, equipment, apparatus, mechanism, or thing used in agriculture.'"[67] As a result, the legal framework governing the relationship between animal wastes, normal farming practices, and water pollution prevention is not clearly delineated, in particular, because 'normal farm practices' are not defined and are instead left to be defined by the Normal Farm Practices and Procedures Board.

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[63] *Farming and Food Production and Protection Act*, SO 1998, c. 1.
[64] *Farming and Food Production and Protection Act*, s. 4.
[65] *Farming and Food Production and Protection Act*, ss. 2 and 6.
[66] d'Ombrain, 2002, p. 48.
[67] Abouchar, 2002, p. 7.

2.5 The Health Promotion and Protection Act

The *Health Protection and Promotion Act* plays an important legal role in the management of scenarios where drinking water and public health may be compromised, no matter what the cause.[68] The act establishes 'health units' as the organizational basis for the provision and delivery of public health services in Ontario. Each unit is presided over by a board of health, which oversees the provision of community sanitation, control of infectious diseases, and other health services and programs as may be prescribed by the provincial government by regulation.[69]

> A majority of the members of the board are appointed by the municipality and the remainder by the provincial government. Medical officers of health and associate medical officers of health are appointed by the boards of health subject to approval of the minister of health … The ministry provides professional guidance (but not direction) for medical officers of health through the chief medical officer of health, although the minister has the authority to issue directions if circumstances warrant and may in specific circumstances delegate this authority to the chief medical officer of health … The chief medical officer of health performs statutory duties under the *Health Promotion and Protection Act*, for most of which purposes he or she acts independently of the Minister of Health and the deputy minister, although the government notes that "all powers and duties are delegated to him/her from the Minister." This independence is used in emergency situations to act quickly, usually through advice to medical officers of health on the ground.[70]

If a complaint is made to a medical officer of health that a health hazard relating to occupational or environmental health exists, Section 11 of the act requires that the medical officer of health notify the ministry with primary responsibility for the matter. In consultation with the appropriate ministry, the medical officer of health must investigate the complaint to determine whether a health hazard exists. This legal provision can relate specifically to concerns over the quality of drinking water.

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[68] *Health Protection and Promotion Act*, RSO 1990, c. H-7.
[69] d'Ombrain, 2002, pp. 31–32.
[70] Ibid., p. 32.

Where a medical health officer or a public health inspector has reasonable or probable grounds to believe that a health hazard exists, he or she can require the responsible party to act according to written orders to decrease or eliminate the health hazard.[71] Local health units do not monitor water quality. However, Ministry of Health laboratories test water quality at the request of medical health officers or water treatment and distribution facility owners and operators.

As previously noted, under the new *Drinking Water Protection Regulation* the "local health unit [along with the MOE] is to be notified by the owner and by the testing laboratory of any biological threat to the safety of drinking water in order that the medical officer of health may make appropriate orders using the powers granted by the *Health Promotion and Protection Act*."[72]

2.6 The Environmental Assessment Act

The Ontario *Environmental Assessment Act* (*EAA*) is Ontario's primary environmental planning statute and is administered by the MOE. The *EAA*'s influence over drinking water quality in Ontario comes from its regulation and assessment of physical 'undertakings' – proposals, plans, activities, or projects to construct or alter facilities that deliver drinking water. The Canadian Environmental Law Association explains that "In general, public sector undertakings (e.g., provincial or municipal projects) are subject to the *EAA* unless exempted, while private sector undertakings are not subject to the *EAA* unless designated by regulation as a major commercial or business enterprise or activity to which the *EAA* applies."[73] According to Section 9 of the *EAA*, the minister may reject environmentally unsound undertakings, and conversely, may approve environmentally sound undertakings, subject to terms and conditions that prevent, reduce, or mitigate adverse environmental effects.[74]

Importantly, under the *EAA*, provisions also exist that permit the MOE to approve undertakings that fall under the heading of class environmental assessment projects (Class EAs). Class EAs apply to classes of projects that the

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[71] *Health Promotion and Protection Act,* s. 13.
[72] d'Ombrain, 2002, p. 33.
[73] Canadian Environmental Law Association, 2001, "Tragedy on Tap: Why Ontario Needs a Safe Drinking Water Act," vol. II, paper presented from party with standing to the Walkerton Inquiry, May 15, p. 22, fn. 63. Available at <www.walkertoninquiry.com/part2info/partieswithstanding/pdf/sdwavol2.pdf>. See also *Environmental Assessment Act*, RSO 1990, c. E-18, s. 3, as am.
[74] Canadian Environmental Law Association, 2001, p. 23.

MOE considers to occur routinely and that have predictable and mitigable environmental effects, and therefore are deemed not to warrant an individual environmental assessment.

> In general, projects caught by the Class EA approach, tend to be small-scale, frequently recurring activities with minor, predictable and mitigable environmental impacts. Unlike the individual EA process … the proponent of a project under a Class EA simply follows the prescribed planning process (e.g., public notices, comment opportunities, environmental study reports, etc.) without the need for project-specific approval from the Minister of the Environment or the Environmental Review Tribunal. Most Class EAs, however, include 'bump up' provisions which allow the Minister to order proponents to carry out an individual EA of particularly significant or controversial projects.[75]

In October 2000, the MOE approved a new Class EA that updates and consolidates the pre-existing Class EAs for municipal road projects, and for municipal water and wastewater projects.[76]

> In the context of water projects, the stated purpose of the municipal Class EA is to ensure that 'projects developed under this Class EA will be undertaken to address problems affecting the operation and efficiency of existing water systems, to accommodate future growth of communities, or to address water source contamination problems. The Class EA specifically recognizes environmental and public health concerns relating to municipal drinking water systems … It is important to note that the municipal Class EA does not replace, preempt or supercede other federal or provincial laws which may be applicable to a particular municipal water project. For example, even though a municipal water treatment plant may be planned and designed under the Class EA, the necessary technical approval(s) under the *OWRA* (e.g., section 52) will still be required … It should further be noted that the Class EA process is, in essence, a self-assessment process. Where the provisions of the Class EA apply to a project, it is the proponent's responsibility to ensure that the prescribed planning requirements are fully complied with before the project is undertaken.

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[75] Ibid., p. 23.
[76] Ibid.

Failure to comply with the Class EA process constitutes an offence under section 38 of the *EAA*, and persons convicted of contravening the *EAA* may be subject to small fines.[77]

2.7 The Planning Act

While not often discussed, the *Planning Act* can play an important role in the use and protection of drinking water and drinking water sources.[78] Under the act, most municipalities are required to develop an official plan designating how land in the municipality will be used. An official plan indicates long-range land-use plans for a municipality. Hence, an official plan also serves to influence water use, expected water use, and/or discharge and run-off into water courses affected by the patterns of land use (e.g., industrial withdrawal and consumption of water and discharge into water; agricultural withdrawal and discharge; residential consumption and withdrawal). Therefore, although it does not have a legally explicit relationship to drinking water quality, the *Planning Act*'s requirement that municipalities develop official plans provides them with a long-range planning tool for considering water use and quality.

2.8 The Public Utilities Act

The *Public Utilities Act (PUA)* was first enacted in 1912.[79] The *PUA* was designed to encourage the orderly development and operation of water facilities and provided municipalities with the authority to take on debt for water infrastructure.[80] The *PUA* enables a municipality to pass a by-law to establish a public utilities commission to control and manage water distribution. This is related to the power of municipalities to pass by-laws regulating the supply and price of water and any other matter necessary to secure a good quality water supply for its residents.

According to d'Ombrain, public utilities commissions have become relatively insignificant players in the provision of safe drinking water: "In 1990, of a total of 834 municipalities, 124 relied on public or water utility commissions

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[77] Ibid., p. 23–24. For Ministry of the Environment information on environmental assessments, see <www.ene.gov.on.ca/envision/env%5Freg/ea/english/General_info/general_info.htm>.
[78] *Planning Act*, RSO 1990, c. P-13.
[79] *Public Utilities Act*, RSO 1990, c. P-52.
[80] d'Ombrain, 2002, p. 53.

to operate water facilities. By 2001, as a result of municipal amalgamations and the spinning off of electrical utilities, of a total of 447 municipalities, only 15 continued to use commissions to operate water facilities."[81]

2.9 The Environmental Bill of Rights

The Environmental Bill of Rights (EBR) provides citizens with the right to be consulted before decisions are made that will affect the environment.[82] Furthermore, it provides a forum for citizens to make applications for an investigation. For water-related activities, the EBR requires that a notice of application and a notice of decision be posted on the EBR's public registry, providing the opportunity for public commentary and review before *OWRA* approvals are issued, amended, or revoked.

Under the EBR, "citizens may request that the MOE investigate any suspected violation of a prescribed act, regulation or approval … If a citizen does not receive a response, or receives a response which he or she believes is unreasonable, he or she may bring a legal action in respect of harm to public resources, including water. The EBR also provides that a person can sue for a public nuisance causing harm to the environment. Part VII of the EBR protects 'whistle blowing' employees who participate in consultation, request investigations, or pursue legal actions under the EBR, from employer reprisals."[83] As such, if an employee is concerned that an owner or operator of a water distribution or treatment facility is in violation of any legal standards or provisions, he or she can request that the MOE investigate that facility.

Where a dispute over an MOE decision arises, or where a detailed review of the environmental impact of a major project is required, the Environmental Review Tribunal becomes involved.

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[81] d'Ombrain, 2002, p. 53, quoting A. Sancton and T. Janik, 2002, *Provincial-Local Relations and Drinking Water in Ontario*, prepared for the Walkerton Inquiry, p. 26 [online], [cited December 2001]. Published in 2002 as *Provincial-Local Relations and Drinking Water* (Toronto: Ontario Ministry of the Attorney General), Walkerton Inquiry Commissioned Paper 3, Walkerton Inquiry CD-ROM, <www.walkertoninquiry.com>.

[82] *Environmental Bill of Rights Act,* 1993, RSO 1993, c. 28.

[83] Abouchar, 2002, p. 8.

2.10 The Environmental Review Tribunal Act

The *Environmental Review Tribunal Act* affects drinking water in Ontario in two ways: it conducts hearings to assess the environmental impact of major projects, and it hears appeals of certain decisions made by the MOE.[84] The tribunal represents the amalgamation of the Environmental Assessment and Environmental Appeal Boards. As part of its duties, the tribunal hears appeals of decisions made under the *OWRA*, including an MOE director's decision to issue a Permit to Take Water.

2.11 Manual of Guidelines and Procedures

In addition to the formal laws and regulations that guide and direct activities related to the management and delivery of drinking water in Ontario, the MOE has its own body of administrative rules, guidelines, and procedures that direct its activities. These rules are contained within the MOE's *Manual of Guidelines and Procedures*.[85]

The manual was created in 1983 for use within the MOE, as both an instructional instrument and a guide to the internal rules of the organization. It had a chapter dedicated to water issues, which contained over 25 internal policies and guidelines.

The manual was actively managed until 1996 when its use was officially discontinued. Nonetheless, much of its content is still used to guide MOE functions. With respect to drinking water, the manual provides guidelines and procedural information on: granting a variance from the treatment requirements for municipal and communal waterworks using groundwater sources; resolving groundwater quality interference problems; and using and storing pesticides at waterworks. The rest of this report highlights some of the policies and guidelines responsible for directing MOE staff activities in the delivery of drinking water services.

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[84] *Environmental Review Tribunal Act*, 2000, RSO 2000, c. 26, Sched. F.

[85] Ontario, Ministry of the Environment, 1995b, *Manual for Guidelines and Procedures: Recommended Guidelines for Small Groundwater Supply Systems for Residential Developments* (Toronto: Queen's Printer).

2.12 Summary

As has been illustrated in this section and will be discussed later in the report, the legislative/regulatory framework for drinking water in Ontario is highly complex. Recognizing this complexity is essential in understanding how the MOE performs its routine functions, and appreciating the challenge MOE staff face in having to know all the legislation and regulations they must enforce and the guidelines they must follow. Moreover, when the regulatory framework for communal water is added to all of the other areas that environmental officers are responsible for (e.g., solid waste, hazardous waste, air, pesticides, noise), the operational and administrative challenge is overwhelming. This challenge is increased by the differences in the way each program area handles its own set of regulations and guidelines.

For communal water, the complexity of the regulatory framework is made all the more challenging by the absence of an overarching provincial water policy that places all of the regulations, agencies, and guidelines in a structure that clearly outlines the ministry's various responsibilities.

3 Overview of the Ministry of the Environment's Organizational Structure

The Ministry of the Environment (MOE) is the lead ministry responsible for regulating and overseeing the delivery of drinking water in Ontario. Knowledge of the MOE's organizational structure is important for an overall understanding of how the system of divisions, branches, and offices is arranged to perform these tasks. This section is limited to an overview of the MOE's organizational structure, emphasizing how the ministry's structure has changed and evolved. This evolution is presented in reverse chronology, beginning with the existing organization of the MOE, followed by a comparison with the organizations in 1995 and 1992. Later sections of the report will make reference to the dynamic changes in the organization that occurred throughout the 1990s and how these changes affected service delivery. Section 4 provides details of the roles and responsibilities of each division.

3.1 Current MOE Structure

In 1998, the MOE was reorganized according to a philosophy of 'plan,' 'do/deliver,' and 'measure' to reflect the three broad categories of activities that the

organization undertakes. Today, the MOE is organized essentially along these lines. This restructuring took place to re-establish a focus on policy development and planning and to better align the roles of the divisions. This became more urgent when the Ministry of Environment and Energy was divided into the Ministry of the Environment and the Ministry of Energy.

The MOE is organized into four divisions: Integrated Environmental Planning, Operations, Environmental Sciences and Standards, and Corporate Management. (See Figure 3.1.) The Integrated Environmental Planning, Environmental Sciences and Standards, and Corporate Management divisions are headquarters based. The Operations Division is responsible for delivering the ministry's programs throughout the province.

3.1.1 Plan

The Integrated Environmental Planning Division (IEPD) leads the policy planning, program development, and long-term thinking within the MOE. Three of its five main branches are divided along environmental media lines: Water Policy, Air Policy and Climate Change, and Land Use Policy. Two additional branches are the Waste Management Policy Branch and the Intergovernmental Services office. The IEPD is responsible for preparing Cabinet submissions on policy matters and receiving Cabinet documents from other ministries for review.

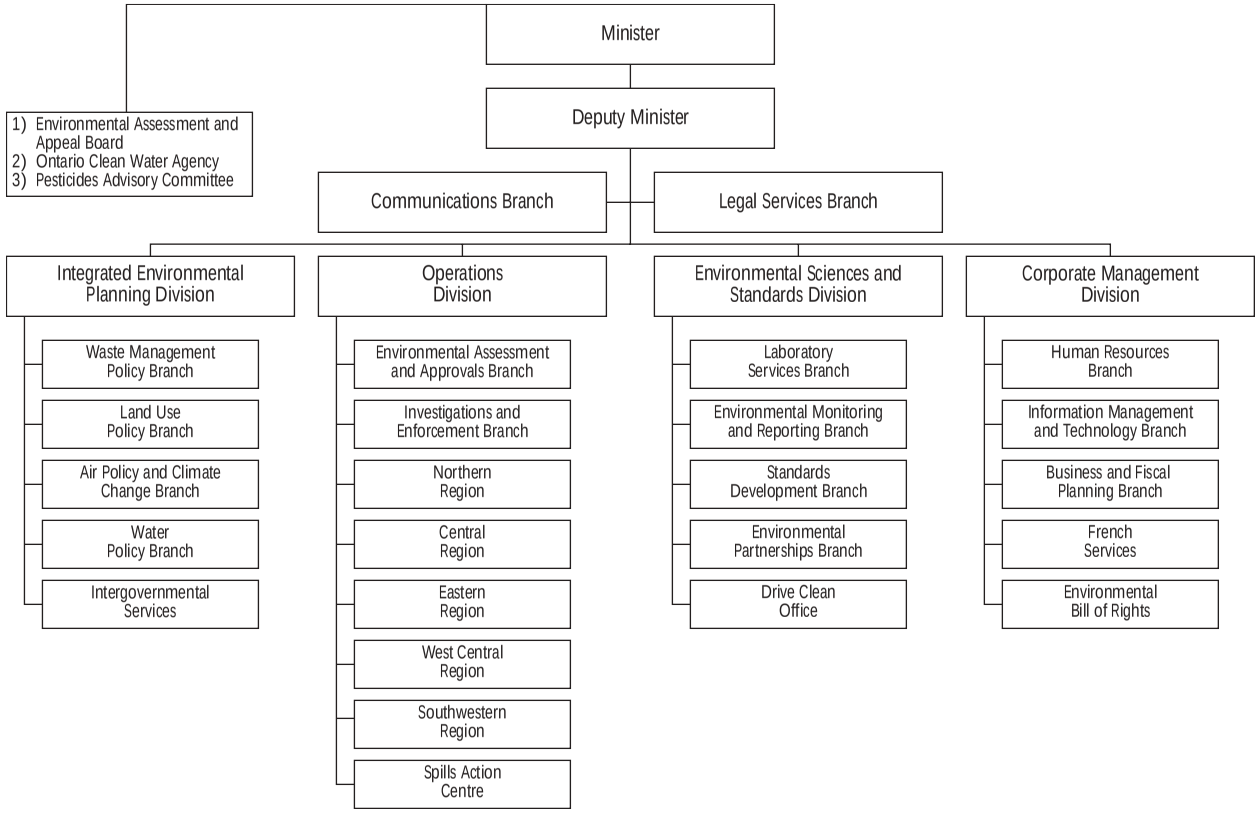
The primary IEPD branch relevant to this discussion is the Water Policy Branch. As of November 2001, about 20 people were working in this branch. Representatives from the branch play a lead role in the interministry Drinking Water Coordination Committee on matters relating to legislation and regulatory initiatives. The IEPD also deals with relations with the federal government across all media.

3.1.2 Do/Deliver

The Operations Division is the 'do/deliver' arm of the MOE. Its work includes the following activities:

- providing direct service to the public;
- delivering MOE programs at a local level;
- monitoring in the field;
- responding to inquiries and environmental calls;

Figure 3.1 Organization of the Ministry of the Environment – May 2000



- providing liaison with local groups; and
- conducting inspections.

The Operations Division is divided into the following branches: Environmental Assessment and Approvals Branch; Investigations and Enforcement Branch (IEB); the Spills Action Centre; the five regions of the MOE – Northern Region, Central Region, Eastern Region, West Central Region, and Southwestern Region; and the Environmental SWAT Team (established in 2000).

3.1.2.1 *The Regions*

The Operations Division divides the province into five regions. (See Figure 3.2.) A regional office oversees each region and is accountable for district area offices within the region. (See Figure 3.3 for an example of a regional district organization). The regional offices, including the district and area offices, are the parts of the MOE organization that most frequently deal with the public. They are involved in a myriad of activities that include responses to complaints, outreach, abatement, and inspections. Communal water is only one of 15 programs over which the regions have responsibility. (A discussion of the program areas follows in Section 4.)

3.1.2.2 *Investigations and Enforcement Branch*

The Investigations and Enforcement Branch (IEB) became operational in 1986. It is responsible for carrying out formal investigations of suspected violations and is a descendant of the Special Investigations Unit that operated from 1983 to 1984. The IEB was created because of the perceived conflict created by the local district officers playing the role of inspector as well as enforcer. When the IEB was established, the offices consisted of:

- a central group with technical support and management;
- a regional IEB supervisor for each region who reported to the director of the IEB, not to the regional director; and
- one or two investigators in each district office who reported to the regional IEB manager.

