Guiding and Controlling Ontario's Future Water and Wastewater Services: User Pay and Full Cost Pricing, Independent Economic Regulation, and Strengthened Environmental Law Enforcement

By
Thomas Adams
Borealis Research Association

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on behalf of the Energy Probe Research Foundation

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Energy Probe Research Foundation
225 Brunswick Avenue
Toronto, Ontario, M5S 2M6
ph: 416-964-9223

Table of Contents

Chapter 1: Introduction

The purpose of this paper is to assist the Walkerton Inquiry in making recommendations to prevent reoccurrence of the tragedy that occurred in Walkerton in May 2000, and in finding permanent, effective solutions to the problem of unsafe drinking water and unsound waste water management practices in Ontario.

On the surface, it might be argued that the Walkerton events were caused by a failure of government -- inappropriate actions or failure to act by municipal employees, the municipality, and the Ontario Ministry of Environment (MOE). While it is tempting to suggest that the alternative to bad government is good government, this paper takes a different approach. It does not recommend greater government effort be committed to water issues but instead recommends structural remedies to some of the generic causes of bad performance by government. These structural changes are directed at making the delivery of water services safer, more efficient, more self-correcting, and financially sustainable.

This paper recommends that water services in Ontario be redesigned around the principle of user pay and overseen by an independent economic regulator of water utilities. It also recommends strengthening the province's ability to prosecute violations of pollution laws by structurally reforming environmental policing. These subjects are discussed in the context of potable water and waste water utility privatization, while recognizing that the recommended solutions would also have some usefulness in the absence of privatization.

Privatization, if introduced thoughtfully, can improve both economic regulation and environmental enforcement, producing financial, environmental, and public-health benefits. Privatization can eliminate the conflicts of interest inherent when one element of the state functions as the economic regulator of another, or when one element of the state is charged with enforcing environmental laws and another element is the polluter. While economic regulation can be applied to publicly-owned entities, privatization can strengthen regulation by ensuring that regulators have the capacity to impose financial penalties on shareholders and thereby help make utilities accountable.

To maximize efficiency and generate the funds necessary to support much-needed upgrades, rates for water service should be based on the principles of full cost pricing and "user pay." If subsidies are deemed necessary to ensure social equity, disadvantaged individuals should be subsidized with direct payments, independent of their level of consumption, rather than resource prices below cost.

While some level of competition is possible around the fringes of the water distribution business, the most efficient market structure of piped delivery service for water or sewage is a single seller for a contiguous service territory – a local monopoly. With single sellers of piped water and sewage services, consumer interests in price and quality of service cannot be adequately protected by competitive market forces. Liability law, though supportive of quality of service

interests, appears not to be a complete answer to the problem of ensuring clean drinking water and acceptable sewage effluent.

If privatization is introduced, some form of economic regulation is required to prevent classic monopoly abuses like overcharging and undue discrimination. This paper provides a comparative analysis of both natural gas and electricity regulation during the period from the late 1960's until 1998. This paper argues that the structures and principles that guided economic regulation of natural gas distribution during this period provide a model that has proven successful in Ontario and one well suited for water service. Based on what deserves to be considered a "golden age" of natural gas utility regulation, this paper proposes the creation of the Ontario Water Board, a province-wide economic regulator to oversee our water utilities. Ontario's history with utility regulation demonstrates that effective regulation must be arm's length from government, transparent to the public, disinterested, legally bound to observe due process, and subject to judicial review.

This paper argues that, in order to protect sources of drinking water, pollution crimes should be subject to enforcement in the form of policing and prosecution, as our environmental laws intend. It provides a summary of several recent cases demonstrating the environmental benefits of investigations and prosecutions. The case studies outlined here all are privately initiated investigations and prosecutions that evolved into various forms of joint public/private prosecutions. Ontario's declining success with prosecutions since 1991 suggests that environmental law enforcement in Ontario is not organized in a way that maximizes the effectiveness of police operations. This paper recommends establishing the Ontario Environmental Protection Agency (OEPA) to undertake environmental policing under the Ministry of the Solicitor General.

Many recent detailed examinations of the MOE, notably the paper commissioned from Nicholas D'Ombrain and the January 2001 report of the Executive Resource Group to the provincial government, have promoted internal policy reforms within the MOE as the primary route to solving Ontario's environmental problems, particularly those related to water. In contrast, this paper promotes structural reforms to the institutions responsible for aspects of the province's water supply. In considering the design principles to guide the development of optimal regulatory and enforcement structures focussed on water services, a theme this paper returns to several times is the necessity for the particular functions that together constitute the water system to be separated into discrete institutional structures, each with distinct mandates and defined accountability mechanisms.

Chapter 2: Applying the Principles of User Pay and Full Cost Pricing to Water

The principles of user pay and full cost pricing should be applied to improve the efficiency and financial sustainability of our water systems. Paying the full cost of water ensures that the resources consumed to supply water services are reflected in all consumption decisions. Unless the full societal cost of service is reflected in rates, consumers will not have a rational economic signal to guide their decision making. Until rates recover the costs of service, suppliers will have to rely on outside funding sources and/or provide low quality service.

In many communities in Ontario today, a large portion of the cash cost of water service is externalized to provincial taxpayers through capital facility grants.[1] Our waste water disposal practices across the province have allowed significant costs to be externalized to the environment and users of the environment, through polluting waste water emissions. As a consequence, water prices in Ontario do not reflect the value of the resources consumed in providing the service.