Figure 3.2 The Regions of the Ministry of the Environment

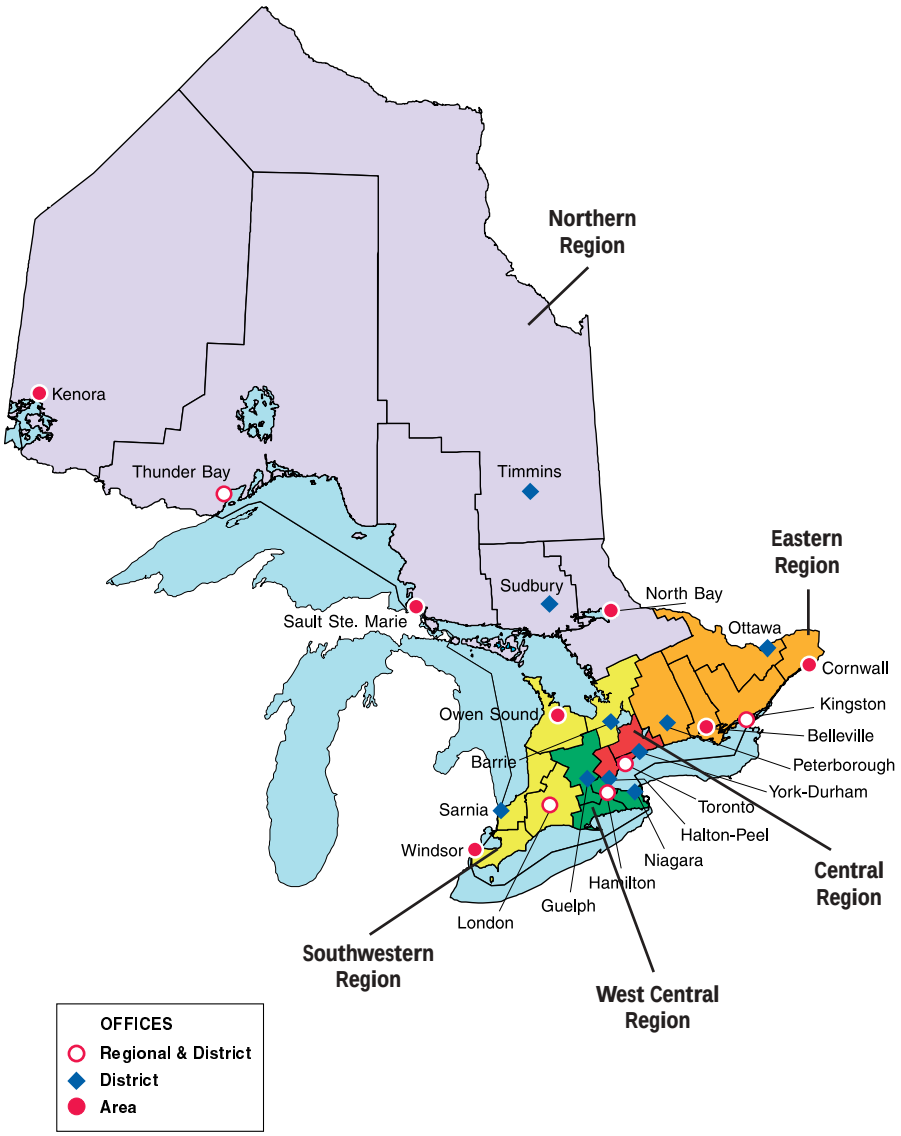
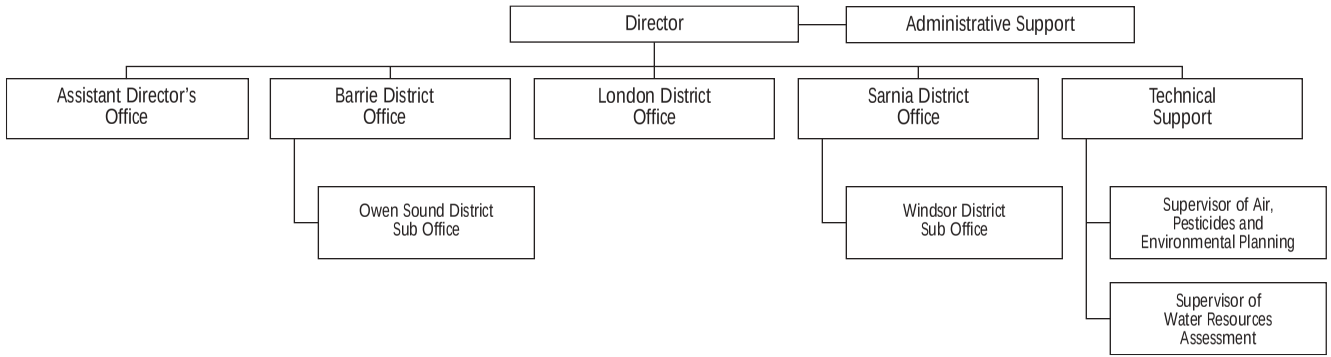


Figure 3.3 Regional District Model, Southeast Region – May 2000



In January 1997, the IEB regional supervisors were replaced by a coordinating manager at MOE headquarters who took over the task of coordinating all of the district investigators.

3.1.2.3 *Environmental Assessment and Approvals Branch*

Before the 1998 re-organization of the MOE, environmental assessment was separate from approvals. In 1998, the approvals and assessment functions were brought together in the Environmental Assessment and Approvals Branch within the Operations Division. This move helped to address the long-standing concern about the overlap between the environmental assessment and approvals review processes.

3.1.3 Measure

In 1998, the MOE refocused toward measuring results. This was an attempt to address the apparent lack of connection between activities in the ministry and changes or improvements to the environment. At this time, MOE work plans were administrative and did not speak to environmental outcomes; hence, better measures were required. The MOE was characterized as being 'data rich' and 'information or knowledge poor.' With the reorganization, MOE placed a new emphasis on interpreting and analyzing data as a means of measuring performance. Many branches in the three substantive divisions (Integrated Environmental Planning, Operations, and Environmental Sciences and Standards) are involved in activities that fall under the category of measuring the results of MOE activities.

3.1.3.1 *Environmental Sciences and Standards Division*

The Environmental Sciences and Standards Division (ESSD) is the definitive voice on science in the MOE. The ESSD provides all development work on standards related to legislation, regulations, and policies. The division consists of the Laboratory Services Branch, the Environmental Monitoring and Reporting Branch, the Standards Development Branch, the Environmental Partnerships Branch, and the Drive Clean Office.

The Laboratory Services Branch oversees the MOE laboratory, which is now located at a single site in Toronto and reports to the ESSD head office. Until

1996, three regional labs in London, Kingston, and Thunder Bay handled routine testing for municipalities and the work of the regional offices. The central lab of the MOE now provides all testing services.

The Environmental Monitoring and Reporting Branch deals with air and water monitoring activities. It maintains the Drinking Water Surveillance Program and the Great Lakes Sampling Program.

The Standards Development Branch develops standards across all media (air, land, and water). It was involved in the development of the Ontario Drinking Water Objectives, and participates in the interministry Drinking Water Coordination Committee.

The Environmental Partnerships Branch supports partnerships between the government and industry to encourage voluntary reductions in pollutants. Such programs include the green industry program, the pollution prevention program, and grant programs such as those for waste and wastewater management in municipalities.

The Drive Clean Office of the ESSD administers Ontario's Drive Clean Program, designed to reduce air pollution from cars.

3.1.4 Administrative and Financial Support

The Corporate Management Division (CMD) provides administrative and financial support within the MOE. Although more and more of these services are being centralized within the province's Shared Services Bureau, the CMD still does budget planning for the entire ministry. The division is divided into several branches and offices.

The Information Management and Technology Branch used to be a separate branch within the CMD, but in 2000 it was centralized to a provincial government office that serves several Ontario ministries.

The Human Resources Branch deals with MOE labour relations and human resources.

The Business and Fiscal Planning Branch coordinates with Ontario central agencies through Management Board submissions for budget and resource

issues. Although, as stated earlier, most Cabinet policy submissions go through the Integrated Environmental Planning Division, submissions that require resources or staffing also require a submission to the Management Board from the Business and Fiscal Planning Branch. The branch coordinates services with the Shared Services Bureau, monitors MOE spending, and prepares and monitors the business plan.

The office of the Environmental Bill of Rights (EBR) coordinates and administers all postings to the EBR registry submitted by participating Ontario ministries. The EBR applies to 13 government ministries and agencies. It does not apply to the Ministry of Finance or the Cabinet Office, but it does cover the Management Board Secretariat. The EBR office also prepares the MOE's annual report submitted to the Environmental Commissioner's office.

French language communications in the CMD is carried out by the French Services office.

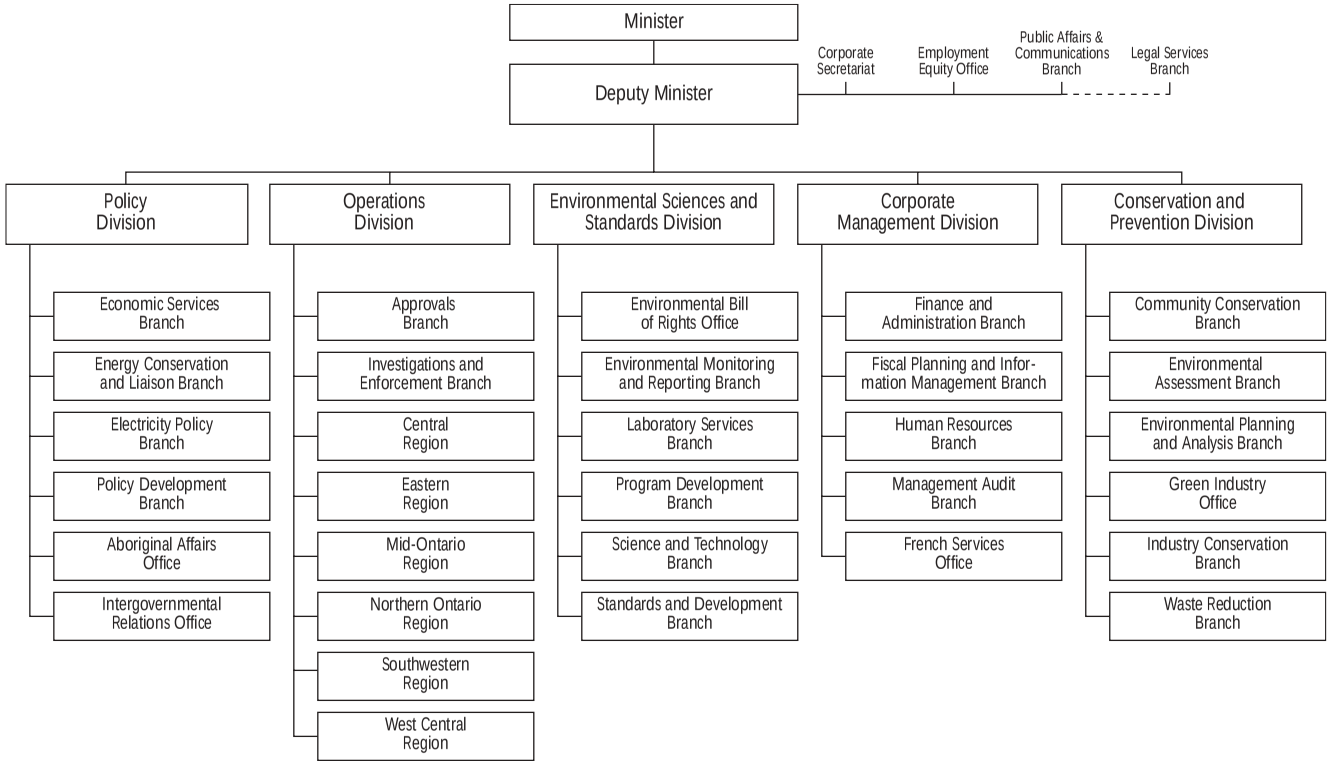
3.2 Present MOE Organizational Structure Compared with the 1995 Structure

The 1995 organization was designed for two purposes. The first was to integrate the standards, science, and monitoring activities into a 'multimedia' structure. This stemmed from the concern and knowledge that pollutants moved freely among the three media – air, land, and water. The ministry needed an approach that could address the total effect of such pollution. The second purpose was to integrate the previous Ministry of the Environment and Ministry of Energy activities more fully and bring like functions together. (See Figure 3.4.)

The reorganization in 1998 left the Operations Division largely the same as it was in 1995, with the exception of environmental assessment activities, which were brought together with the approvals functions under the Environmental Assessment and Approvals Branch.

In 1995, the Environmental Bill of Rights Office was included in the Environmental Sciences and Standards Division (ESSD), but then moved to the Corporate Management Division in 1998. In 1995, the ESSD also included a Program Development Branch, which was responsible for development at a program level. Portions of this branch became part of the Environmental Partnership Branch of the ESSD in 1998. In 1995, the ESSD also had a Science

Figure 3.4 Organization of the Ministry of the Environment and Energy – 1995



and Technology Branch. This branch was involved primarily in energy-related activities and much of it left the ministry when environment and energy split in 1997. The core branches of Environmental Monitoring and Reporting, Laboratory Services, and Standards Development were part of the ESSD in 1995 and 1998.

In 1995, the Ministry of the Environment and Energy (MOEE) had a Policy Division that was largely energy related. The energy policy activities left with the establishment of a separate Ministry of Energy. The environment policy activities moved to the Waste Management Policy Branch, the Land Use Policy Branch, the Air Policy and Climate Change Branch, and the Water Policy Branch of the Integrated Environmental Planning Division in 1998. The Intergovernmental Relations Office, which was part of the Policy Division of the MOEE in 1995, became the Intergovernmental Services Branch of the Integrated Environmental Planning Division in 1998.

The 1995 configuration of the Corporate Management Division (CMD) included the Finance and Administration Branch, the Fiscal Planning and Information Management Branch, the Human Resources Branch, the Management Audit Branch, and the French Services Office. In 1998, the services of the Finance and Administration Branch were consolidated with similar services of other ministries. The Human Resources Branch remained part of the CMD in 1998. The Fiscal Planning and Information Management Branch became two separate branches: Business and Fiscal Planning and Information Management and Technology. The French Services Branch of CMD remained the same in 1998.

In 1995, the Conservation and Prevention Division consisted of the Community Conservation Branch, the Environmental Assessment Branch, the Environmental Planning and Analysis Branch, the Green Industry Office, the Industry Conservation Branch, and the Waste Reduction Branch. By 1998, the Community Conservation and Industry Conservation branches, which were primarily devoted to energy, had moved out to the Ministry of Energy. The Environmental Assessment Branch was combined with the Approvals Branch in the Operations Division. Parts of the Environmental Planning and Analysis Branch were spread out among the different media in the Integrated Environmental Planning Division in 1998. Any environment-related activities in the Green Industry Offices were transferred to the Environmental Partnerships Branch of the Environmental Sciences and Standards Division. The Waste Management Policy Branch of the Integrated Environmental Planning Division took up Waste Reduction Branch activities.

In 1995, the Corporate Secretariat managed the correspondence and briefing notes for the ministry. These activities were transferred to the deputy minister's office in 1998.

3.3 Present MOE Organizational Structure Compared with the 1992 Structure

The organization of 1992 was essentially a combination of the then recently joined Ministry of Environment and Energy. It involved only a partial integration of functions, primarily in the area of corporate management. (See Figure 3.5.)

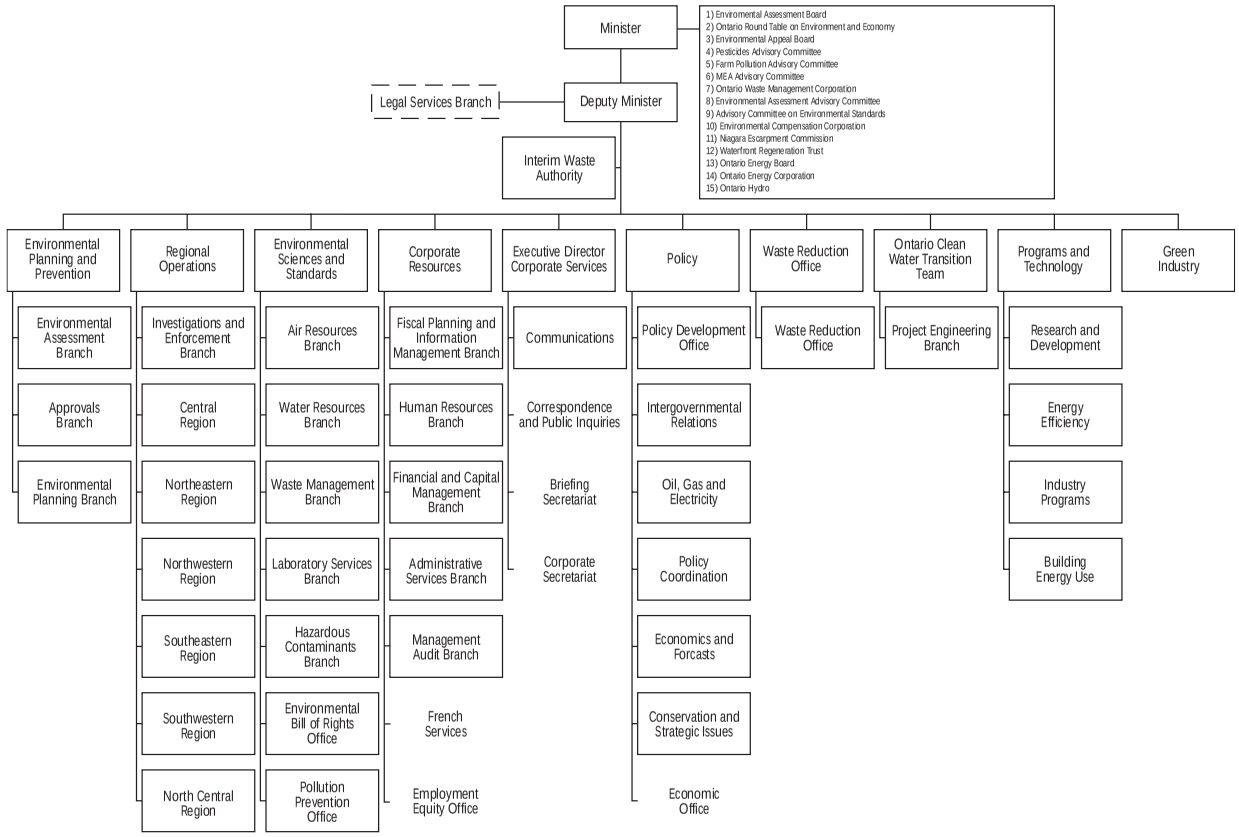
The Environmental Sciences and Standards Division (ESSD) in 1992 consisted of the following branches: the Air Resources Branch, the Water Resources Branch, the Waste Management Branch, the Laboratory Services Branch, the Hazardous Contaminants Branch, the Environmental Bill of Rights Office, and the Pollution Prevention Office. A portion from each of the media-related branches was taken out and inserted into the activity-based branches in 1995, and subsequently inserted into multimedia-based branches of the Integrated Environmental Planning Division in 1998. Most of the Hazardous Contaminants Branch stayed in the ESSD as part of the Standards Development Branch in 1998. The Environmental Bill of Rights Office stayed with the ESSD until 1998 when it was moved to the Corporate Management Division. The Pollution Prevention Office became part of the Environmental Partnerships Branch, still with the ESSD in 1998.

In 1992, the Policy Division included the Policy Development Office; the Intergovernmental Relations; the Economic Office; the Oil, Gas, and Electricity Branch; the Policy Coordination Branch; the Economic Forecast Branch; the Conservation and Strategic Issues Office; and the Economic Office. Four of these branches were related to energy and eventually left the ministry. The Policy Development Office and the Intergovernmental Relations Office remained in the Policy Division in 1995 and eventually were incorporated into the Integrated Environmental Planning Division in 1998.

The Operations Division of 1992 remained essentially the same through 1995, with the addition of the Approvals Branch.

The Environmental Planning and Prevention Division (EPPD) in 1992 included the Environmental Assessment Branch, the Approvals Branch, and

Figure 3.5 Organization of the Ministry of Environment and Energy – 1992



the Environmental Planning Branch. The Environmental Assessment Branch moved to the Conservation and Prevention Division in 1995 and then moved to the Operations Division in 1998. The Approvals Branch moved to the Operations Division in 1995, where it remained until 1998. The Environmental Planning Branch became part of the Conservation and Prevention Division in 1995. These activities were moved to the Integrated Environmental Planning Division in 1998.

In 1992, the Corporate Management Division consisted of the Fiscal Planning and Information Management Branch, the Human Resources Branch, the Financial and Capital Management Branch, the Administrative Services Branch, and the Management Audit Branch. With the exception of the Financial and Capital Management Branch, all of the branches remained part of the Corporate Management Division in 1998.

The Waste Reduction Office became part of the Conservation and Prevention Division in 1995 and eventually became the Waste Management Policy Branch of the Integrated Environmental Planning Division in 1998.

Lastly, the Clean Water Transition Team was beginning to pull together the elements that would become the Ontario Clean Water Agency in 1993. These elements included the Project Engineering Branch, which assisted municipalities with the design and construction of water and wastewater treatment systems; capital management, which coordinated loans and financial support for water treatment facilities; and plant operations. In 1992, plant operations were still the responsibility of the regional directors.

4 Ministry of the Environment Roles, Responsibilities, and Relationships with Other Parties

The 1998 reorganization of the Ministry of the Environment (MOE) established an organizational structure that matched the MOE's chief activities and operational philosophies of 'plan,' 'do/deliver,' and 'measure.' To support and fulfill each of these broad administrative obligations, the MOE carries out specific activities and functions. This section uses the MOE's plan, do/deliver, and measure philosophy as a framework for analyzing MOE's functions as they relate to drinking water services. It examines the day-to-day functions of the MOE's divisions and branches to show how the ministry performs its

required and assigned tasks on a regular basis and how these functions have changed since the events at Walkerton in May 2000.

The section begins with an explanation of the Operations Division, as the activities of this division have the most direct public service role in drinking water safety and protection. The roles of the other divisions are then easier to describe and understand in the context of the activities of the Operations Division.

4.1 Operations Division – Do/Deliver

The Operations Division is the central body within the MOE responsible for overseeing the delivery of programs, policies, management procedures, and activities. The regional offices – Central, Northern, Eastern, Southwestern, and West Central – fall within this division as do the Investigations and Enforcement Branch (IEB), the Environmental Assessment and Approvals Branch (EAAB), and the Spills Action Centre (SAC).

The Operations Division oversees functions such as:

- field monitoring and inspections
- response to calls from the public
- investigations
- the processing of Certificates of Approval and Permits to Take Water
- assessment and abatement of pollution situations
- communications and public outreach

These functions are carried out through specific programs, procedures, and planned responses. The purpose here is to consider how the MOE performs the following delivery functions and activities related to drinking water:

- processing of Pollution Incident Reports
- compliance activities
- inspections
- investigations and enforcement
- review of applications for Certificates of Approval
- issuing of Permits to Take Water
- communication and coordination
- administration and planning
- administration of the Security Fund and cleanup of contaminated sites

First, however, a consideration of MOE district offices is warranted, given their central role in the delivery of all functions.

4.1.1 District Offices, Technical Support, and Spills Action Centre

The district offices are the key organizational units involved in the delivery of MOE programs. The majority of MOE environmental officers (EOs) conduct their day-to-day activities from the 15 district offices and the 7 area offices that support them. (See Figure 3.2.) The number of district offices in any one region depends on the geography of the region and the issues specific to that region.

In subsection 4.1.3, we discuss the decision-making framework and procedures that the MOE and EOs use to address public calls regarding pollution incidents. How the MOE responds to environmental incidents, however, must be placed in context by acknowledging the number of tasks that officers are responsible for and how they allocate their time.

With the significant reduction in MOE staff (eventually 25%) starting in early 1996, the number of tasks EOs were required to address increased significantly, while the time available to address each task decreased. In addition, the uncertainty and concern associated with staff cuts also had a major impact on morale within the MOE.[86]

No new positions were created until the launch of the Drive Clean Program in 1999. For this program, the MOE hired about 12 new EOs for the Smog Patrol to inspect trucks and about 25 people to administer the private vehicle testing. These positions were dedicated solely to the Drive Clean Program.

By April 2001, the MOE's Environmental SWAT Team had approximately 50 staff. The Environmental SWAT Team consists of inspectors, investigators, and support staff. The team focuses on potential sources of pollution discharged by repeat offenders or those companies or specific sectors that the MOE has not routinely inspected in the past. The SWAT Team undertakes only strategic inspections and investigations, and is not engaged in other MOE fieldwork such as responding to spills, pollution incidents, or complaints.

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[86] The cuts began in early 1996 and ended in 1997. Examples of staff decreases are: the Owen Sound subdistrict office decreased from 12 to 9 staff; and the London Technical Support Section decreased from about 50 to 25 staff. The total number of MOE staff removed was 752. Of this, the Operations Division lost 279 staff.

4.1.1.1 *Program Delivery Responsibilities*

District EOs are responsible for administering all 15 of the Operations Division's program areas, one of which is the Communal Water Program. The 15 programs are:

- Air
- Contaminated Sites
- Pesticides
- Communal Sewage
- Industrial Sewage
- Hazardous and Liquid Industrial Waste
- Solid Non-Hazardous Waste
- Communal Water
- Groundwater
- Surface Water
- Environmental Assessment
- Pollution Prevention
- Land Use Planning
- Multimedia (This covers a number of functions that apply to the water, air, and land environments, such as the EBR and pollution prevention.)
- 'Front of counter' work (e.g., speaking with people who drop by) and administrative support

Because they must divide their time among all 15 programs, EOs are considered to be generalists. If their time were divided equally, roughly 7% of their work would be on issues related to communal water. However, the MOE designates the issue and program priorities that Operations Division staff must integrate into their work plans, so the ratio of time allocated to the program areas is skewed according to these priorities.[87] For example, in the mid to late 1990s, the MOE focused on issues related to air quality. This emphasis on air issues was one factor that influenced the total time EOs could dedicate to the communal water program between 1995 and 2000. During this period, the total proportion of time MOE staff dedicated to the communal water program was, on average, 3%.

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[87] To develop officers' expertise in specific program areas, regional offices move EOs from their district-focused activities and involve them in subject-specific inspections for the entire region. While this enables an EO to develop a more comprehensive knowledge in a specific program area and helps the MOE catch up with inspections, the EO is usually not replaced while absent. This decreases the number of officers addressing district activities.

The Operations Division work plan sets annual and multi-year priorities and work targets, and thus plays a central role in prioritizing and directing staff work. The division's work plan priorities and commitments also integrate and reflect the MOE's overall business plan. Work plans are produced annually on a three-year cycle and are based on the four quarters of the fiscal year. Each plan articulates how resources will be focused in meeting environmental and program delivery priorities and how resources will be allocated for planned and response work.[88] The work plan provides direction and communicates objectives and commitments to 740, staff while tracking the use of resources during the year. This tracking enables the division to shift resources to address issues or emerging priorities.[89] The following factors determine work plan priorities:

- government direction
- the MOE business plan
- integration of priorities with other ministries and agencies
- Operations Division delivery strategy program priorities
- existing or emerging environmental issues

Another factor that contributes to the work load of EOs is the amount of time they must devote to administrative and clerical activities. In the early 1990s, district offices had full-time administrative support. Administrative support played an important role in screening public calls to the offices, so that only those calls needing the attention of EOs would be passed on to them (e.g., a routine call for information about a fishing licence could be handled by support staff; a call about water pollution would be directed to an EO). Administrative staff also provided other support, such as photocopying and filing. By the mid-1990s, budget and staffing cuts had resulted in the reduction of this support. Thus EOs became the first line of communication with the public. As a result, with an increasing volume of calls to district offices, the workload of EOs increased.

4.1.1.2 *Technical Support*

The districts and their EOs depend on their regional Technical Support Section to provide advice and guidance on technical and scientific matters, such as the impact of discharges to lakes and rivers, and to take on more intensive and

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[88] R. Shaw, testimony to the Walkerton Inquiry, March 8 and April 17–19 and 23, 2001, "An Overview of Operations Division Work Planning," slide presentation, p. 3.
[89] Ibid., p. 4.

specialized tasks, such as water quality monitoring projects. The Technical Support Section consists of two units: Air, Pesticides, and Environmental Planning, and Water Resources Assessment.

Within the Air, Pesticide, and Environmental Planning Unit, the environmental planning staff assist with possible land-use conflicts related to water issues. The Water Resources Assessment Unit provides surface water and groundwater specialists to assess water contamination, advise on source water problems, and conduct field studies. They also administer the Permit to Take Water Program and maintain water-related information.

4.1.1.3 *Spills Action Centre and Spill Events*

The Spills Action Centre (SAC) was created in 1986 as an outcome of the spills amendment to the *Environmental Protection Act*. The name SAC is somewhat of a misnomer: in addition to processing all calls related to chemical spills, it processes all pollution incidents that are reported outside district office working hours. As a result, the SAC must exercise the same assessment process as described in subsection 4.1.2 when receiving routine Pollution Incident Reports (PIRs). The SAC is located in Toronto, where EOs process calls 24 hours a day, 7 days a week.

The SAC was created to respond to 'spill events.' Under law, any industry or company party to a chemical spill *must* notify the SAC. In addition, the public are directed to call the SAC when they observe a spill. Given the seriousness and potential harm that can result from spills, each call received by the SAC is recorded much like a 911 call. After a call comes in, an EO at the SAC uses the same series of assessment skills and criteria that an EO at a district office uses.

Following notification of a spill or an after-hours PIR, SAC staff use a series of detailed information cards or screens to guide their assessment and response to the event. For example, if dealing with a spill into a watercourse, an EO refers to the cards relating to this type of event for information on whom to notify and whom to call. The EO might be directed to contact downstream municipal water operators or other water takers. The EO might also be directed to contact clean-up response teams, depending on whether the caller could confirm which agencies or agents were already handling the situation.

In some cases, the event may already be handled sufficiently. In other cases, the EO may need to initiate a more extensive response if the event is very new or if it requires better management. The judgment, experience, and knowledge of the EO are critical.

If an event is very serious or is not being handled appropriately, the SAC notifies an on-call district-specific duty officer to respond. This action falls under the MOE's Environmental Response Program, which was established to ensure that a district-specific EO is available to respond to an environmental event at any time. The SAC has a roster of district officers who can be contacted at all times to respond to after-hours events. The officers on-call rotate regularly. In all situations, the SAC becomes a coordination and communication centre for the responding officer. He or she uses the SAC to initiate contacts with other MOE branches and to call on other agencies or services as required. In general, the SAC calls out a district EO a couple of times a week to respond to relatively minor events. Major call-outs requiring several different agencies and coordination by the SAC usually occur about once every few weeks.

With respect to the events in Walkerton, it is worth noting that the SAC received the initial series of calls from residents during the May long weekend and initiated the first action by the MOE's environmmental response duty officer.

4.1.2 Delivery Strategies

Guiding all MOE Operations Division activities is a broader overarching decision-making framework called 'delivery strategies.' Consistent and effective service delivery and monitoring are central priorities to the MOE, so delivery strategies have been developed to "provide the framework that allows Operations Division staff and the management team to set priorities consistently … and to focus efforts on areas that will provide the greatest benefit to the environment and human health."[90]

Deciding the priority issues to act on is an important part of the day-to-day activities of program staff. The decisions on how to deal with issues are based

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[90] P. Bye, testimony to the Walkerton Inquiry, October 25 and November 13 and 14, 2000, and July 3, 2001, "Delivery Strategies," presentation of paper prepared January 22, 1998, p. 2.

on four operational principles of environmental protection or "environmental principles of priority setting":[91]

- known or anticipated human health impacts;
- known or anticipated environmental impairment;
- known or suspect violation of a legal requirement; and
- potential environmental impairment.

Staff of the Operations Division have been intuitively applying these criteria for many years, and these same principles have been used to develop the program priorities for each program's delivery strategy.

The delivery strategies offer an operational framework to address some of the central concerns and challenges staff face daily:

> The demands placed on staff, in a Ministry whose role is perceived to be wide ranging, make it difficult to achieve a balance between planned and unplanned activities in order to achieve the greatest benefit for the environment and human health. As well, the nature of the regulatory environment staff operate in is such that legislative and policy interpretations by staff are a necessary part of effective program implementation. The purpose of the operational guidance [provided in the Delivery Strategies] … is to clarify 'gray' areas in policy and legislation and to ensure consistent interpretations across the division. Now more than ever, it is important that staff know the limits and scope of programs so that consistent and informed decisions can be made about where to focus our efforts. The Delivery Strategies … will not limit the powers and responsibilities of a Provincial Officer under the legislation. As with any guidance

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[91] Ibid., p. 9. In addition to these four priority areas, the division must also deliver on: (1) Authorizing Documents – the process of authorizing documents once an application has been submitted for such things as approvals, licences, permits, and assessments; (2) Mandatory Activities – activities that have built-in timelines dictated by legislation, such as Freedom of Information requests, Environmental Bill of Rights, Occupational Health and Safety, and Ombudsman; (3) Legal Activities – once a decision is made to be involved in a hearing, pursue a prosecution, a judicial order, or a control document, or where a legal instrument is appealed, then staff are obligated to attend any court or legal proceedings associated with that undertaking; (4) Time Sensitive Activities – activities that staff deal with where the dates are set by either the 'corporate' structure of the ministry and the government (e.g., minister's correspondence), media/briefing material, or policy and program development.

> document, there will always be those exceptional circumstances, which call for discretion and good judgment.[92]

Delivery strategies are priority-setting documents in 10 of the 15 programs the Operations Division delivers. They provide division staff with three key directions:[93]

- program priorities for individual work plan program areas that give direction to staff;
- operational guidance for staff that addresses the gaps and lack of clarity in the ministry's legislative framework and guidance documents; and
- direction on those activities staff are not expected to be involved in.

The Communal Water Program is one of the programs that have delivery strategies. The others are:

- Air
- Contaminated Sites
- Pesticides
- Communal Sewage
- Industrial Sewage
- Hazardous and Liquid Industrial Waste
- Solid Non-Hazardous Waste
- Communal Water
- Groundwater
- Surface Water

4.1.2.1 *Communal Water Program*

The delivery strategies for the Communal Water Program address the division's actions and responsibilities concerning drinking water. This program uses the MOE's operational principles of environmental protection to guide activities, especially in those scenarios where immediate action is required. The program's day-to-day operations are also guided by a set of compulsory activities. Compulsory activities are specific items that are outlined in legislation and

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[92] Ibid., pp. 2–3.
[93] Ibid., p. 2.

initiate some type of action or review by the MOE within a set period of time. These activities include the processing of applications for Certificates of Approval (including amendments) for waterworks facilities and participation in environmental assessment reviews (and hearings).

The Communal Water Program also has specific program priorities that MOE staff must use when addressing communal water issues: [94]

- exceedance of a health-based drinking water limit, including chemical and microbiological (non-compliance or non-conformance);
- interference with the quantity of water at the source;
- impairment of the source of water, rendering the treatment process ineffective;
- repetitive or multiple occurrence with a potential for deteriorating drinking water quality;
- failure to obtain approval, permit, or licence and/or failure to fulfill sampling or reporting requirements as they relate to the above program priorities; and
- other activities identified in the current work plan cycle.

These program priorities are applied by all Operations Division branches and staff when undertaking activities such as:[95]

- determining a response to an abatement issue or a Pollution Incident Report;
- setting pro-active or planned activities (i.e., work planning);
- reviewing reports on communal water issues;
- determining conditions for Certificates of Approval or permits;
- commenting on communal water policy and program initiatives; and
- determining which Communal Water Program violations will be pursued by prosecution.

When an event falls within a program priority and further evaluation or action is necessary, the MOE may notify or refer it to another agency, or it may use the Operations Division's 'How To' tools and other factors to help deal with it. The 'How To' tools include:[96]

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[94] Ibid., pp. 25–27.
[95] Ibid., pp. 24–25.
[96] R. Shaw, testimony to the Walkerton Inquiry, March 8 and April 17–19 and 23, 2001, "Delivery Strategy for Communal Water," Powerpoint presentation, p. 17.

- the Procedure for Responding to Pollution Incident Reports (PR-PIRs);
- the compliance guidelines that explain how to deal with violations;
- a manual of guidelines and procedures;
- inspection forms that provide information on what to look for during planned activities; and
- implementation considerations.

Other factors considered are:[97]

- type and quantity of containment;
- user training and level of knowledge;
- magnitude of environmental or drinking water impairment;
- source of contaminant;
- level of treatment;
- seasonal variation; and
- past history of compliance and other factors as outlined in the *Compliance Guideline*.[98]

While the above lists are not all-inclusive, and the issues listed may seem intuitively obvious, they must be considered as one element in an overall process of MOE assessment and response to environmental concerns that encompass and could be influenced by local circumstances and new environmental information.

If an event does not fall under a program priority, it is formally documented for possible future evaluation or compliance purposes and the documentation is filed for future reference.[99] This 'document and file' function completes the list of ways that the Operations Division routinely deals with situations.

Many situations, of course, do not occur during regular working hours, and as a result do not follow the same assessment and response protocol. The Spills Action Centre is the focal point of MOE response to after-hours pollution incidents, in addition to its original function as the central agent responsible for responding to 'spill events.'

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[97] Ibid., p. 18.
[98] Ontario, Ministry of the Environment, 1995a, *Compliance Guideline* (Toronto: Queen's Printer).
[99] Shaw, "Delivery Strategy for Communal Water," p. 19.

4.1.3 Pollution Incident Reports and Response

One main function of EOs is the handling of public calls and complaints concerning environmental issues. During regular business hours, calls are directed to district offices. After hours or on evenings and weekends, calls are directed to the Spills Action Centre (see subsection 4.1.1.3). On receiving a call, EOs assess the caller's information. While the MOE trains EOs in the assessment of public reports and calls and provides a routine set of criteria to evaluate the information reported, a great deal of an EO's assessment is based on personal experience, judgment, and interpretation of the information given. In this respect, an EO's knowledge and familiarity with the region and community where he or she works becomes important for assessing the nature of the call and its seriousness.

Depending on the outcome of the initial assessment or the nature of the report, calls and complaints may be registered as Pollution Incident Reports (PIRs) — that is, a call is recognized as a public report relating to a pollution incident. Of course, not all calls become PIRs. Many are requests for information or are related to events or incidents that the MOE does not address. A PIR is the first step in the process of MOE response or action.

A PIR is not simply information in a paper file. It includes the process of the EO receiving the call or complaint and judging the call's significance as an environmental problem. If the caller's information warrants or may lead to further investigation, the EO creates an Occurrence Report, a computer record that officially documents the information provided. It is important to note that a PIR may exist independent of an Occurrence Report. This means that a call or report relating to an environmental concern may not warrant a fully documented Occurrence Report. Because not all PIRs are documented, past PIRs cannot be examined or reviewed unless they resulted in an Occurrence Report.[100]

Occurrence Reports are maintained in the Occurrence Report Information System (ORIS). ORIS has been in place for about ten years, and is used to record and track PIRs until an investigation is concluded or an incident is resolved. If an EO recommends an investigation, the Investigations and

[100] The MOE has used Occurrence Reports since 1990 to document calls. However, MOE staff have long found it difficult to track files in the Occurrence Report system, especially to identify which files have been closed. In an effort to improve this system, the MOE is establishing an automatic flagging of Occurrence Reports that have been open, dormant, or without any activity. This will remind EOs to either close the report or take action.

Enforcement Branch (IEB) takes over and maintains the report. If abatement is recommended, the district office maintains the report. In either case, the information is retained as a computerized record.

Over 30,000 PIRs are received annually by the MOE. Of these, 1,500 to 2,000 are forwarded to the IEB. Approximately half of these are investigated, of which about 300 finally lead to prosecutions.[101] It is not known how many of these PIRs are related to drinking water or surface water quality. The PIRs are not open to public scrutiny because they are deemed information pertinent to enforcement, and thus they fall under the same legislation that protects evidence collected by the police. It is noteworthy that there have been no known prosecutions resulting from public calls about water quality.

The PIR is a central instrument in the MOE's monitoring and assessment of environmental pollution, public nuisances, and health concerns, and it is pivotal in triggering MOE investigations. A single PIR does not usually result in MOE investigations unless the nature of the information provided by the caller is extremely serious (e.g., a chemical spill). In such cases, protocols and procedures exist for EOs to inform public health officials and senior MOE officials. (Most calls and PIRs relate to environmental nuisances, such as odours, noises, or dust.)

Usually, the MOE takes action only after several similar calls are received describing the same event. A number of related PIRs spread over several hours helps establish information about the environmental incident (e.g., its radius), and begins to act as evidence that can be used for investigation and prosecution. Calls that are judged not to be an emergency are held for the next working day.

4.1.3.1 *Procedure for Responding to Pollution Incident Reports*

In August 1997, the MOE introduced the Procedure for Responding to Pollution Incident Reports (PR-PIRs) in an effort to help manage the volume of calls about pollution incidents. The PR-PIRs was developed to guide EOs in evaluating

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[101] This number of prosecutions predates the Drive Clean Program, established in 1999. The Drive Clean Program increased the number of investigations dramatically and tripled the number of charges. Since 1997, statistics show an increase in total charges and investigations by the MOE. However, this is largely a result of road spot investigations and fines under the Drive Clean Program, whereas the above figures represent a concerted MOE effort to inspect and prosecute facilities, operators, and individual activities related to non-Drive Clean environmental impacts.

and determining the appropriate level of response to PIRs. The program identified a variety of environmental events that the MOE deemed relatively incidental and, in particular, those labeled as NODs – noise, odour, and dust. Because the MOE often receives calls about such minor matters as noisy household air conditioners, the PR-PIRs was intended to provide EOs with a clearer framework for assessing calls, and so reduce the amount of time spent on minor issues that municipal agents could deal with. It has been suggested that the MOE became the "Ministry of Everything," with staff being drawn into dealing with PIRs that were of minimal health or environmental significance.[102] The goal of the PR-PIRs was to ensure that time was being spent on activities that would enhance the MOE's ability to protect the environment and provide effective service to the public, while also providing consistent levels of response across the province.[103]

In combination with the MOE's delivery strategies (see subsection 4.1.2), PR-PIRs outlined how PIRs should be evaluated and handled and the type of action EOs should take. The PR-PIRs prioritizes the level of staff response according to the type and urgency of the incident. Priority is assigned to issues involving known or anticipated impacts to human health. Action is taken on issues involving known or anticipated environmental impairment. Issues are addressed when they involve known or suspected violations of a legal requirement; and issues are considered if they have a potential environmental impact.[104]

The PR-PIRs outlined four types of action that MOE staff could take.[105]

- Priority field response: The environmental circumstances involve known health or environmental impairment requiring a field visit as soon as possible.

- Field response: MOE staff will come out to investigate when they can arrange the time (i.e., the incident does not require collecting samples or taking pictures or statements as documentation).

- No field response: The information provided from the PIR will be recorded and used for compliance and assessment purposes (i.e., when a planned inspection is to take place, the files of these incidents will be reviewed).

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[102] R. Shaw, testimony to the Walkerton Inquiry, March 8 and April 17–19 and 23, 2001, "PR-PIR," slide presentation, p. 2.
[103] Ibid.
[104] Ibid., p. 3.
[105] Ibid., p. 4.

- No further response: No further action is planned and the issue may be referred to another agency or to the municipality.

The EOs received the PR-PIRs with mixed feelings. On the one hand, the PR-PIRs formalized the process for EOs' decisions to put aside time-consuming minor environmental events in favour of more significant problems. On the other hand, the introduction of the process was a recognition that some EOs spent much of their time investigating noise, odour, and dust concerns rather than doing significant inspections, such as those of oil refineries or water treatment systems. They may have felt overwhelmed by these more complex inspections because of a lack of knowledge, training, or expertise. Furthermore, some uncertainty emerged with the introduction of PR-PIRs, as it was difficult without a site visit to distinguish between a minor concern, such as dust blowing off a shopping mall parking lot on a windy day, and a serious health concern, such as dust produced from a cement production plant. As a result, the need for EOs to have strong regional and local knowledge of industries and environmental conditions was reinforced.

The MOE initially tries to solve most calls over the phone. Site visits and site inspections are rare. If an initial call from the public warrants follow-up, EOs will telephone companies or operators to discuss the concern and try to resolve the situation. The decision to make a site visit depends on a number of factors. As noted above, chief among these are the relative human and environmental threat the reported incident presents and the number and frequency of calls. The source of the call also plays an important role in influencing MOE response. About 50% of calls receive a field response.

The MOE is apt to respond much more quickly if a municipal agency or authority rather than a private citizen reports an incident. As well, the character of the local municipal authority plays an important role in determining MOE response. For example, some municipal governments, such as the City of Toronto, aggressively pursue environmental incidents, often leaving the MOE with a relatively minor role to play. As a result, in some parts of the province, citizens commonly report environmental concerns to municipal agents rather than the MOE. This may simply reflect the minimal role and visibility of the MOE in large municipal settings where citizens take concerns directly to municipal officials. However, it may also identify an important paradox in the MOE's approach to pollution incidents and reporting. The MOE considers public observation to be a central means of informing and triggering MOE

investigations, but the public seems to be unaware of this MOE principle. The conclusion could be that many pollution incidents go unreported.

4.1.4 Compliance Activities

The MOE uses the term 'compliance' to refer to "a state achieved by adhering to the legislative and regulatory requirements of the ministry."[106] Therefore, MOE compliance activities, refer to procedures used and actions taken by staff to ensure that legislation and regulatory requirements are adhered to.

The EOs work with water facility owners and operators to correct problems brought to the MOE's attention. The MOE identifies "non-compliance situations through such means as conducting routine inspections, responding to spills, addressing complaints, handling Environmental Bill of Rights requests for investigation, reviewing information received, requesting returns, and pursuing proactive or other abatement programs."[107] Not surprisingly, the MOE is committed to addressing situations where there is non-compliance.

Whenever non-compliance is identified, MOE staff promptly evaluate it to determine whether it constitutes:[108]

- an emergency or spill;
- an immediate danger;
- a potential unknown environmental hazard; or
- all other non-compliance situations.

Once non-compliance is identified, the MOE decides whether abatement measures should be voluntary or mandatory. Voluntary abatement is almost always preferred. Each type of abatement measure uses different mechanisms and procedures to achieve compliance.

4.1.4.1 *Voluntary Abatement*

"Where voluntary abatement is considered appropriate, the ministry may make an oral or written request to the person responsible that a voluntary abatement

[106] Ontario, Ministry of the Environment, 1995a, section 1.
[107] Ibid., section 2.
[108] Ibid., section 4.0.

program be undertaken within a specified time period."[109] If a request is made orally, then the ministry must confirm the request in writing, unless it was previously documented in an associated Occurrence Report. When a written request is made for voluntary compliance and voluntary abatement, the written request may take the form of:[110]

- an inspection report;
- a letter;
- a Violation Notice; or
- a Voluntary Abatement Request.

According to the MOE *Compliance Guideline,* the maximum time for a response, with few exceptions, is 30 calendar days from the date of the ministry's request that abatement be undertaken.[111]

A satisfactory response to the ministry request for abatement must be signed by the person responsible or an appointed representative and must either:[112]

- confirm that the MOE action requested was completed within the time specified in the initial request; or

- if a different approach is proposed, include a detailed description of the program that is satisfactory to the ministry (this voluntary abatement program must include a comprehensive description of the work to be performed and a projected completion date, including any intermediate steps against which the ministry can regularly measure the progress of the work).

In requesting that abatement take place or indicating that a voluntary abatement program seems adequate, MOE staff are not to provide any assurance, written or oral, that voluntary abatement will affect the ministry's decision whether to proceed with prosecution for ongoing or past non-compliance.[113]

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[109] Ibid., section 5.
[110] Ibid., section 5.1.
[111] Ibid.
[112] Ibid., section 5.2.
[113] Ibid.

If a written request for extension to the abatement program is made, the district manager can approve additional time.[114] Similarly, if the abatement response is considered inadequate, the district manager may, but is not obligated to, provide an opportunity for the owner or operator to improve the response within a designated time frame.[115] An owner or operator can also request a deviation from the program but the request must be a written submission and must outline the reasons for the modification. Any deviation from the schedule outlined in the program must be confirmed by an order amending the approval and signed by a director.

The ministry may give a written warning to the responsible party or may proceed with a mandatory abatement program if:

- the party has exceeded a time limit when progress is unsatisfactory;
- response to a request for abatement is ignored or receives a negative response; or
- the program is not proceeding in accordance with the schedule proposed by the responsible party and accepted by the ministry.

The length of time that elapses before the ministry issues written warnings, if any, or decides to take further action respecting unsatisfactory progress on a voluntary abatement program varies depending on:[116]

- the type of abatement required to achieve compliance;
- the extent to which the rate of progress deviates from the schedule;
- the reason for any deviation; and
- additional factors affecting the situation.

In no case, however, will the ministry tolerate unsatisfactory progress on a voluntary abatement program beyond 180 calendar days.

> The length of time required for voluntary abatement may vary, and acceptable voluntary abatement programs may exceed six months from start to finish. The maximum time limit of 180 days relates to any one period of unsatisfactory progress and not the length of the voluntary abatement program. The ministry may impose mandatory

[114] Ibid., section 5.3.
[115] Ibid.
[116] Ibid., section 5.6.

abatement action at any time prior to the expiry of the 180-day period.[117]

4.1.4.2 *Mandatory Abatement*

Where mandatory abatement is considered appropriate, the ministry issues one or more control documents or amends one or more existing central documents. The MOE uses over 60 different control documents and authorizing documents. Most commonly, these documents are varying kinds of orders. Examples include entry or inspection order; sewage discharge order; interim order; order to pay; sewage disposal order; suspension of licence order; and upgrade order. Responsibility for choosing the appropriate type of abatement document rests with the director (as defined in the legislation).

When preparing control and authorizing documents, the ministry, and specifically a designated director, considers several factors:[118]

- the advice of the Legal Services Branch;
- the results of economic analyses undertaken in accordance with Guideline F-14 *Guidelines for economic analyses of private sector pollution abatement and environmental protection measures*;
- inspection reports or other forms of documentation pertaining to an inspection conducted by a provincial officer;
- the provincial officer's report (this is a mandatory requirement for control orders under section 7 of the *Environmental Protection Act*; it may also be used in support of other control documents);
- submissions from persons named in the control document or authorizing documents;
- the confidentiality provisions of the ministry's legislation and the *Freedom of Information and Protection of Privacy Act*; and

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[117] Ibid.
[118] Ibid., section 6.1.

- the comments received through the public consultation process and public notification (discussed below).

A provincial officer, usually an Environmental Officer, may also issue a Provincial Officers Order, commonly referred to as a 'field order.' Field orders, unlike director's orders, are used to resolve more immediate and obvious events or concerns where time is of the essence. An officer could, for example, use a field order to instruct an operator to do sampling or to chlorinate properly. If, however, an officer deemed that a completely new system was needed in a water treatment facility, then a director's order would be used. A field order can be appealed to a director within ten days of its issuance.

Also according to the *Compliance Guidline*, "All control documents should include a schedule for compliance and may include intermediate steps against which the ministry can measure progress towards compliance and, where appropriate, an expiry date."[119] While financial constraints cannot be accepted as a reason for not issuing a control document or for non-compliance, the director, in consultation with the assistant deputy minister of the Operations Division, may consider them in determining the compliance schedule contained in a control document or authorizing document.[120] As well, even when a facility is undergoing alteration, installation, start-up, shutdown, breakdown, maintenance, or decommissioning, as required by legislation, the responsible party must still control emissions and discharges at all times.[121]

The issuing of a control document (other than a field order) involves an internal consultation and notification process.

> The offices of the Assistant Deputy Minister – Operations Division and of the Legal Services Branch shall be notified of the issuance of all control documents except field orders. The Investigation and Enforcement Branch shall be notified of the issuance of all control documents through an occurrence report. When a Director other than a Regional Director issues any control document, the Regional Director or designate shall be notified.[122]

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[119] Ibid., section 6.2.
[120] Ibid., section 6.6.
[121] Ibid., section 6.5.
[122] Ibid., section 6.8.

Finally, when control or authorizing documents are used, directors must ensure that the public is notified via the Environmental Bill of Rights. "In addition to the EBR Registry, the minimum form of public notification for control documents, except field orders, should include providing a copy of the document to the local MPP, the local municipality, upper-tier municipality, affected First Nation and Aboriginal communities and, in unorganized communities, the responsible government agency including the Local Service Board, where applicable."[123]

4.1.5 Inspections

In May 1990, the MOE established the Sewage and Water Inspection Program (SWIP) as an administrative apparatus specifically responsible for inspections of sewage and water facilities. Before 1990, there were no prescribed or standard number of inspections, and those that were done were primarily reactive.[124] District staff undertook inspections of water treatment plants, although there was no mandatory training in plant operation inspections at this time focused on process control and identification of deficiencies. Samples of a limited number of parameters were taken at the time of inspection.[125]

Before 1988, inspectors were not required to call before arriving for an inspection.[126] The inspections were unstructured, and sampling would not occur every time. The inspector would evaluate analytical records, compliance with a Certificate of Approval, and conformance with the Ontario Drinking Water Objectives (ODWO). There were no regular reports on whether water treatment plants met the health and aesthetic requirements of the ODWOs.[127]

In 1987 and 1988, the provincial auditor commented on MOE's inconsistent and ad hoc inspection procedures of water treatment and sewage plants.[128] The result was the *Report on Municipal Sewage and Water Treatment Plant Inspections* in November 1989 by the Working Group appointed by the Abatement Managers' Committee. The report contained guidance on how water

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[123] Ibid., section 7.0.
[124] R. Shaw, testimony to the Walkerton Inquiry, March 8 and April 17–19 and 23, 2001, "MOE Inspections: Municipal Water Treatment Plants," presentation, p. 7.
[125] Ibid., p. 8.
[126] J. Mahoney, testimony to the Walkerton Inquiry, April 17 and 18 and May 9, 2001.
[127] Shaw, 2001, "MOE Inspections: Municipal Water Treatment Plants," p. 10.
[128] Ibid.

treatment plant inspections should be undertaken. This inspection protocol is still used today.[129]

The 1989 working group report recommended that the MOE set a goal to undertake annual inspections of municipal sewage and water treatment plants.[130] With the 1990 creation of SWIP, this annual inspection goal was retained and most plants were inspected in 1990. However, with the addition of other inspection programs for PCB storage and the Municipal Industrial Strategy for Abatement Program, regular water treatment plant inspections decreased because these other programs were addressing water source contamination. Under the initial SWIP phase, organization of inspections was transferred from district to regional offices.

4.1.5.1 *Reviews of SWIP*

From 1990 to 1994, water and sewage plants were on a two-year inspection cycle, with plants in poor condition receiving greater attention. Although interested in doing more frequent inspections, the MOE could not commit more staff to doing that because that would have taken inspectors away from other areas.[131]

In 1992, a SWIP summary report reviewed the progress of SWIP from April 1990 to March 1992. One issue of concern was the lack of enforceable criteria in the Certificate of Approvals. In large part, this was a result of Certificates of Approval being very old and not having any clear or strict standards, objectives, guidelines, or conditions identified. The inspectors felt that the lack of conditions in the Certificates of Approval was one of the most serious weaknesses of the program.[132]

Between 1990 and 1994, both inspection methodology and inspection report formats were standardized. Staff conducting inspections were either experienced in water treatment plants operations or were provided with specific training. Inspections focused on compliance and conformance issues, namely Certificates of Approval, Permits to Take Water (PTTW), licensing, and the ODWO.[133] Supervisors or

[129] Mahoney, 2001.
[130] Ibid.
[131] Ibid.
[132] Ibid.
[133] Shaw, 2001, "MOE Inspections: Municipal Water Treatment Plants," p. 13.

regional coordinators reviewed the reports and sent them to the municipality, the operating authority, and the local Ministry of Health office. In the event of any deficiencies, the MOE requested that the plant owner/operator provide an action plan to deal with deficiencies. Voluntary abatement was the compliance procedure initially sought. The MOE conducted subsequent inspections to determine whether the municipality or operating authorities had taken action.[134]

Two reports on SWIP and water-related inspections were released in 1994. An internal MOE report stated that for the period 1992 to 1994, inadequate sampling had occurred at 51% of water treatment plants inspected, and PTTW were not being met at 18% of the plants with permits.[135] This report also recommended that district managers determine inspection frequency. District managers and EOs had input into their work plan, but they could not determine their overall use of time because MOE priorities and plans guided all activities including inspections.[136]

The provincial auditor's report on SWIP was also released in 1994 . This report recommended that priority be given to the timely follow-up of plants with significant compliance problems, rather than relying on a two-year inspection cycle. It also recommended that enforcement actions be strengthened, including the issuance of orders.

Following these 1994 reports, the MOE turned to a four-year inspection cycle for water treatment plants, in theory using the work planning process to identify which water treatment plants should be inspected in which years. At the same time, responsibilities for sewage and water treatment plant inspections were transferred to the district offices.[137] Inspections were not reduced in Walkerton, however, and were conducted in 1996 and again in 1998.

4.1.5.2 *Inspection Results*

Generally, the inspection of a water treatment plant takes about one week to complete. With approximately 659 municipal water facilities in Ontario, the challenge of allocating time to complete inspections on a four-year cycle, review problem facilities, and continue with other non-drinking-water-related inspections

[134] Ibid., p. 13.
[135] Ibid., p. 14.
[136] Mahoney, 2001.
[137] Ibid.

and activities becomes evident. The assumption underlying the work plans was that 20% of the EOs' time would be spent on inspections and 80% on inspection follow-up and non-inspection activities.[138] In 1998, the Operations Division work plan assigned regular water treatment plant inspections to the optional category, with priority given to mandatory inspections.[139]

Inspections continued to focus on compliance and conformance issues related to Certificates of Approval, PTTW, licensing, the ODWO, parts inspections, operator sampling data, and chlorination activities.

In July 1999, the Operations Division completed an internal report on the value of the district inspection function. The inspection of water treatment plants was one of four inspection programs examined. The following observations were made of all four program areas:[140]

- Follow-up on deficiencies found during inspections were not rigorously pursued.
- Tracking of deficiencies were not readily accessible to decision makers.
- Follow-up inspections as required in the work plan were not being undertaken.

Between June and December 2000, following the events in Walkerton in May 2000, the MOE inspected *all* municipal water treatment plant facilities. This work was done by redirecting the work of existing staff. In total, 659 facilities were inspected in 2000. The MOE is scheduled to inspect all water treatment plant facilities again this year. Table 4.1 shows the number of water treatment facilities inspected since 1990.[141]

Of the 659 facilities inspected in 2000, 367 were identified with one or more of the following significant deficiencies:

- inadequate sampling programs – 267 facilities
- inadequate disinfection procedures/practices – 111 facilities
- failure to meet minimum treatment standards – 76 facilities
- improperly certified operators – 63 facilities[142]

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[138] Ibid.
[139] Shaw, 2001, "MOE Inspections: Municipal Water Treatment Plants," p. 17.
[140] Ibid., p. 20.
[141] Ibid., p. 22.
[142] Ibid., p. 25.

In addition, 341 field orders were issued. It is important to note that the MOE was able to complete this number of inspections between June and December 2000 only by limiting the detail of its inspections with a focus on compliance. Nonetheless, a standardized inspection report format was used, and an electronic tracking and reporting system was introduced. All reports were signed off by supervisors and sent to facility owners. If a significant health-related deficiency was identified during the inspection, the report was also copied to the local Ministry of Health office. The ministry inspections were augmented by more detailed engineers' reviews as required under the new regulations.

As noted earlier, on August 8, 2000, the *Drinking Water Protection Regulation* was introduced, changing the Ontario Drinking Water Objectives into the *Ontario Drinking Water Standards*. Along with this change, the ministry required that an independent engineer's compliance review and report be done on each facility every three years for submission to both the municipality and the MOE.[143]

4.1.5.3 *Inspections of Small Waterworks*

While the above procedural and program changes are important improvements to a communal water inspection system that had suffered in the mid-1990s, it

Table 4.1 Water Treatment Facility Inspections Since 1990

Date (Total No. of Facilities)	Number Inspected	Total Percentage Inspected
1990–1992 (607)	607	100
1992–1994 (607)	532	86
1994–1995 (630)	378	60
1995–1996 (630)	188	30
1996–1997 (630)	224	35
1997–1998 (630)	186	30
1998–1999 (630)	152	24
1999–2000 (630)	185	29
2000–2001 (659)	659	100

[143] Ontario, Ministry of the Environment, 2000c, "Protecting Drinking Water for Small Waterworks in Ontario," discussion paper (Toronto: Queen's Printer).

is important to note that only municipal systems are covered by this regular inspection process. All inspections of other systems arise only in response to complaints or through the activities of local public health unit inspections.

On August 9, 2000, the MOE released a discussion paper titled *Protecting Drinking Water for Small Waterworks in Ontario*,[144] which requested public feedback on the management and monitoring of small waterworks (those providing less than 50,000 litres per day, not having the capacity to supply 250,000 litres per day, or serving five or fewer residences). Examples of small waterworks are boarding houses, gas stations, inns, bed and breakfasts, restaurants, camps, stadiums, theatres, schools, hospitals, and nurseries.

The central questions posed in the discussion paper are:[145]

- Should small waterworks be regulated to ensure that they provide clean and safe drinking water to the public? If so, how? If not, why not?

- Should small waterworks be given information tools, such as guides on how to sample and test water, training tips, lists of laboratories, and a hotline?

Whatever the outcome from debate and discussion concerning the regulation and/or management of small waterworks, it must be emphasized that any decision relating to increased inspections of waterworks facilities – large and small – must be considered in light of the MOE's capacity to maintain or actually perform the level of inspection desired. Without an increase in staff to perform inspection and compliance activities, or a new, innovative, effective, streamlined-yet-thorough approach to inspections, a constant and highly disruptive shuffling of staff from one program to another will be the norm in the Operations Division.

Notably, given the above concerns over the inspection of small waterworks, a July 10, 2001, announcement from the province indicated that another drinking water regulation is being proposed to "place strict requirements on schools, day nurseries, nursing and retirement homes, and social and health care facilities that have their own water supply system and do not fall under the existing

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[144] Ibid.
[145] Ibid.

Drinking Water Protection Regulation."[146] Likewise, the MOE and its partner ministries aim to provide the owners and operators of small facilities not covered by the proposed regulation – such as cottages, homes, gas stations, camps, and playgrounds – with the information they need to ensure clean, safe drinking water.[147] These initiatives are important advances, but they can be implemented effectively only if sufficient resources are available for inspection, monitoring, and enforcement.

4.1.6 Investigations and Enforcement

The MOE's authority to inspect and determine compliance is supported by its capacity to investigate, lay charges in, and prosecute non-compliance situations. (An EO also has access to other tools such as tickets, but these have not been used for violations related to communal water.) The Investigations and Enforcement Branch (IEB) of the Operations Division and the ministry's Legal Services Branch are the primary administrative offices participating in investigations and enforcement activity.

Most often, the IEB gains information about a violation from a recommendation for investigation in an Occurrence Report it receives from a district office. The IEB manager evaluates the report to decide whether an investigation is needed. If it is, the supervisor assigns an IEB officer to conduct "an investigation to determine whether reasonable and probable grounds exist for laying charges."[148] Through a copy of the Occurrence Report, the responsible district office is notified of the lead IEB officer assigned to the investigation.

If the IEB manager determines that an investigation is not warranted, he or she sets out the reasons in the Occurrence Report and forwards a copy to the district office.[149] If the supervisor's decision is different from the district office's recommendation, this is noted in the Occurrence Report.

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[146] Ontario, Ministry of the Environment, 2001c, "Proposed drinking water regulation to protect facilities serving seniors and children," news release, July 10 [online], <www.ene.gov.on.ca/envision/news/071001.htm>.
[147] Ibid.
[148] Ontario, Ministry of the Environment, 1995a, section 9.1.
[149] Ibid., section 9.1(b).

4.1.6.1 *Enforcement Considerations*

When the decision to proceed with an investigation is made, IEB staff consider a range of factors in order to reach an informed judgment on whether enforcement action is appropriate. These factors include:[150]

- the seriousness of the violation itself, including whether the violation poses a significant risk to, or will have an adverse effect on, human, plant or animal life, property or the environment;
- the seriousness of the violation in the context of the ministry's overall regulatory scheme, including whether the pollution emitted as a result of the violation is a serious obstacle to achieving the ministry's air quality and water quality objectives;
- whether the violation appears to have been deliberate;
- whether the violation appears to have been the result of negligence;
- whether the violation has been repeated or is ongoing;
- whether the offender has demonstrated, and continues to demonstrate, a negative attitude towards the compliance with environmental legislation;
- whether the offender has concealed pertinent information;
- whether the offender has disregarded warnings issued by the ministry;
- the offender's compliance record;
- the deterrent effect of enforcement action on similar or other operations;
- whether enforcement action is necessary to maintain the integrity of the regulatory process; and
- whether failure to pursue enforcement action would tend to bring the law into disrepute.

Importantly, the Operations Division's *Compliance Guideline* also states: "While it is prudent to consider and evaluate the importance of all of these factors, and possibly others, and to assess which of them indicate that enforcement action is appropriate, there is no minimum number of items to justify recommending prosecution."[151] The MOE's attention to the concept of 'informed judgment' is central to how staff make decisions.

The IEB is supposed to keep the district office informed of the status of the investigation at all times unless the release of information may harm someone or jeopardize the investigation. Most investigations take between six months and

[150] Ibid., section 10.
[151] Ibid., section 10.

one year to complete. During the investigation, the IEB officer may consult with the Legal Services Branch on points of law or rules of evidence. When an IEB officer recommends prosecution, he or she prepares a written brief and submits it to the IEB manager. The IEB manager reviews the brief and then forwards it to the IEB director or designate. The IEB director or designate reviews the brief and forwards it to the Legal Services Branch.[152] Once a prosecution brief has been prepared, the IEB notifies the assistant deputy minister's office of the Operations Division, the district office, and others as appropriate of the recommendation to initiate a prosecution. "The Minister is not involved in discussions relating to the laying of charges or ongoing conduct of prosecutions."[153]

4.1.6.2 *Prosecution*

Following the investigation and the preparation and circulation of the prosecution brief, the Legal Services Branch then becomes active. "The Director of the Legal Services Branch or designate will consult with staff lawyers as to whether the evidence obtained is adequate and on whether prosecution would be in the interests of the administration of justice. Additional consultation may take place with staff of the Ministry of the Attorney General where appropriate. Legal Services Branch may choose not to proceed, but shall first make contact and give due consideration to any additional information provided by IEB."[154] Ultimately, the decision and authority on whether prosecution proceeds rests with the attorney general.

When a hearing is being considered and if it proceeds, special consideration is given to due diligence. That is, it must be determined if the violation occurred while all necessary and expected precautionary actions were being taken by the accused. If yes, then it is unlikely that the prosecution will go further or be successful.

When a formal prosecution proceeds, two events can take place: a guilty plea, and settlement or advancement to a formal hearing. If a judicial hearing proceeds, many MOE staff may be called as witnesses: district EOs, technical support staff, other staff who can provide technical advice, Standards Development Branch staff, and other expert witnesses.

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[152] Ibid., section 9.3.
[153] Ibid., section 9.4.
[154] Ibid., section 9.5.

Prosecutions in the past were mainly against well drillers for well interference. Historically, very few incidents of prosecutions of water suppliers have occurred. In part, this was due to a concern over the MOE's prosecution of a municipality — that is, the Crown prosecuting the Crown. This concern stemmed from questions raised by the judiciary about the need for the Crown to prosecute other Crown agencies instead of working out the concerns amicably. Nonetheless, the ministry began to pursue prosecutions of itself and other Crown agencies around 1992, with the first prominent case being the prosecution of the Lambton water supply system, which supplied water to the Sarnia region. An MOE employee had overdosed fluoride in the water system, violating a condition of the Certificate of Approval.

In 1998, the County of Oxford was charged for failing to follow the MOE's minimum sampling requirements. Following events in Walkerton, the MOE began to pursue prosecutions of municipalities more actively. The most recent prosecution occurred in June 2001 when the Regional Municipality of Waterloo was convicted under the *Ontario Water Resources Act*.

The penalties levied in such cases depend on "the seriousness of the offence, and the attitude and circumstances of the offender. The Crown should also consider the current condition of the non-compliance situation and, following discussions with the ministry, request, where appropriate, restoration orders or other available relief from the courts in addition to any other penalty."[155] See subsection 2.2.2.7 for a description of the penalties allowable under the act.

4.1.7 Applications for Certificates of Approval

Subsection 2.2.2.3 outlined the relationship between Certificates of Approval and Ontario's regulatory requirements. This subsection describes the process by which applications for Certificates of Approval are processed and assessed.

A Certificate of Approval stipulates the conditions that must be met for a water facility to operate. Before the mid-1980s, conditions were not usually placed on Certificates of Approval. There was implicit recognition that both the MOE and the applicant were pursuing a common goal of protecting the environment and public health. The application process included exchanged documentation, agreements, and correspondence between the province and the water facility

[155] Ontario, Ministry of the Environment, 1995a, section 11.2.

operator. This material was considered to be information to protect the 'public interest' with respect to the environment that would lead to a director issuing an approval. Conditions of approval were added to Certificates of Approval in the mid-1980s to facilitate greater emphasis by the MOE on compliance and enforcement activities. By 1993, a standardized model of terms and conditions for approvals had been developed. These were updated in August 2000.[156]

Applications for approval are submitted to and administered by the supervisor of the Water and Wastewater Unit, a designate of the director of the Environmental Assessment and Approvals Branch (EAAB).

In preparing their applications, proponents refer to the MOE's *Guide to Applying for Approval of Municipal and Private Water and Sewage Works*.[157] They may also receive assistance from MOE staff in defining environmental objectives that must be met by the proposed works. This assistance may include identifying legislation, policies, objectives, and guidelines that must be considered, and discussing any special concerns that must be addressed in the application.[158] District and regional staff work with waterworks owners to clarify requirements.

In addition to consulting with the MOE before submitting an application, proponents must also ensure that they comply with requirements for environmental assessment under the *Environmental Assessment Act*. Municipal waterworks are covered under the Municipal Engineers Association (MEA) Class Environmental Assessment (MEA Class EA). (Subsection 2.6 provides more information about the *Environmental Assessment Act*.)

For the purposes of complying with the *Environmental Assessment Act*, municipal waterworks are divided into three categories – Class A, B, or C – with the detail of assessment and public engagement process increasing from A to C. The process established by the MEA is used to screen applications to determine which class waterworks fall into. This in turn identifies the level of assessment required. For all classes, the public are notified about changes. For Class B and C projects, a meeting is held to discuss local issues. This is a self-screening process conducted by the municipalities. Only Class C applications involve the MOE and may be posted on the Environmental Bill of Rights.

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[156] W. Gregson, testimony to the Walkerton Inquiry, March 6 and 7, 2001, "How Ministry Functions Are Linked to Approvals," presentation, pp. 40–42.
[157] Ontario, Ministry of the Environment, 2000a, *Guide to Applying for Approval of Municipal and Private Water and Sewage Works* (Toronto: Queen's Printer).
[158] Ibid., p. 16.

When an application is submitted to the MOE, EAAB engineers initially review the application for completeness, returning it to the applicant if it is incomplete. They also check that appropriate supporting documentation has been provided and fees have been submitted. The reviewing engineer submits the application to the supervisor of the Water and Wastewater Unit, with a duplicate copy to the MOE district office. The nature of the approval process depends on how complicated the application is. Broadly speaking, there are two different streams of application: simple and complex.

Often, an application submitted to the EAAB involves proposals for only minor changes in a water facility. For example, any change to a pump or pipe legally requires a change to the Certificate of Approval. Following the 1998 reorganization of the EAAB, a system was developed wherein such simple amendments or additions to Certificates of Approval could be identified and would not be put in line with other more complex applications requiring a reviewing engineer.

It is important to note that this process followed the government's initial effort to create a new regulation allowing Certificates of Approval to be approved provided they followed an established formula for changes. This proposed change was called a *Standardized Approval Regulation (SAR)*. The creation of the *SAR* followed the introduction of the *Environmental Approvals Improvement Act* in 1996, which provided additional powers to the minister of the environment to pass regulations not articulated in legislation.[159] The simplified approval process in *SAR* has never come into force. However, many of the *SAR* procedures and efforts at streamlining have been integrated into the 'simple' stream of application approvals. When an application proposes more significant changes or completely new facilities, the 'complex' stream comes into force. Central to this complex process is the proponent's provision of documentation and information about the proposal.

4.1.7.1 *Application Documentation*

Many different forms of documentation and information are required with an application for a Certificate of Approval. One of the most critical information sources is the engineering report for the waterworks. The report must provide the following:[160]

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[159] *Environmental Approvals Improvement Act*, RSO 1996.
[160] Gregson, 2001, p. 20.

- a description of the proposal;
- a description of the population served;
- water consumption figures (domestic, commercial, industrial, fire);
- raw water quantity; and
- a hydrogeologist's report (when the application is related to groundwater supply).

The report must also include a discussion of:[161]

- raw water quality (physical, chemical, bacteriological) supported by samples;
- adequacy of proposed treatment facilities for treatment of raw water from proposed source;
- all waste streams generated;
- proposed flow metering, sampling, and monitoring;
- proposed pumping facilities and impact of power failure;
- system storage requirements;
- location of waterworks structures with respect to proximity of sources of potential water supply contamination and susceptibility to flooding;
- planning of future extensions or improvements to system;
- design criteria of water mains (e.g., design flows, minimum and maximum pressures, minimum depth of cover, minimum separation distances from sewers); and
- preliminary design plans (general layout line diagrams, process flow diagrams, points of potential sources or system contamination, location of chemical addition points, waste streams, etc.).

In addition, the reviewer may require the following:[162]

- detailed calculations for process and hydraulic design;
- design flows in each unit process;
- detailed information about the treated water monitoring program;
- construction and installation information that is not shown on submitted drawings, such as type, size, rating, and operating characteristics of equipment; and
- type and quality of process materials (e.g., filter media) and chemicals.

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[161] Ibid., pp. 21–22.
[162] Ibid., p. 27.

Other relevant information that engineers consider in relation to the final plans include the following:[163]

- major topographical features and contour lines;
- drainage areas, watercourses, flood levels;
- existing and proposed streets;
- municipal boundaries;
- location of all proposed works;
- property lines;
- nature of adjoining lands;
- private residences and adjoining structures;
- location and identification of potential pollution that could affect water quality in the source or contaminate the treated water being distributed;
- test borings and groundwater elevations;
- well drilling log, details of well construction, elevations of geologic formations, water levels, proposed pump installation levels, well screen data;
- process flow diagrams;
- hydraulic profile through the plant for maximum and minimum flow conditions; and
- construction scale plan and profile drawings.

4.1.7.2 *Technical Review of Applications*

After checking the completeness of the information and documentation, the proponent submits the application to the EAAB, which then forwards it for technical review. The EAAB routinely refers applications to district and regional offices for important commentary, advice, and confirmation of accuracy. The Technical Support Section of each region is essential in this process because of the expertise in the Water Resources and Assessment Unit. The unit deals with Permits to Take Water, wells, and groundwater, and staff include surface water specialists and hydrogeologists.

The Environmental Sciences and Standards Division may also provide advice in some circumstances; an example is when questions on appropriate technology or unusual water qualities or discharges arise. Similarly, the Monitoring Branch is consulted when necessary.

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[163] Ibid., pp. 24–26.

The function of MOE's engineering evaluation is to "determine whether a proponent has proposed to construct [a] works that could reasonably be expected to consistently perform to meet the environmental impact objectives under the limiting conditions of the Design Terms of Reference and other Objectives."[164] Similarly, "the design of the works should be based upon the premise that failure of any single component must not prevent the works from meeting its site-specific Environmental Impact Objectives, while operating at the design flows."[165] Together, these two engineering objectives feed the overall public health concern for waterworks proposals: "All proposed water works are assessed with respect to their capability to treat raw water from the proposed source of water supply and deliver to the consumer an adequate quantity of treated water consistently meeting the requirements of the Ontario Drinking Water Objectives [now standards]."[166]

When reviewing the technical aspects of waterworks proposals, the EAAB reviewing engineer follows MOE's formal design guidelines, introduced in 1982. Before 1982, an MOE policy memorandum provided guidance for review of waterworks proposals, with reference to the *Recommended Standards for Water Works: Ten States Standards*[67] produced by the Great Lakes–Upper Mississippi River Board of State Public Health and Environmental Managers, and to the *Manual for Guidlines and Procedures: Recommended Guidelines for Small Groundwater Supply Systems for Residential Developments*.[168]

The MOE's formal guidelines, adopted between 1982 and 1989, included:[169]

- Guidelines for the Design of Water Treatment Works (1982)
- Guidelines for the Design of Water Distribution Systems (1985)
- Water Storage Facilities (1985)
- Servicing in Areas Subject to Adverse Conditions (1985)
- Water Supply for Small Residential Developments (1985)
- Guidelines for Fluoride in Water Treatment Works in the Province of Ontario (1989)

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[164] Ibid., p. 29.
[165] Ibid., p. 30.
[166] Ibid.
[167] Great Lakes–Upper Mississippi River Board of State Public Health and Environmental Managers, 1997, *Recommended Standards for Water Works: Ten States Standards* (Albany, N.Y.: Health Education Services, Health Research Inc.).
[168] Ontario, Ministry of the Environment, 1995b.
[169] Ibid.

Additional reference guidelines used included the 'Ten States Standards,' sanitary engineering textbooks, academic and professional journals, resource materials from the U.S. Environmental Protection Agency, and university research.[170]

4.1.7.3 *Draft and Final Certificates*

Following the technical review, the reviewing engineer prepares a draft Certificate of Approval containing all the appropriate terms and conditions. The conditions of approval are based on six criteria, many of which are established under the *Ontario Drinking Water Standards*. These broad criteria are:[171]

a) Performance
Conditions include requiring the owner to:
- operate the water works such that the water delivered meets *Ontario Drinking Water Standards* (previously objectives);
- operate within existing rated design capacity
- maintain specified chlorine residuals prior to the first consumer and within the distribution system.

b) Monitoring and recording
- specific parameters in raw, treated water, and distribution system, according to set locations and frequencies for monitoring.

c) Operations and maintenance
Conditions included requiring the owner to:
- Take necessary steps within the owner's authority, to protect the source water supply;
- provide an operator who holds a licence that is applicable to the facility in accordance with Ontario Reg. 435/93;
- clarifies that proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls
- preparation of operations manual; and
- develop contingency plans and procedures as well as have necessary equipment available for dealing with upsets and emergencies.

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[170] Gregson, 2001, p. 33.
[171] Ibid., pp. 37–39.

d) Notification and reporting
Conditions include:
- Notification of the MOE and medical officer of health under specified conditions
- Periodic reporting requirements

e) Other conditions the director considers necessary
- Conditions of approval establish requirements and clarify responsibilities of the owner. These are included by the director to ensure the plant consistently performs to satisfy the *Ontario Drinking Water Standards*.

f) Conditions as compliance/enforcement tool
- These conditions are enforceable and prosecution can occur for non-compliance. They have the effect of elevating guidelines to enforceable 'standards' when specified in the Certificate of Approval.

The supervisor returns the draft Certificate of Approval to the reviewing engineer. The engineer produces an engineering assessment that identifies whether the application should be approved. The reviewing engineer's recommendation to the director (as designated by the legislation) is based on:[172]

- assessment of the proposal against relevant regulations, policies, and guidelines;
- science assessment input from the MOE regional hydrogeologist and other MOE branches;
- MOE district input;
- engineering evaluation; and
- any other relevant matters.

In the end, the director's decision is based on the public interest, as articulated in the legislation.[173] If the director agrees with a positive recommendation, the notice of the draft Certificate of Approval is posted on the Environmental Bill of Rights on the ministry's Web site for public review and comment. The notice also indicates how the public can submit comments. The reviewing engineer considers public comments in the preparation of the final Certificate of

[172] Ibid., p. 36.
[173] Ibid.

Approval. If a director denies the application for a Certificate of Approval, the proponent may appeal the decision and any conditions placed in the certificate. Members of the public cannot appeal the decision to issue or refuse a Certificate of Approval unless they pursue the issue through formal judicial proceedings.

Once the certificate is finalized, the MOE district office is responsible for continuing assessment, inspections, and monitoring of compliance with the certificate's terms and conditions.

As part of the Walkerton Inquiry, questions have been raised as to whether Certificates of Approval also serve as permits to operate facilities. The MOE's position is that they are not. However, a number of conditions within the Certificate of Approval concern the manner of operations, including a requirement for an operating manual. The result is that the Certificate of Approval forms the legal basis for the plant's operation.

4.1.8 Permit to Take Water

The Permit to Take Water (PTTW) system was introduced as a legal instrument in 1961 to enable the provincial government to oversee users who take more than 50,000 litres of water per day. By issuing a PTTW, a director (as designated by the legislation) can manage or prevent the problem of one user interfering with another user's water needs by taking too much. The director can intervene and require that alternative supplies be used and corrective action taken if interference occurs.[174]

It is important to emphasize that the PTTW system is a means for managing water *quantity,* not water *quality*. The only exception to this is when "the direction or rate of movement of contaminants might be altered by a proposed water taking" and "where the taking might substantially reduce the base flow to a cold water stream with a fish population."[175] It is worth noting that the MOE's responsibility for the PTTW, and hence, water quantity, differs from the common division of responsibility for water resources among Ontario ministries: the Ministry of Natural Resources is responsible for monitoring volumes and quantities of water in Ontario's ecosystems. The MOE's legal responsibility with respect to water quantity is limited to the PPTW system.

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[174] Shaw, "Permit to Take Water," p. 4.

The system, as explained in Section 34 of the *Ontario Water Resources Act (OWRA),* applies to any person or facility drawing water from any ground or surface source. Exemptions from requiring a PTTW apply to fire fighting, domestic household purposes, and livestock and poultry watering, but not to the taking of water into *storage* for livestock or poultry watering.[176]

4.1.8.1 *The Application Process*

An applicant submits a request for a PTTW with supporting technical information to the MOE's local regional office. A staff member in the region's Technical Support Section reviews the application. As for Certificates of Approval applications, the reviewer also refers the application to the district office for comment. If the application is missing information, the reviewer does one of the following:[177]

- rejects the request if there are major deficiencies;
- puts the request on hold until the applicant provides the missing materials; or
- begins processing the file if the missing elements are minor and the applicant has agreed to supply them.

For applications for groundwater withdrawal, the reviewer considers:[178]

- other users with PTTW;
- private residences (which don't require permits); and
- surface water streams that require groundwater for base flows.

For applications for surface water withdrawal, the review considers:[179]

- other users with PTTW;
- recreational users; and
- protection of fisheries.

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[175] Ibid., p. 15.
[176] Ibid., p. 6.
[177] Ibid., p. 11.
[178] Ibid., p. 12.
[179] Ibid.

The reviewer contacts other government agencies when necessary, notably the Ministry of Natural Resources, conservation authorities, and Fisheries and Oceans Canada. He or she also uses any available MOE information and knowledge (e.g., from colleagues) about the characteristics of the source, in addition to the MOE's water well record database for information about nearby wells. (See subsection 4.2.1.4 for information about the well program.)

After considering the above factors, the reviewer determines whether enough water is available at that location to meet the application request. If there is, the reviewer determines what the implications are for withdrawing the amount of water requested.[180] Following this assessment, the reviewer arranges for a summary of the application to be posted for comment and review on the EBR. Ultimately, the reviewer considers all feedback – government and public – when deciding whether to recommend that a PTTW be issued.

The final decision on issuing a PTTW lies with the director. The director considers the application and the recommendation and then makes a decision to:

- refuse to issue the PTTW;
- issue the PTTW as requested by the applicant;
- issue the PTTW with terms and conditions;
- cancel the PTTW; or
- alter the terms and conditions of the PTTW after it is issued.

Once the decision is made, regional staff prepare a decision document, advise the applicant of the decision, and post the decision on the EBR. The public may comment during the posting period.[181]

Under the *OWRA*, applicants may appeal the director's decision to refuse to issue, cancel, or attach conditions to a permit. Usually, such appeals are resolved through negotiations and do not proceed to a hearing.[182] Third parties have a right to seek leave to appeal the director's decision. To do so, third parties must convince the Environmental Review Tribunal (which hears appeals against MOE decisions) that the director did not issue the approval in accordance with MOE policy guidelines *and* that the PTTW is likely to result in significant environmental impact.[183]

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[180] Ibid., p. 13.
[181] Ibid., p. 20.
[182] Ibid., p. 28.
[183] Ibid., p. 29.

All files for a PTTW application, its review components, and the final permit are held in the regional offices. However, a "PTTW and the application documents are public documents and are made available for viewing subject to any provisions of the *Freedom of Information and Protection of Personal Privacy Act* that might apply if an applicant has marked some of the documents confidential."[184] In 1998, the MOE began computerizing the information in the permits on a regional basis. Copies of PTTW are not usually sent to MOE district offices.

4.1.8.2 *Enforcement of PTTW*

The lifespan of a PTTW has changed over time. Initially, a PTTW for a municipality was valid for ten years and one for any other user was valid for five years. After MOE staff reductions in 1996, PTTW were issued without expiry dates, except where there were specific concerns. Since 1999, all PTTW have expiry dates, with municipal water takings valid for the longest periods – up to five years.[185] The MOE also reviewed and introduced expiry dates for those PTTW of concern that were granted without expiry dates.

The number of PTTW issued has increased noticeably in recent years. In 1996/97, 683 new and renewal PTTW were issued, compared with 1,540 issued in 2000/01.[186] This steady increase has resulted from the MOE's aggressive outreach program in areas of Ontario that are experiencing both competition over water resources and low groundwater levels. In addition, the MOE has made an effort to seek out those water takers who should have permits and encourage them to apply. The ministry has also imposed shorter renewal periods for PTTW, prompted by the public furor over proposed large water takings for export or bottling.[187]

The MOE does not usually check to ensure compliance with any conditions of the PTTW unless there is a report or a call of concern relating to the water taking. In that case, regional staff from the Water Resources and Assessment Unit of the Technical Support Section are assigned to check on it.[188] To address this lack of compliance monitoring, most PTTW indicate that the water taker

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[184] Ibid., p. 22.
[185] Ibid., p. 21.
[186] Ibid., p. 24.
[187] Ibid.
[188] Ibid., p. 25.

is required to report the rate and volumes of water taken to the ministry. In some cases, where the taking of water is more sensitive, the PTTW may require an evaluation report by an independent third party.[189] These reports are reviewed against the permit in light of the irregularities being investigated.

In early 1999, the Environmental Commissioner of Ontario decided to review certain aspects of the PTTW program. The commissioner's review found a number of inconsistencies and deficiencies in PTTW and EBR notices issued by the MOE, problems with the issuing process itself, and inconsistencies in information used to assess applications.[190] While these concerns do not relate directly to drinking water *quality* in Ontario, the relationship between concerns over water quantity and quality is well known. Hence, this review draws attention to the MOE's management of both, and its relationship with other government agencies involved in water management.

4.1.9 Communications and Coordination

The communications and coordination functions are essential for daily operations. These functions may, however, be difficult to trace and to evaluate unless they are outlined in legislation or guidelines. Throughout this report, the MOE's communications and coordination functions have been identified in relation to other specific items of discussion. This subsection provides some additional notes about these functions as carried out by the Operations Division.

District and regional offices often lead communications and coordination efforts with other ministries and agencies, while also being primary functional nodes for communication with municipalities, individual citizens, and concerned groups. The regional Technical Support Sections' Water Resources and Assessment Units play a role in communications and coordination with the owners and operators of water facilities.

The Operations Division has each region play a lead role for one of the ten program areas with delivery strategies (e.g., Communal Water). Each region is assigned responsibility for coordinating the Operations Division's activity in a specific program area. Regional program area responsibilities rotate approximately

[189] Ibid., p. 26.

[190] Ontario, Environmental Commissioner of Ontario, 2001, "Ontario's Permit to Take Water Program and the Protection of Ontario's Water Resources," brief presented to the Walkerton Inquiry, January 2001, p. i. Available online at: <www.walkertoninquiry.compart2info/publicsubmissions/pdf/brief.pdf>.

every three to four years. In 1998, the Southwest Region was dealing with a range of water-related issues, in particular low water levels, so it was given responsibility for coordinating Operations Division activities in the Communal Water Program. The region's assistant director's office coordinates this work on behalf of all the regions.

Taking the lead role in a program area means several things for a regional office. For example, the region participates in MOE planning and policy initiatives relating to that program area. For water, this means participating in the interministry Drinking Water Coordination Committee, as well as in other committees such as those addressing water shortages.

4.1.10 Administrative and Planning Activities

Several administrative and planning activities of the Operations Division have been discussed in this section. Specifically, the role of MOE work plans, delivery strategies, Pollution Incident Reports (PIRs), Procedures for Responding to Pollution Incident Reports (PR-PIRs), and 'How To' tools were noted. These guidelines and procedures provide an important framework for the activities of MOE staff, whether related to setting priorities, carrying out inspections, or responding to environmental incidents. However, two other priority and planning activities exist that can seize MOE staff time and attention on any given day, often without prior notice. These activities relate to the preparation of and communication surrounding 'issue reports' and 'house notes.' These are briefing notes on specific issues used by the minister or the Cabinet Office in the provincial Legislature or in response to general inquiries.

The activities surrounding briefing notes begin at 6 a.m. every day. The MOE's Communications Branch prepares copies of all newspaper, radio, and television stories relating to the MOE and environmental activities that appeared that morning or the previous evening, and sends them to divisional staff preparing to attend the 7:30 a.m. Issues Management Meeting.

Before the events in Walkerton, this meeting was attended by all executive assistants to MOE assistant deputy ministers (ADMs), a representative from the Communications Branch, the executive assistant to the deputy minister (DM), and one or two people from the minister's office. The ADMs, DM, and minister would attend as they saw fit. Following the events in Walkerton, executive assistants now no longer attend and ADMs are required to attend.

Having scanned the news clippings and noted the primary issues, the attendees create and prioritize a list of the most important issues to be addressed by the MOE that day. They then determine which MOE division has chief responsibility for each issue. For specific events, such as a chemical spill, it is easy to determine responsibility. However, on other occasions, debate can arise when trying to delegate responsibility that may cross lines of divisional responsibility. This conflict is a direct result of the procedure that must be followed once responsibility has been assigned. The Issues Management Meeting also provides the opportunity for participants to revisit key issues raised at previous meetings, review responses to them, and discuss any necessary follow-up.

Meetings generally last from half an hour to one hour. Following the meeting, at about 8 a.m., all ADMs' executive assistants inform their branches of actions to be taken. For the Operations Division, the executive assistants inform the regional offices that they or their corresponding districts or agencies are required to prepare house notes on certain issues. The regional office is responsible for contacting the appropriate district office, which then assigns the preparation of the house notes to the EO with the greatest knowledge of that specific issue. The MOE staff are provided with information on the protocol for preparing house notes.

In principle, the house notes must be completed and submitted by 10 a.m., although many are not ready until 12 noon, in advance of the Legislature's sitting around 1 p.m. The regional director or assistant director is required to review and sign off the notes before they are forwarded to the division's ADM, who also reviews them and signs them off. The ADM's office then compiles all house notes and turns them over to the ministry coordinator for transmittal to the minister's staff. The minister's staff then prepares the information for inclusion in the 'house book,' which the minister's assistant carries for the minister's use during Question Period if the issues are raised.

The Operations Division is usually designated the responsibility for most of the issues coming out of the Issues Management Meeting. Therefore, it may be close to 9 a.m. before staff can assign responsibility within the division for all the issues identified. The Operations Division receives the bulk of issues for house note preparation. No matter which division is assigned responsibility, the preparation of house notes can consume district activities for the morning, and often for the whole day. This is especially true when the issue is still being dealt with in the district. In this situation, staff shift responsibilities and activities in order to help cover for the EO who may still be at the location dealing with the problem.

In effect, the requirement for an EO to prepare house notes on any given day takes precedence over all other priorities (unless, of course, immediate emergencies exist). District staff must be prepared to set aside or postpone other activities each morning in case they are called upon that day to prepare house notes.

The amount of time MOE staff may dedicate to the preparation of house notes is a reflection of the continuing changes and challenges to the administration and management of environmental issues. The increased importance ascribed to Issues Management Meetings in the MOE has paralleled the volume of information produced, and the speed with which that information is delivered publicly and privately in society. The continuing advances in communications technology and the number of outlets available to retrieve this information mean that the public's knowledge and awareness of environmental events, and its ability to share that knowledge, challenge and pressure government to react and respond quickly and in an informed manner. Therefore, while the early-morning issues meetings could be interpreted as a public relations exercise that occupies too much staff time, in fact the meetings function as an important response to public information and public concern.

Meanwhile, the need to respond with precise and accurate information also highlights the challenges presented to senior managers within the MOE. Managers are expected to delegate responsibility and provide enriching staff work experiences while still managing many issues simultaneously and maintaining a broad general knowledge of these issues. When a major issue arises, lead managers and supervisors are expected to be able to provide ministers with all the information needed to respond to issues effectively.

The above discussion describes the complexity of the day-to-day management, administration, and planning of public environmental issues and services. The MOE is a focal point in this complicated scenario as it balances the imperatives of public health with continuing pressures to provide public information, respond to ministerial requests, and perform routine functions.

4.1.11 Security Fund

The Security Fund is another Operations Division function. The Security Fund was created at the same time as the Spills Action Centre in 1986. It was set up to pay for the clean-up of contaminated sites when the responsible party could

not be found, and to provide funds for responding to events requiring immediate action. Thus, the fund provided a guaranteed base amount of money for the MOE to use for clean-ups and emergencies.

With respect to water, the fund has been and can be used for urgent water supply needs and the replacement of infrastructure. The experience in the town of Manotick, south of Ottawa on the Rideau River, is one example where the fund was used to address communal water problems. Citizens of Manotick became aware of strange odours associated with their drinking water and their wells. On investigation, the local MOE office and the Technical Support Section of the region discovered that the wells were contaminated with dry cleaning fluid. Because of improper storage, the fluid from a dry cleaning company that had operated 20 years earlier was leaking into the groundwater.

In the case of Manotick, as with other cases where the Security Fund has been used, the local/district MOE office was responsible for applying for use of the fund. The Security Account Office in the Environmental Assessment and Approvals Branch administers the fund. It assesses the request for compliance with the fund's requirements and recommends approval to the ADM, Operations Division. The fund can be used for both small and large projects. Initially, it was used to provide bottled water to Manotick residents. Later, however, when a longer-term solution was found, the fund provided the money to build a pipe and associated infrastructure from the Ottawa-Carlton Regional District's water system to the town.

At first, the province allocated $10 million a year to the fund for clean-up and emergency response. Now the amount of money available is closer to $2 million. This varies according to the amount needed and can, if required, reach into the $10 million range. The fund is adjusted annually as part of the budget development approval process.

Sometimes, the MOE uses the fund to clean up contaminated sites that have been abandoned or for which the responsible party cannot be determined at the time. In these cases, the MOE is permitted to recover the costs associated with the clean-up from the responsible party if they can be determined later and causally linked to the pollution event.

4.2 Environmental Science and Standards Division – Measure

The Environmental Science and Standards Division (ESSD) is the chief administrative body responsible for executing the MOE's broad body of measurement and science functions. The division is made up of five branches: Laboratory Services Branch; Environmental Monitoring and Reporting Branch; Standards Development Branch; Environmental Partnerships Branch; and the Drive Clean Office. The MOE's definitive voice on science, the ESSD provides all development work on standards as they relate to legislation, regulations, and policies. The ESSD serves as a clearinghouse and coordinating centre for information and knowledge relating to environmental parameters.

Some of the ESSD's central measurement functions discussed in this subsection are monitoring, testing, standards development, and the well program. In addition, this subsection also discusses the ESSD's role with respect to grants and financial assistance, the Drinking Water Surveillance Program (DWSP), liaison with the Ontario Clean Water Agency (OCWA), the influence of the government's alternative delivery strategies, and the administration of the water systems ownership transfer program.

4.2.1 Monitoring

The Environmental Monitoring and Reporting Branch of the ESSD is the chief administrative body responsible for the MOE's monitoring activities. The monitoring branch was created in 1995, in part as an effort to turn the accumulating data of the MOE into more usable information.

The MOE carries out two province-wide monitoring programs relating to air and water systems. For water, this routine monitoring is based on a network of monitoring stations positioned on selected rivers and lakes. The MOE monitors a suite of ambient water parameters to evaluate trends in these locations. This initiative provides more benefit to Great Lakes-wide monitoring activities than it does to communal drinking water. However, the MOE undertakes other initiatives to monitor drinking water quality in Ontario. Chief among these is the DWSP.

4.2.1.1 *The Drinking Water Surveillance Program*

The DWSP began in the mid-1980s in response to increased concerns about trace contaminants, especially pesticides, in water supplies. The DWSP was intended to go beyond the basic information on bacteriological and chemical compositions of communal water that municipalities had been submitting to the MOE.

The DWSP was designed to provide the MOE with the information to project long-term trends in drinking water quality in Ontario by analyzing hundreds of substances known to be in use, such as trace organics and inorganics. The program began with the largest water treatment plants in the province. Water operators took water samples from three points in the water treatment system – pre-intake, processing, and distribution. Initially, samples from about 40 of the largest municipal systems were collected. Over time, the DWSP has grown to include about 80% by population of all municipal water systems in Ontario.

Municipalities are not legally required to collect samples and submit them to the MOE for testing. However, the ministry covers the cost of testing because the DWSP serves its mandate. Once the analyses are complete, the MOE shares the results with the municipalities. Most often (99% of the time) contaminants are undetectable. If a problem is identified, however, the ESSD notifies the municipality and the local MOE office of the concern and the need for follow-up action.

For groundwater, the main source of information comes from the MOE's well program, which is described in subsection 4.2.1.4. The reliability of the information in the well records before 1998 remains a concern, along with the low degree of attention given to well inspections in the last decade. In 1999, the Ontario government announced a $6 million program for conservation authorities to monitor groundwater quality and to quantity and create a depository of information. The MOE had undertaken groundwater mapping in the past, but that effort was discontinued around 1990.

4.2.1.2 *The Municipal-Industrial Strategy for Abatement*

The Municipal-Industrial Strategy for Abatement (MISA) is another MOE program to monitor water quality. It focuses on monitoring the discharge of contaminants into water systems.

The MISA identifies most industrial discharges of major concern for water quality and requires industries to monitor and submit information regarding their discharges. Accordingly, industries must submit discharge data for regulated parameters annually. Exceeding the industrial standards is a punishable offence. Before the introduction of the *Ontario Drinking Water Standards*, municipalities were not subject to the same regulatory instruments as industry, despite having to submit annual discharge data to the MOE. As a result, the "municipal" portion of the MISA program name is somewhat a misnomer, as the program does not even apply to municipalities. and its central function is the regulation of industrial discharges.

It should also be noted that municipal wastewater treatment facilities submit monitoring results to the ministry in compliance with the terms of their Certificates of Approval. As such, wastewater treatment facilities are in the same situation now as water treatment facilities were before events in Walkerton and the introduction of the drinking water standards – that is, there is a list of parameters wastewater facilities *should* test for, but they are not *required* to do so.

4.2.1.3 *Monitoring and Database Management*

From the collection of this and other information, the Environmental Reporting and Monitoring Branch maintains a database of information that is being integrated into a comprehensive MOE network called EnviroNet.

The branch analyzes the information it amasses and attempts to report on the results regularly. Before 1996, the Environmental Reporting and Monitoring Branch regularly produced a 'state of the environment' report that detailed and explained the information the branch had accumulated. No overall report has been published since then, but an 'air report' is still produced annually. Data on industrial and municipal discharges are posted on the ministry's Web site.

To accomplish these functions, the Environmental Reporting and Monitoring Branch must coordinate activities with several other administrative bodies to collect samples, share data, and interpret and understand information. This sharing occurs among MOE administrative divisions, branches, and offices, as well as among ministries such as the Ministry of Natural Resources and the Ministry of Agriculture, Food, and Rural Affairs. In addition, federal government information for such things as stream flow and the Great Lakes is also used as needed.

4.2.1.4 *The Well Program*

As noted in subsection 4.2.1.1, the MOE's well program has declined in the last decade. In particular, the number of well inspectors has drastically declined – the last inspector was let go in 1998 and not replaced.

Before 1995, the Water Resources Branch was responsible for the program, which employed several hydrogeologists. The branch undertook groundwater and well mapping, maintained well record reports, and coordinated well inspections with the Operations Division. Well records were kept on paper only, and it is not clear if this system was complete and up-to-date. In 1998, the well records were entered into a central computer system that is easy to consult. While the volume of available data is now high, concerns surround the reliability of the data within the well record database.

Well drillers are required to submit well records. These records include information on the depth of aquifers, soil type, and rudimentary water quality data about chemical and mineral characteristics (which provides good information on the nature of the aquifer) but not bacteriological characteristics. Commonly, there have been errors in the well record data submitted, relating mainly to incorrect lot and concession numbers. Nonetheless, it is important to emphasize that none of the information submitted by well drillers is audited.

Before 1995, the MOE's regional offices had one or two well inspectors whose responsibility was to follow up and review well records and complaints. Given the estimated 750,000 water wells in Ontario, which are growing at a rate of 11,000 per year,[191] the absence of well inspectors and a well inspection program raises important concerns about water quality. Improperly developed and installed wells can result in contamination of aquifers with surface water or the cross-contamination of aquifers. In some parts of southwestern Ontario, old oil and gas wells have contaminated freshwater aquifers.

Today, the well program is small and limited. Well records are kept at regional offices where a few hydrogeologists work on issues relating to groundwater

[191] Ontario, Ministry of the Environment, [no date], "Reforming Environment and Energy Regulation in Ontario: Responsive Environmental Protection: A Consultation Paper," paper presented to the Walkerton Inquiry, document #1009598, p. 48.

interference and development. Several clerks and one technical specialist now administer the central depository of computerized well information. The $6 million initiative in 1998 to have conservation authorities monitor the quality and quantity of groundwater in Ontario has enlivened the MOE's depleted well program, but comprehensive analysis of well records and well information in Ontario remains a concern.

Well program staff also continue to administer the licensing of well drillers. In reality, however, the licensing function of the well program is more of a registration process, as only limited evaluation of applicants takes place.

4.2.2 Testing

The Laboratory Services Branch is the primary administrative body responsible for MOE's testing functions and specifically those of the ESSD. Laboratory services have existed since the Ontario Water Resources Commission was founded in 1956, well before the creation of the MOE.

The laboratory services function as a component of the MOE's overall management and monitoring services. The primary role of the Laboratory Services Branch is to receive samples and analyze them as requested. The MOE laboratories do not go out and seek work. For example, if an MOE employee is studying an event such as a spill, he or she asks a laboratory to test for certain parameters to help in the investigation or overall analysis. The current attention of the branch to the internal needs of MOE monitoring initiatives and regional and district work represents a shift from the broader range of services formerly provided to municipalities, as described below.

4.2.2.1 *Relationship with Municipalities*

The Ontario Drinking Water Objectives (ODWO) were first published in 1964. The ODWO specified minimum sampling requirements for bacteriological contaminants in the distribution system. In 1988, the provincial auditor determined that many water owners failed to meet the minimum sampling requirements in the ODWO and recommended that the ministry

take action to ensure that Ontario citizens were properly protected.[192] In 1992 and 1994, the provincial auditor repeated this concern.[193]

In 1994, the ODWO were updated. The original sampling requirements in the ODWO were expanded at this time to include regular testing for physical and chemical parameters, such as turbidity, pesticides, and chlorine residual.[194]

Up until this point, the MOE had provided free analytical services to all small and some large municipalities. Municipalities took the samples and sent them to MOE laboratories for analysis. The municipalities appreciated this system because it was free. The MOE used it as an opportunity to identify which municipalities were sampling and if there were any problems. The ministry's lab staff could then bring the results to the attention of the district and municipal staff. Most large municipalities did their own sampling because they had environmental programs that were evolving in parallel and, in some cases, ahead of those of the provincial government.

When the New Democratic Party (NDP) was in power (1990–1995), the government decided that testing would no longer be free, and it set up a fee structure to charge municipalities for the testing service. Some municipalities expressed reluctance to sample because of the cost, but there is no evidence suggesting that the amount of testing decreased. At the same time that the fee for testing program came into effect, the MOE still had the capacity to test municipal water quality samples and monitor submission activity.

In March 1995, the regional directors approved a two-stage procedure to promote voluntary compliance with the ODWO by municipalities. It involved:

- sending out requests to municipalities to encourage them to do the minimum sampling identified in the ODWO; and
- issuing orders to those municipalities that did not carry out the request.

In effect, the MOE was telling water treatment plant owners to comply voluntarily with the minimum sampling requirements in the ODWO. If MOE

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[192] J. Merritt, testimony to the Walkerton Inquiry, November 13, 2000, "Municipal Water Treatment Plants in Non-Conformance with the Minimum Sampling Requirements in the Ontario Drinking Water Objectives," Walkteron Inquiry document #1053870, p. 16.
[193] Ibid.
[194] Ibid.

staff inspected a plant and found that the sampling requirements were not being met, they would issue a directive or order to the water plant owner that would make the minimum sampling requirement legally enforceable. The initial request letters sent to plant owners provided a table outlining the minimum frequency of sampling expected for their facility. The MOE also explained that a combination of private sector, public sector, and 'in-house' laboratories could be used to satisfy the analytical requirements, as long as the laboratories used standard operating practices that encouraged confidence in the accuracy and precision of their analyses.[195]

In 1996, the Ontario Progressive Conservative government announced that the MOE would no longer provide third-party testing services and closed three of the MOE's four laboratories – London, Kingston, and Thunder Bay. (Today, the central laboratory for the MOE is located in Toronto.) Municipalities were notified of this in writing and told that MOE testing would take place for only another two months. The notification included a list of private laboratories to which they could turn for testing. Although a laboratory certification program was available and municipalities were encouraged to use certified labs, labs were not regulated or required to be certified. By late 1996, MOE districts had begun to receive feedback indicating that sampling by municipalities had decreased. As a result, in late 1996 the MOE developed the Minimum Sampling Program.

The program, an internal initiative of the Operations Division, was an attempt to track and closely monitor municipalities that were not complying with the minimum sampling requirements. Regional offices noted those municipalities that were not testing properly or sufficiently, and targeted them for inspection. Thus, the Minimum Sampling Program was an outcome of the provincial decision to discontinue third-party sampling and the recognition that some municipalities were failing to follow the guidelines established by the MOE. The program also addressed a concern that the provincial auditor had first voiced back in 1988.

In addition to the testing function described above, MOE laboratories had, at one time, also an important research function in conjunction with the Water Resources Branch. However, this declined and eventually ended with the MOE's decision to eliminate that branch in 1995. Research functions were redistributed into the matrix of other MOE branches, and today only limited applied research still occurs in the one MOE lab.

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[195] Ibid., p. 6.

4.2.2.2 *MOE Laboratory Testing Services Today*

The MOE laboratory provides services to regional Technical Support Sections, and supports the MOE's inspection, abatement, investigation, enforcement, and monitoring work as needed. It remains prominent in the development of testing procedures, quality assurance, and quality control for environmental parameters. Staff of the Laboratory Services Branch are often called as expert witnesses in hearings and tribunals and to support prosecutions.

The MOE's lab also maintains working relationships with other testing bodies. For example, it relies on the University of Guelph for testing related to pesticides. As well, a good deal of coordination occurs between the MOE and provincial health laboratories with respect to human health concerns and parameters.

Despite reductions in staff, the MOE's laboratory services remain among the most comprehensive nationally and internationally.

4.2.3 Standards Development

The Environmental Standards Development Branch is the central administrative organization responsible for the development of MOE regulatory standards, guidelines, and objectives.

Before 1995, the Water Resources Branch led the development of water standards and objectives. Following the elimination of this branch in the 1995 reorganization, the Environmental Standards Development Branch became responsible for standards across all environmental media (water, air and land).

At its creation, the Environmental Standards Development Branch encountered a serious backlog in standards development, almost entirely because of the development of standards for air issues. The pressure on air issues was related to the hundreds of parameters that required attention, with the MOE having the capacity to process only a handful each year. The branch's activities relating to water had been relatively limited because most water parameters already had objectives (standards were not applied to water parameters at that time), and the pressure to develop enforceable standards was not considered significant.

Work on water standards/objectives in Ontario usually arose from the work and harmonization efforts of the Canadian Council of Ministers of the

Environment (CCME). Otherwise, the updating of drinking water objectives resulted from research undertaken in other parts of the world, particularly by the U.S. Environmental Protection Agency.

The Advisory Committee for Environmental Standards (ACES) was a provincial effort to facilitate the creation of standards in Ontario. It was established as an expert committee to comment on, review, and confirm the appropriateness of the province's standards. It consisted of members both internal and external to the MOE and reported directly to the minister. ACES was discontinued in 1995 and had little opportunity to advance standards development in the MOE.

4.2.3.1 *Creation of New Standards*

The standards for drinking water became prominent only in August 2000, following the events in Walkerton. The Environmental Standards Development Branch was central to the rapid creation of the new *Drinking Water Protection Regulation* and the *Ontario Drinking Water Standards* at that time.

For several years before that, the decreased level of expertise in the MOE had influenced standards development. As noted previously, a slow erosion in the number of staff with expert knowledge has occurred. This means that the MOE now relies on external experts for information on standards. Ministry staff can no longer contact as many in-house experts for consultation and clarification on the application of standards or the implication of test results.

Today, the entire Environmental Sciences and Standards Division contributes to the process of developing standards, with the Environmental Standards Development Branch playing the coordinating role. The Environmental Standards Development Branch develops interim standards that are posted on the Environmental Bill of Rights for review before approval. While the use of interim standards does provide a good opportunity for public commentary, it is a less rigorous review process than previously existed.

The Environmental Standards Development Branch continues to play a central role in providing technical advice to regions and districts on abatement issues, particularly when there is a need for short-term answers to issues or events and when standards are not available. Likewise, branch staff have an important function in serving as expert witnesses when the need arises.

4.2.3.2 *A Drinking Water Act*

Since the events at Walkerton, there have been calls for a provincial drinking water act, that would have a significant influence on drinking water regulation in Ontario, but discussions about such an act are not new.

When Ruth Grier assumed the position as the minister of the environment in 1990, she brought with her a draft drinking water act. The government established a working group in the MOE to work on the act and to turn it into a detailed and comprehensive piece of legislation. The working group brought forward three options for the implementation and scope of the act. The preferred option went ahead as a Cabinet submission, but it never emerged from the Cabinet review process. The main reason that the act stalled was the cost associated with the proposed changes. With a change of ministers of the environment, the proposed drinking water act was not pursued.

4.2.4 Environmental Partnerships Branch

The Environmental Partnerships Branch of the Environmental Standards and Sciences Division is responsible for activities relating to public-private partnerships and other MOE functions. Key among these is the branch's relationship with the Ontario Clean Water Agency (OCWA), its management of water and wastewater grants programs through the Water and Sewage Infrastructure Section, its coordination of MOE alternative delivery strategies, and the administration of the ownership transfer program.

4.2.4.1 *Liaison with the Ontario Clean Water Agency*

It was noted in subsection 2.2.2.1 that the deputy minister of the MOE serves on the board of the OCWA. Support for the deputy minister's activities in relation to the OCWA comes from the Environmental Partnerships Branch. The branch prepares the deputy minister for board of directors meetings, reviews OCWA reports, coordinates reviews of the OCWA, provides information for board meetings, and provides administrative support.

The branch is also responsible for preparing, reviewing, and administering submissions to the Management Board and Cabinet that are related to the OCWA, and for preparing any house notes related to the agency.

4.2.4.2 *Grants and Financial Assistance*

Since 1956, the province of Ontario has invested approximately $4 billion in municipal water and sewer infrastructure.[196] The Ontario Water Resources Commission was established in part to provide municipalities with financial assistance and technical advice in the planning, construction, and operation of facilities. With the MOE's creation in 1972, it assumed the role of infrastructure funding and operation. Since then, most provincial programs have tended to provide funding to smaller municipalities.

> Provincial investment has occurred through a number of different direct grant programs, direct investment in provincially owned and operated facilities and the operation of facilities on behalf of municipalities. Provincial funding of water and sewer infrastructure has been a constant through the years although the delivery programs often changed reflecting government priorities.[197]

Municipal Assistance Program In 1978, the province introduced the Direct Grant Program to provide direct grants to municipalities for the construction of water and sewer infrastructure. The Municipal Assistance Program (MAP) replaced this program in 1994.

MAP "expanded the mandate of provincial infrastructure funding to include provincial priorities for growth management, economic renewal, regional development, health and environment, water efficiency, and system optimization."[198] Smaller municipalities received priority under MAP. They could receive up to 70% funding for this project; large municipalities were eligible for up to 18⅓%.[199]

The Ministries of Environment and Energy, Municipal Affairs, Northern Development and Mines, and Natural Resources formed an interministerial committee called the Project Priority Evaluation Committee (PPEC) to guide MAP funding. The PPEC ranked the applications for funding according to a comprehensive scoring system that identified eligibility and priority of projects and helped determine the level of funding. Municipalities deemed the scoring

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[196] Ontario Clean Water Agency (OCWA), Capital Financing [no date], *Current Practices – Provincial, Federal and Municipal Governments* (Toronto: Queen's Printer), p. 1.
[197] Ibid., p. 1.
[198] Ibid., pp. 1–2.
[199] Ibid., p. 2.

system to be relatively objective in its evaluation and distribution of funding to them. By the end of the NDP's term in office in 1995, the evaluation process had become less objective, as it began to acquire an important political element reflecting regional priorities. Following the election of the Progressive Conservatives in 1995, the political element of municipal infrastructure funding continued.

Provincial Water Protection Fund In 1997, the Provincial Water Protection Fund replaced MAP. Similar to MAP, the fund provided grants to municipalities to fix water and sewage infrastructure that was creating or had the potential to create a problem for human health or the environment in their communities. The fund had three important elements:[200]

- Assistance would be provided only to address infrastructure problems that affected the quality of drinking water and/or polluted the environment.

- Solutions to identified problems had to be found by a full review of cost-effective alternatives.

- The level of funding for an eligible project would be set by means of demonstrated financial need on the part of the municipality.

SuperBuild Initiative The SuperBuild Initiative replaced provincial funding for capital projects and the Provincial Water Protection Fund in 2000. SuperBuild focuses on strategic infrastructure. Strategic infrastructure is defined as infrastructure that "creates region-wide or multi-municipal economic, environmental and quality of life benefits, re-invents the way public infrastructure is traditionally delivered, provides breakthrough opportunities for growth or alleviates bottlenecks, improves the efficiency and effectiveness of existing infrastructure, connects businesses to key export markets, or replaces or re-constructs a critical class of capital assets."[201]

SuperBuild requires that projects maximize federal and other partner contributions and encourages public-private partnerships. Projects must meet mandatory business, legal, and financial requirements, including a strong

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[200] Ontario, Ministry of Environment and Energy, Conservation and Prevention Division, Environmental Planning and Analysis Branch, [no date], *Guide to the Provincial Water Protection Fund* (Toronto: Queen's Printer), p. 1.

[201] Ontario, Government of Ontario, 2000, *Report – 2000. SuperBuild Partnerships Initiative: Key Design Features* (Toronto: Queen's Printer), p. 2.

business case, evidence of partner funding, and a satisfactory long-term capital assessment management plan.

Applicants for infrastructure projects can include municipalities, local services boards, and regional bodies such as the Greater Toronto Services Board, as well as the private sector and non-government organizations, as long as the proposal creates or enhances public infrastructure, is consistent with provincial policies and priorities, and has regional/local support.

One component of SuperBuild is the Ontario Small Town and Rural Development Initiative. Eligible infrastructure for this component includes water and sewage projects; roads; bridges and ferries that are important economic and regional links; telecommunications projects; and disaster prevention projects (e.g., dams, storm sewers, flood control).

In terms of drinking water infrastructure, the province has indicated that SuperBuild will target capital work required as a result of new Certificates of Approval. SuperBuild is working with the MOE's Water Policy Branch on this initiative.

All of the capital money at the disposal of the MOE and other ministries has been rolled into the SuperBuild initiative. It is not yet clear how the money will be allocated, how project proposals will be evaluated, and what specific role the MOE will have in evaluating water-related infrastructure projects and environmental initiatives relating to public health. What is known about the evaluation process is simply that proposals will be screened to see if they meet minimum requirements before going forward to a full evaluation.

Other Sources of Funding for Municipal Infrastructure In 1984, the federal government cancelled various funding programs that provided transfers to municipalities for water-related infrastructure development. Ten years later, in 1994, the Canada/Ontario Infrastructure Works Program was launched as a joint federal/provincial/municipal initiative. The program lasted for five years at a funding level of $2.1 billion. The intention was that the federal government, the province, and municipalities would each contribute one-third of the funding. Although approximately 17% of the program funds were targeted for water and sewer infrastructure, in the end, little funding was directed to water infrastructure.[202] It was left to municipalities to decide where to direct the funds.

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[202] OCWA, [no date], p. 6.

4.2.4.3 *Alternative Delivery Strategies*

Nicholas d'Ombrain has discussed the philosophy of the province's alternative service delivery initiative in some detail.[203] Here we wish to emphasize the role of the Environmental Partnerships Branch in this initiative. In terms of the day-to-day functions of the MOE, the ideas and philosophies of alternative service delivery have not really had a significant influence to date. However, in terms of organizational changes, this initiative has had influence over the agents responsible for the delivery of services.

As d'Ombrain explains, the central idea behind the concept of alternative service delivery is "to let market forces play a much greater role in the provision of traditional public services, and to reserve to government the policy and directing role that determines the services to be provided."[204] Within the MOE, the Environmental Partnerships Branch has the lead role in coordinating the development of alternative delivery strategies because of its responsibility for public-private partnerships and business relations.

The MOE's Senior Management Committee (consisting of assistant deputy ministers), representatives from associated ministries such as the Ministry of Health, and the Management Board Secretariat have met to discuss the application of alternative service delivery to both municipal and non-municipal communal waterworks. They concluded that a great deal more assessment is required before the alternative service delivery (ASD) approach can be applied to communal water.[205] Work completed to date on alternative service delivery and communal water has been brought forward to the interministry Drinking Water Coordinating Committee for consideration.

4.2.4.4 *Administration of Ownership Transfer Program*

In 1993, the *Capital Investment Plan Act* established the Ontario Clean Water Agency (OCWA). The act provided the OCWA with the ability to make agreements and partnership arrangements with municipalities to provide water and sewage services on their behalf; and, more importantly, it allowed the

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[203] d'Ombrain, 2002, p. 39.
[204] Ibid.
[205] Ontario, Ministry of Environment and Ministry of Health, 2000, *Assessing Suitability of ASD for Communal Water Works* (Toronto: Queen's Printer).

OCWA to purchase municipal water supply services. (See subsection 2.2.2.1 for more information about the OCWA.) Water and wastewater facilities owned by the province were transferred to the OCWA. Then, in 1997, the *Municipal Water and Sewage Transfer Act* mandated the OCWA to transfer ownership of water and sewage facilities to municipalities. Ownership had been problematic for the agency. The OCWA had all the liabilities of ownership without an ability to exercise the benefits, such as utilizing the financial value of the assets. As well, some municipalities had raised concerns about their rights to ownership and were asking for ownership to be transferred to them.

The Environmental Partnerships Branch became responsible for administering the transfer process, as part of the 1998 MOE reorganization. Today, the branch continues to administer the few remaining transfers.

4.3 Integrated Environmental Planning Division – Plan

The overarching function of the Integrated Environmental Planning Division (IEPD) is to coordinate the MOE's program and policy development. Thus, the IEPD is responsible for the MOE's third operational philosophy – planning. The division also leads the coordination and writing of the MOE's strategic planning documents and contributes to the development of the business plan.

The media-related branches within the IEPD are responsible for leading policy and program development in those areas. Hence, the Water Policy Branch takes the lead on all water-related subjects. The various policy branches are expected to maintain a general level of awareness on issues relating to their media focus. They are responsible for preparing policy notes and information notes for the minister and deputy minister using detailed information from their own and other branches. The policy branches also lead or coordinate interministerial projects and initiatives. Many of these initiatives come from the work of MOE and interministerial committees, which have an important influence on program and policy development. The Water Policy Branch has an important role in the water-related committees.

Before discussing how the policy and program development process works, it is worth noting some of the various committees with which the IEPD interacts.

The Drinking Water Coordinating Committee (DWCC) is a long-standing interministerial committee led by the Water Policy Branch. The committee has a

mandate to guide and coordinate the implementation of the MOE's drinking water program. The committee meets monthly and consists of MOE staff working in laboratory services, standards, monitoring, approvals, and investigations and field functions, plus representatives from other ministries such as Health and Natural Resources. All areas of the MOE's drinking water functions are represented on the committee. As a result, the DWCC plays an integral role in overseeing drinking water services in the province by taking the lead on such activities as the development of new policies, programs, and implementation plans, and the review of program performance.

Another important committee is the Water Policy and Planning Committee, established after the 1998 reorganization. This committee is internal to the MOE and includes directors from various branches and regions with an interest in water issues. It meets monthly. The committee is led by the director of the Water Policy Branch. The Operations Division is represented by the director responsible for the Communal Water Program, currently the director of the Southwest Region.

Both the Drinking Water Coordinating Committee and the Water Policy and Planning Committee establish ad hoc working groups to address specific subject areas or concerns. For example, such a working group was established to amend the ODWO in 1998.

The Senior Management Committee (SMC) plays a critical role in the MOE's overall planning and policy development. The SMC consists of all MOE assistant deputy ministers, the deputy minister, and directors from the Legal Services Branch, Communications Branch, and Human Resources Branch. The committee usually meets weekly and deals with a blend of administrative and policy issues.

It is interesting to note that before 1995, these weekly meetings had two parts. During the first half of the meeting, the assistant deputy ministers, the deputy minister, and directors would discuss issues. In the second half of the meeting, the minister and the minister's staff would join the SMC to carry on discussions. This meeting between the SMC and the minister and the minister's staff was an important regular event. It provided senior public servants and politicians with an opportunity to share information and ideas and to engage in discussion about central issues and concerns. It created an atmosphere of trust and personal relations between the administration of the MOE and the ruling party election enhancing their overall working relationship. Following the 1995 election, the

minister and minister's staff ceased attending SMC meetings. Meetings and discussions with the minister and staff now occur as briefings on specific subjects and issues.

Another important committee that influences the management of communal water is the Land and Water Committee, an interministry committee of assistant deputy ministers led by the Ministry of Municipal Affairs and Housing. At the monthly meetings, ministries table issues and proposed policies or actions they wish to undertake that are likely to influence or affect the operations of the other ministries.

Closely related to the Land and Water Committee is the Resources Deputies Committee (RDC), a committee of deputy ministers that deals with issues pertaining to land and water. Ministries represented include: Municipal Affairs and Housing; Natural Resources; Environment; Energy; Agriculture, Food and Rural Affairs; Finance; Northern Development and Mines; and occasionally Health. The RDC meets every two weeks and is another opportunity for ministries to present major policies and initiatives and coordinate joint ministry initiatives. Issues tabled at the RDC are usually first discussed and presented by the assistant deputy ministers at the Land and Water Committee meetings.

Having identified the committee activity that influences policy and planning activity in the MOE, we now turn to how the MOE actually engages in the process of policy and planning development.

4.3.1 Policy and Planning Development

The small group of technical and policy staff in each IEPD branch addresses issues and topics from a variety of sources. Policy and program topics related to water often arise from discussions at the Drinking Water Coordinating Committee (DWCC) meetings. The DWCC might then set up a working group of representatives from branches and regions and, in some cases, from other ministries to determine what, if any, action is needed on a specific issue. Otherwise, the IEPD and, more specifically, the Water Policy Branch address issues raised by the minister's office, branches, and regions, and those arising from corporate initiatives such as the business plan. Often requests for policy and programs evolve from recognized policy gaps within the MOE. Various non-governmental organizations, as well as general public concern, can also inspire policy and program action within the ministry.

The list of agents and activities that may influence policy and program attention within the MOE is easy to identify. How an issue becomes the central focus of policy and program development activity within the IEPD after government or non-government promotion or petitioning is much less clear.

4.3.1.1 *The Development Process*

It is important to note that an element of judgment and intuition goes along with giving priority and attention to a specific policy issue. The Water Policy Branch, along with other areas within the MOE, may begin to focus attention on a particular policy area if and when interactions with the minister precipitate the need for change. Likewise, individuals responsible for policy development may preempt formal requests for policy development when external pressure and demands arise, such as technological changes or new environmental findings. The minister or the deputy minister may direct that work begin on a specific policy or program.

Once the Water Policy Branch or any other ESSD branch becomes focused on a policy issue, it usually organizes a small group to work on developing a concept piece. The purpose of this effort is to articulate the nature of the issue and a strategy that will best respond to it.

This ad hoc working group develops an initial framework and approach, which it brings forward to the relevant assistant deputy minister and potentially to the SMC for their consideration and review. Depending on the nature of the proposal, the minister may also be consulted on the appropriate course of action.

The degree of involvement of senior MOE officials depends on the nature of the issue. Greater involvement is required if the proposal is a suggestion for a formal piece of legislation. Less involvement may be required if it is simply a suggestion for an internal policy pronouncement or guideline explaining how staff should proceed with an action or how attention should be focused within the MOE. For example, there are over 25 internal MOE policies relating to communal water that guide staff activities. Some examples include:

- Fill Quality Guidelines for Lakefilling in Ontario
- Resolution of Well Water Quality Problems Resulting from Winter Road Maintenance

- Evaluating Construction Activities – Gas/Oil Transmission Pipelines Crossing Watercourses
- Evaluating Marine Construction Projects
- Granting a Variance from the Treatment Requirements for Municipal and Communal Waterworks using Surface Water Sources

These are only several of the total number of internal policies providing direction to MOE staff in their daily activities. These detailed policies are important guidelines for MOE staff undertaking various activities relating to different subjects and media. It is also important to note that the application of the *Ontario Drinking Water Standards* would also be included in this list of water-related policy pronouncements directing MOE activities.

When a proposed policy or program will entail a significant cost or an increase in staffing, or the initiative will significantly influence other ministries, a Cabinet submission must be prepared. This submission may also be forwarded to the Management Board for review if it involves budget and revenue issues.

If the proposed policy will influence only internal MOE activities, it remains within the MOE. Here, again, judgment comes into play as the decision to move a program or policy to a higher level of management involvement influences its treatment and outcome. Certainly when a regulatory requirement is involved, more control over the process occurs, and the Legal Services Branch becomes active in the process. Another consideration that adds to the complexity of the process is whether a proposal must be posted on the Environmental Bill of Rights for public review and comment.

In addition to its policy development responsibilities, the IEPD also coordinates MOE comments on submissions and proposals made by other ministries. The IEPD receives draft papers, policies, and Cabinet submissions from other ministries for review and comment. This information is circulated to other branches within the MOE that have an interest in the subject. The IEPD summarizes their comments and concerns and sends this response to the deputy minister's and minister's offices for their reference during meetings of Cabinet or deputies committees.

An underlying feature of Ontario's regulatory and policy-making structure is a political system that rewards the addition of more regulation and complexity to an already complex system. New regulations make news while also providing

the public with the impression that action is being taken, whether that's true or not. As a result, there is little incentive to revise and clarify the existing body of regulation to make it more effective to deliver and administer.

4.3.1.2 *Intergovernmental Affairs*

The Intergovernmental Services Office of the IEPD focuses on environmental topics and concerns at the federal and international level. (The office does not deal with municipal issues. The Land Use Branch is responsible for this function.) The office supports the deputy minister and minister in their participation in the Canadian Council of Ministers of the Environment. It also coordinates MOE involvement in federal program and policy initiatives relating to provincial affairs. The office is responsible for monitoring national and international issues and events, coordinating visits from foreign ministers, and handling any activities relating to international agreements or protocols.

Other divisions and branches within the MOE interact with their federal and provincial counterparts for activities such as information sharing, meetings to coordinate activities, enforcement coordination, and national standards development.

4.4 Corporate Management

The Corporate Management Division plays an important part in coordinating business and budget planning activities, which ultimately determine the resources available to MOE staff in their day-to-day operations. The division does not have a great deal of influence on the daily performance of MOE drinking water functions; however, it is responsible for administering the Environmental Bill of Rights (EBR) through the EBR offcice. The EBR Office is responsible for posting information submitted by the branches and regions. It maintains the registry, monitors and reports on its use, and follows up on the information posted to see that the requirements of the EBR are followed. The office also prepares annual reports and responds to the reports prepared by the Environmental Commissioner.

4.4.1 Business Plan

The Business and Fiscal Planning Branch within the Corporate Management Division coordinates the development of the MOE's business plan. The business plan serves as the preeminent planning document for the MOE and is tied to the annual fiscal and budget planning cycle. The fiscal year begins April 1. The provincial government introduced the use of business plans in 1995. Before that, the budget development and allocation process served as the annual planning process.

Two versions of the business plan are prepared each year: a detailed version for internal use and a more general version for external publication. Regions and branches are required to follow the detailed version and are monitored against it. The external version provides a summary of the internal version and higher-level, broader targets. Both the internal and external versions set specific performance targets against which the ministry reports results. These targets set both long- and short-term priorities and directions for MOE operations. The long-term scope extends to five years, while the short-term scope presents annual targets. In keeping with the overall business emphasis of the plans, the province encourages the quantification of targets, such as setting percentage reductions of pollutants.

Each MOE division contributes to the development of the business plan by taking lead responsibility for its respective areas of expertise or responsibility; for example, the Environmental Sciences and Standards Division establishes information for targets related to standards.

Business plans are also linked to the Operations Division's work plan. The amount of attention given to a specific program area and the number of projects executed are adjusted to reflect the targets and priorities in the business plan. For example, from 1997 to 1999, the MOE business plan emphasized the air program. As a result, during this period, most of the resources of the Operations Division were allocated to air-related activities. Only 3% were allocated to communal water activities as measured through the work plan.

4.4.2 Budget Development, Planning, and Reporting

The Business and Fiscal Planning Branch is also responsible for the MOE's budget development, planning, and reporting.

Each year, the ministry receives a budget target from the Management Board Secretariat. The target expresses the total budget that the MOE has available for operations and the total number of staff to be employed. These numbers are not based on extensive consultations with the ministry. They are set on the basis of a fiscal strategy for the whole government. The information provided by the Management Board Secretariat also provides detailed instructions and conditions (e.g., no more money is available for additional programs). Hence, the budget planning process is top-down and prescriptive, with little opportunity for additions or major changes.

The information from the Management Board Secretariat is scheduled to arrive in the ministry in the fall each year, but usually arrives in December. The ministry is required to submit final budgets in early January. The business plan parallels this schedule but begins slightly earlier in the year.

The Business and Fiscal Planning Branch coordinates the budget planning process for the ministry. It prepares a request and instructions for all branches and regions, asking them to prepare their budgets. Using these instructions, the regions and branches submit details of how they will use their allocated budget and explain how they will meet any constraints or special requirements. Additional resources are made available only if an initiative has received policy and Cabinet approval before the budget is submitted. For example, money for the Drive Clean Program was approved well before its organization and launch.

After receiving branch and region submissions, the Business and Fiscal Planning Branch develops a detailed draft budget for submission to the Senior Management Committee (SMC) and then to the deputy minister for approval. Meetings between the SMC, the deputy minister, and the minister take place throughout this process, providing opportunities to adjust the budget and reallocate funds as needed. Once the internal MOE discussions are concluded, the minister approves the budget. Senior ministry staff and the minister then meet with the Management Board for review and acceptance of the final budget. The budget development process involves determining how limited funds can be distributed most effectively across the ministry's services and activities.

The prescriptive nature of the budget planning process presents serious challenges to the MOE's operations. Among these challenges is an annual percentage decrease in base funding. The budget does not provide for annual inflation (estimated at 3% per year), even when staff contracts and cost

of supplies increase because of inflation. The province assumes that the ministry will have a 2% gain in efficiency each year, so that fewer dollars will be required to deliver the same level of service. As a result, the ministry loses about 5% of its total base-operating budget each year on top of any cuts to base funding for programs and operations. In addition, new programs may be introduced or existing ones expanded for which no new resources are available. In such cases, ministries are usually called upon to find the resources from within their existing budgets.

After budget approval, the Business and Fiscal Planning Branch monitors the budget and spending throughout the year and coordinates changes that may arise from in-year budget reductions or freezes on specific budget accounts (usually capital and grant accounts). Freezes on accounts and in-year budget reductions are common.

Appendix A1 provides a summary of MOE budgets from 1990 to 2000.

4.4.3 MOE Staff Training

The Human Resources Branch is another important part of the Corporate Management Division that oversees MOE functions influencing drinking water services. Specifically, the branch is responsible for MOE staff training, training for water plant operators, and the examination and licensing of water plant operators. (See subsections 4.4.4 for more information on training water plant operators, and 4.4.5 for more information on examination and licensing of operators.)

The Human Resources Branch coordinates and delivers MOE staff training programs. The branch works closely with branches and regions to develop and maintain courses and course content. Most decisions to send staff for training are made at the local management level.

Funds for training have always been limited. The assistant deputy minister's office in Operations Division maintains a fund for staff training to ensure that some money is available in the division as needed. This is important because environmental officers must complete a standard set of courses. The course program does not have to be completed within a set time, and officers may be granted credit for some courses through work experience. Training focuses

primarily on new program areas or service delivery changes, such as the introduction of new compliance requirements.

The Investigations and Enforcement Branch of the Operations Division is unique in the MOE because it runs its own training program independent of the Human Resources Branch. In part, this is because of the detailed knowledge enforcement staff must have. Branch staff must complete several weeks of training before they can start their jobs.

4.4.4 Training for Water Plant Operators

The Human Resources Branch is responsibile for training water plant operators, which it fulfills by overseeing the courses and curriculum. Formal training programs for operators were established in the early 1960s, and a training centre opened in Brampton in the early 1970s. The courses consisted mainly of operational instruction. They were oriented to teaching the process of water operation and were not designed to meet certification requirements.[206] Participants were provided with reference training manuals and were required to successfully complete the exams (with 70% as the passing grade).[207] From 1974 to 1995, 17,600 people participated in MOE training. Between 1990 and 1995, an additional 1,450 people participated in the operational courses offered by the Ontario Environmental Training Consortium (OETC) of community colleges.[208]

The OETC was introduced in 1990 following a rise in demand for training courses in the 1980s. This rise in demand resulted from the introduction of a voluntary certification program, which developed into a mandatory certification program. The consortium courses focused on operational processes and procedures, safety, operational testing, and provincial legislation/guidelines. Topics of study included disinfection, testing microbiology, filtration, sedimentation, and drinking water objectives. Participants were evaluated through examination.

The OETC acted as an administrative and coordinating body for 16 community colleges that offered MOE operator training courses on demand.[209] On

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[206] B. Gildner, testimony to the Walkerton Inquiry, April 26 and June 7, 2001, "Part IV 3(f) – Local Operator Training, Continuing Education and Monitoring: (g) Training Standards for Local Operators," presentation, p. 5.
[207] Ibid., p. 6.
[208] Ibid., p. 8.
[209] Ibid., p. 17.

completing a course, participants were granted MOE course certificates. In 1995, the OETC ceased organizing operations courses because of a decrease in demand and college coordination problems.[210] Nonetheless, several colleges continued to provide training programs. As a result of the transfer of responsibilities associated with the creation of the Ontario Clean Water Agency (OCWA) in 1993, the training of utility operators was transferred to the OCWA in August 1995 and began there in 1996. Until 1999, municipal staff could attend if space permitted. From 1999 on, training was restricted to OCWA staff.

Today, private training organizations and consultants provide over 100 training opportunities per year related to water plant operations.[211] The MOE notifies operators of these opportunities through the ministry's Web site and newsletters. In addition, community colleges continue to offer courses in water and wastewater treatment as part of their environmental diploma programs.

The availability of training programs aside, no specific regulations or guidelines exist for the content of training programs. "Training may include, for example, training in new or revised operating procedures, reviews of existing operating procedures, safety training and studies of information and technical skills related to environmental subjects."[212] In lieu of courses, programs, and workshops, many operators use commercially available information and training modules on compact discs (CDs) to provide training updates and information.

It is important to note that programs for the training of water plant operators are independent of the examination and licensing of water plant operators. The two activities do not occur at the same time or through the same process.

4.4.5 Examination and Licensing of Water Plant Operators

The Human Resources Branch also has responsibility for the examination and licensing of water plant operators in Ontario. The examinations are actually given by the OETC, which then advises the branch of the successful candidates so that it can issue the licences.

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[210] Ibid., p. 19.
[211] Ibid., p. 23.
[212] B. Gildner, testimony to the Walkerton Inquiry, April 26 and June 7, 2001, "Part IV 3 (a) – Water Works and Sewage Works O. Reg 435/93 (Operator Certification)," presentation, p. 31.

Between 1987 and 1993, the MOE, the Municipal Engineers Association (MEA), and Metro Toronto administered the voluntary certification of water operators. The MOE established the criteria based on consultations with the MEA and other relevant stakeholders. In 1993, the administration of the province's certification program was transferred to the OETC.[213]

Following new regulations introduced in June 1993,[214] new operators were required to meet full examination, education, and experience requirements in order to acquire a licence. All operators – new and existing – were required to have a licence by February 1, 1994. The waiving of certain licence requirements through grandparenting was available to existing water operators at two times, during the period 1987 to 1990 and in 1994. Between 1987 and 1990, operators were required to meet specific experience and education requirements. The MOE permitted the exam requirements to be waived for those with many years of experience. With the introduction of mandatory licensing in 1994, grandparenting of operating licences was again available for experienced operators. The examination requirements were waived for only three years. If the operator could not pass the exam within that time, the water operator licence was lowered by one class level. (See subsection 2.2.2.4 for information on operator licences.)

The grandparenting program had three main purposes:[215]

- to ensure that experienced operators would maintain their employment;
- to ensure that a supply of experienced, licensed operators was readily available to meet the demand in Ontario; and
- to provide a transition from a non-regulated to a regulated profession by promoting licensing.

To acquire an operator's licence for any water treatment facility, an applicant must have completed grade 12 or equivalent, successfully completed the operator certification examinations, and had one to four years of operating experience (operator-in-training programs exist). Additional education is required beyond grade 12 for Class III or Class IV licences.

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[213] Ibid., p. 6.
[214] *Water Works and Sewage Works,* O. Reg. 435/93.
[215] Gildner, "Part IV 3 (a) – Water Works and Sewage Works O. Reg 435/93 (Operator Certification)," p. 12.

Licences are renewable every three years. No examination is required for renewal. Operators must simply verify operational experience or related experience in the previous five years.

Owners of water facilities are required to provide 40 hours of training every year to licensed operators. As described in subsection 4.4.4, training may take various forms. Owners are required to ensure that training records are maintained at their facilities.

Administration of the certification and licensing program for water operators continues under the OETC with the Human Resources Branch overseeing and issuing licences. An advisory committee consisting of stakeholder representatives meets to make recommendations on operator certification issues and hear appeals.

5 Observations and Conclusions

The main purpose of this report has been to explain how the MOE operates to fulfill its functions and responsibilities for the provision of drinking water services in Ontario. Sections 2 and 3 provided an overview of the regulatory framework for Ontario's drinking water services and the organizational structure of the MOE since 1992. Together, these sections provided the organizational and regulatory context for a detailed discussion in Section 4 of the MOE's communal water functions, which focuses on its divisions, branches, offices, and individual staff activities.

Throughout the report, one central concern has guided our discussion and examination: What factors, if any, limit or prevent the MOE's mandated delivery of drinking water services in Ontario? In this final section, this question is directly addressed from an organizational perspective. Here we consider both what is working and what is not working, as well as discussing and suggesting some actions that could be taken to resolve the concerns. Therefore, while the areas discussed in this section highlight the issues that limit the MOE's delivery of drinking water services, we also identify some of the strengths of the MOE's organizational structure.

5.1 Strengths

The emphasis of the 1995 reorganization of the MOE – to introduce an integrated approach to the management and delivery of media-based (air, water, and land) activities – was an important step in the evolution of MOE functions. By housing air, water, and land issues and divisional specialists within the same administrative offices and according to the same operational activities, the MOE's capacity to address pollutants, events, and situations that cross and concurrently influence each of these media was improved. Similarly, the integrated focus of standards development ensures a consistent and rigorous approach to considering all source contaminants.

The long-standing Spills Action Centre and its associated Environmental Response Program also represent strengths in the MOE's organizational structure. Originally designed to respond solely to 'spill events,' the evolution of the Spills Action Centre and the Environmental Response Program now symbolize an advanced system of environmental management when compared with many other organizations.

It is also important to note that the ministry makes good use of planning tools to organize and prioritize its activities. The work plan is one example of a planning tool that provides important direction to MOE staff while communicating objectives and commitments. The work plan is an instrument that incorporates government direction and the MOE's overall business plan, while concurrently tracking the use of resources and enabling shifts to address emerging issues or priorities. The planning function imbedded within the MOE's delivery strategies is equally valuable. By providing an operational framework for staff activities, the delivery strategies help ensure consistent interpretations of policy and legislation. Unfortunately, these two planning tools have not yet been adopted and coordinated across the ministry.

Throughout this report, the elimination of MOE staff, particularly during the two rounds of major cuts in 1996 and 1997, has been and will again be raised as important issues limiting the MOE's overall provision of drinking water services. Nonetheless, it is important to note that despite staff reductions, fewer resources, increases in the number of tasks, and decreases in staff morale, environmental staff, managers, and senior officials have been able to meet many of the MOE's operational goals. Furthermore, given the increasing complexity

associated with the management of environmental concerns, MOE staff and managers have performed impressively well by balancing day-to-day operational expectations, requirements for public and environmental health, and public and government demands.

5.2 Limitations and Weaknesses in the Delivery of Drinking Water Services

5.2.1 Legislation and Regulations

One of the central issues impending MOE staff's ability to deliver drinking water services is the complex body of legislation that guides activities and protocols. The quantity of make it hard to interpret and piece them together. Furthermore, this legislation is often challenged. As a result, amendments to legislation are frequent, adding to the difficulty of interpretation. Communal water represents only a small portion of the overall body of regulations and policy that staff must act on.

On a related note, the relationship between the political system and policy-making can be best described as a misplaced reward system. Success in political office is frequently measured by the amount of policy and legislation that is produced. Political parties are driven to create and add new policies each year, often with little consideration given to what is needed to implement and deliver them. As a result, producing new policy is emphasized, while the quality management of existing policy and legislation is undermined. Meanwhile, many important issue areas that are covered by legislation are not addressed, such as communal/private water systems and the well program.

Under the current provincial government, the emphasis has been on cutting government's 'red tape' and reducing regulations, but in fact many new regulations continue to be produced, in large part to achieve the goal of 'smaller government.' This is not a problem if resources are made available to address new regulations; however, bills can be passed without ever providing the resources to support them. Short-term pressures and critical events like those that occurred in Walkerton are therefore met by shifting resources from one crisis to the next, leaving other activities without support and, thus, setting them up to become future problems in need of response.

5.2.2 Range of Responsibilities

Paralleling the 'red tape' problem, the breadth of activities and responsibilities of individuals within the MOE is too large. District environmental officers are responsible for all legislative requirements in their geographic area. However, to this, the legal processes associated with the MOE's program areas are all different. Officers, therefore, are unable to focus their activities and end up primarily engaging in reactive activities rather than preventive ones.

The focus on house notes and daily issue reports also takes up valuable resources needed to deliver MOE services. While political accountability is integral to the MOE, it is becoming an end in itself, and is another example of an activity that is assigned without adequate resources.

Consequently, many staff within the ministry remain confused about their specific role. It is not clear whether they should take a strong regulatory approach, or if they should encourage voluntary action and compliance and look to form partnerships. As a result, staff morale is low, and there is a sense of failure and confusion about what the future holds. Furthermore, the retraining of staff is limited, with most training being associated with the introduction of new regulations and programs.

5.2.3 Technical Knowledge and Information

The concerns around staff also point to the reduction in the level of expertise within the MOE. Because of the number of tasks that environmental officers and technical staff are expected to undertake, most officers have general skills rather than the specific skills needed to execute detailed inspections of complex operations such as water treatment facilities. For example, the ministry had to go to the Professional Engineers of Ontario (PEO) for water engineers to help with implementation of the new water regulations because there were no longer enough engineers in the ministry. At the same time that the MOE established the multimedia approach (integration across water, air, and land environmental media) in the Environmental Sciences and Standards Division, major cuts in staffing occurred. As a result, the benefits of the approach have been undermined by the loss of skills and expertise.

The reduction in MOE expertise is coupled with the staff's limited access to information and challenges in managing information. This situation is

improving slowly through the adoption of computerized databases. However, important information contained in old paper files is difficult to retrieve or is lost, and there is limited access to old computer databases. This is particularly concerning when considering the importance of Occurrence Reports. Ministry staff do not use the systems in place effectively, or in some cases at all, leaving abatement files open and unresolved or not passed on to the Investigations and Enforcement Branch. Furthermore, many offices within the MOE, particularly districts, have limited office support. Environmental staff end up doing a great deal of the clerical work, and documents and records may not be filed promptly.

Access to technical support and specialists has also limited the capacity of environmental staff. Staff in the Technical Support Sections of each region have been reduced significantly, leaving fewer water experts available to call upon. The Technical staff within the Environmental Sciences and Standards Division has also been reduced, leaving only a few water treatment specialists in the ministry. This lack of access to technical specialists within the MOE is further compounded by a lack of funds for obtaining outside assistance. In addition, the process to hire external technical advice is complex and time consuming.

5.3 Future Considerations

The above discussion of limitations to the provision of drinking water services leads to the conclusion that the ministry's overall performance has been seriously affected by the loss of staff, coupled with the mounting number of tasks environmental staff are expected to complete and the knowledge they are expected to have in order to complete these tasks. The MOE's capacity to meet its operational goals has been compromised, which significantly limits its capacity to provide comprehensive operational service for drinking water in Ontario. This does not suggest a direct causal relationship to the events in Walkerton. It does suggest that the MOE is confronted by a number of serious organizational challenges related to the delivery of drinking water services. As such, the following points are suggestions on where to begin to address these concerns:

- Dedicated full-time inspectors knowledgeable about the systems and industries they are inspecting should be introduced into the ministry. In this sense, media (air, water, land) specialization is required if accurate and thorough inspection and analysis of water systems are to occur.

- Before they begin, new programs and policies should be properly supported with sufficient additional resources and a clear plan for implementation and ongoing delivery. This was done for the Drive Clean Program and the SWAT Program.

- Efforts to introduce a fully integrated information system should be accelerated. All field staff should have computer access to all information within the MOE for the industry, site, or problem they are addressing.

- The roles and responsibilities of individual staff should be realigned to limit their focus to a manageable breadth of responsibility and scope.

The specificity of the above suggestions should not be lost in the overall issues expressed in this report. Making internal changes to the organization will be effective only if the fundamental regulatory and policy framework is sound. For example:

- The complete body of environmental legislation and regulations should be rewritten into a new and comprehensive environmental protection act. As it is now, staff must refer to several bodies of legislation and regulations when addressing a single issue because some parts are redundant and overlap, while others cover only one aspect of an issue.

- Drinking water safety should be separated from the concept of environmental protection and prevention through the establishment of a comprehensive drinking water act. The activities and regulations that govern the discharge of pollutants into the environment should be separated from those that govern the provision of drinking water services. The activities and functions of environmental staff addressing discharges into the environment are distinctly different from those of staff providing drinking water services. A drinking water act could provide operational clarity in the provision of safe drinking water.

- To guide these legislative changes, the province needs an overarching water policy that will articulate the province's intent in water management and will clarify the roles and responsibilities of the various ministries that interact in the management of water in the province.

In light of the above suggestions, the overall observation of this report is that the nature of the regulatory and policy framework is fundamentally linked to the provision of service delivery. If the regulatory framework is unsound and fragmented, the effectiveness of service delivery is weakened. Regulations and legislation drive the need for guidelines and procedures to explain how environmental staff interpret and deliver the services they are mandated to provide. Increasing the quantity and scope of regulations and legislation that must be administered potentially weakens environmental staff's ability to carry out all activities, especially if the resources to address new regulations are not provided.

Recent provincial initiatives have led to an increase in regulations to protect Ontario's drinking water, and additional regulations are being proposed (e.g., for small waterworks). When these initiatives are considered independent of other factors, they are welcome regulatory improvements. However, the benefits of new regulations *must* be evaluated against the corresponding functions that environmental staff will be expected to perform. The addition of new regulatory requirements only adds to the complexity, number of tasks, and interpretative challenge faced by environmental staff. It does little to ensure that the central functions of the MOE – monitoring, inspections, enforcement, abatement, etc. – are supported. Therefore, balancing the relationship between the regulatory and policy framework for drinking water and the operational capacity of environmental staff to support this framework should be central when considering the future of drinking water safety and protection in Ontario.

Appendix A1: Budget and Staff of the Ministry of the Environment, 1990–2000

Table A1 Budget and Staff of the Ministry of the Environment, 1990–2000

Year	Total Ministry		Compliance Activity	
	$ Millions	FTE[a]	$ Millions	FTE[a]
1990	648.7	3,024	64.4	944
1991	774.0	3,218	72.9	991
1992	722.3	3,193	77.7	1,001
1993	837.7	3,220	73.8	1,001
1994	376.0[b]	3,310	76.3	1,001
1995	411.3	2,298	71.9	961
1996	373.3	2,188	69.2	765
1997	349.8	1,714	69.2	706
1998	270.6[c]	1,582	65.4	692
1999	406.7	1,439	60.8	739[d]
2000	229.1	1,394	63.4	741

Source: Ontario, Ministry of the Attorney General, 2001, Walkerton Inquiry Doc. #1024712.

[a]Full-time-equivalent staff on board at March 31.
[b]Ontario Clean Water Agency separated from the ministry.
[c]Ministry of Energy separated from Ministry of the Environment.
[d]Drive Clean Program added.

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The Walkerton Inquiry

Commissioned Paper 5

Drinking Water Services: A Functional Review of the Ontario Ministry of the Environment

by
James Merritt and Christopher Gore

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