Underpricing of water leads to excess consumption. The OECD quotes figures for Ontario showing that the gap between marginal cost and prices for municipal water supply has led to consumption exceeding efficient levels by an average of 50%.[2] In an analysis of fresh water issues conducted for the UN Commission on Sustainable Development, the federal government notes that each Canadian consumes on average 326 litres per day, twice the European average.[3]

The proposal to apply user pay and full cost pricing principles to water has been controversial. For example, during the 1997 debate over Bill 107 that transferred ownership of water facilities from the province to municipalities, Janet May representing Toronto Environmental Alliance, opposed full cost pricing stating, “To Ontarians, water is a right, not a privilege.” The grounding for her opposition to full-cost pricing: “because we need water to survive.”[4]

Many official bodies have recommended the implementation of full-cost pricing or at least progress toward that goal. This report provides but a drop from the lake full of recommendations in favour of full-cost pricing.

An OECD report recommends, “Ideally, water pricing should cover both the fixed and variable

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[1] Sancton, Andrew and Teresa Janik. 2001. Provincial-local Relations and Drinking Water in Ontario. Toronto: Walkerton Inquiry. February.

[2]OECD. 2000. Economic Surveys: Canada. P. 130.

[3]Government of Canada. 1998. Canada and Freshwater – Experiences and Practices. P. 3.

[4]Ontario Legislative Assembly. 1997. Hansard: Standing Committee on Resources Development, April 15. Pp. 1130 and 1140.

cost of supplying water, the environmental costs of its extraction, and the associated rent."[5]

The National Round Table on the Economy and the Environment stated:

> The challenges outlined in the previous chapter could be addressed by moving toward full cost, user pay, direct customer charges for water and wastewater services. Such a pricing system would help attract the capital needed to maintain and augment Canada's water infrastructure. Moreover, by paying directly for water service, consumers would create the revenue flow to retire the debt incurred in retrofitting existing infrastructure and building new infrastructure. New environmental and economic opportunities would follow.[6]

An inquiry conducted on behalf of the government of Canada noted:

> We should point out that the federal government has already endorsed the 'user pay' principle in its 1978 statement on water policy and in an international statement on this matter issued by the Organization for Economic Cooperation and Development (The Polluter Pays Principle, 1975)...A suitable price can serve several useful purposes:
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> - It will create incentives to avoid waste and to use water efficiently, thus contributing to water conservation.
> - By reducing the water needed and the waste disposal capacity, it will reduce infrastructure costs.
> - The resulting lower demand will reduce environmental pressures on water resources.
> - By demonstrating users' willingness to pay for water, prices help allocate supplies among the uses and users so that the highest value is generated from limited resources.
> - Pricing will generate revenue to cover the cost of water supply and waste disposal systems.
> - Suitable pricing can ensure that the cost of water service is equitably borne by the beneficiaries according to the benefits they receive.
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> These advantages have convinced us that the pricing of water supplies should be a fundamental part of federal water policy. We therefore recommend: (10.2) The federal government should encourage water conservation and demand management practices by explicitly endorsing the principle that beneficiaries should pay for water and wastewater

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[5]OECD. 2000. Economic Surveys: Canada. P. 130.

[6]National Round Table on the Economy and the Environment. 1996. State of the Debate on Environment and the Economy: Water and Wastewater Services in Canada. Ottawa. P. 11.

> services by means of appropriate prices.[7]

A report on water pricing sponsored by the Ontario Sewer and Watermain Contractors Association (OSWCA) with the support of the Association of Municipalities of Ontario with funding from OSWCA, Environment Canada and the MOE concluded:

> The time has arrived in Ontario to implement the user pay principle and to increase water rates significantly. The revenues that this will create must remain with the industry to finance needed investments.[8]

A report conducted for the MOE by Peat Marwick concluded:

> There is justification, in terms of the user pay principle and the principle of social opportunity cost pricing, for the pricing of both raw water and effluents in Ontario.[9]

A report of the Premier's Council on Health, Well-being, and Social Justice concluded in 1993:

> Implement full cost accounting for water supplies, price water to reflect its real costs (thereby reducing demand) and reinvest the resulting water revenues/infrastructure savings in programs to improve water quality.[10] (Parentheses as per the original.)

The MOE's Municipal/Industrial Strategy for Abatement (MISA) MISA Advisory Committee recommended:

> Provincial authorities should move now to adopt and implement a Municipal Water Conservation Plan for Ontario. The plan would be fully implemented over a 10 to 15 year period and would be similar to those currently in place in California and other American States. At the root of the plan should be the conservation of water and the requirement

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[7]Pearse, P.H., F. Bertrand, J.W. MacLaren. 1985. Currents of Change: Final Report, Inquiry on Federal Water Policy. Ottawa. September. P. 98-99.

[8]Fortin, M, B Mitchell. 1990. Water and Wastewater Charges: The User Pay Principle. OSWCA, Mississauga. October. P. iii.

[9]Peat Marwick and Partners. 1988. Design Factors and Data Requirement for Water Withdrawal Pricing and Effluent Charges. Policy and Planning Branch, MOE. Toronto. April.

[10]Premier's Council on Health, Well-being, and Social Justice. 1993. Our Environment Our Health: Report of the Review Committee on Goal 3. Toronto. January. P. 32.

> that the user pay the full cost of service.[11]

The issues has also surfaced in submissions to the Walkerton Inquiry. Appendix B Section 4 of Pollution Probe's report provides some information on the extent of full-cost pricing in some OECD countries. Pollution Probe's study for the Walkerton Inquiry states:

> The move towards full cost pricing of water today could well be the most important decision taken to communicate to consumers the true value of our precious water resources as well as to raise the revenues needed to ensure the long-term integrity and sustainability of our water services.

Nicholas D'Ombrain's report, which envisages continued government subsidies, also provides qualified support for movement toward full-cost pricing. The report notes:

> To the extent that full-cost pricing promotes public safety by improving access to capital to build and renovate facilities, owners should be moving in that direction."[12]

Sancton and Janik raise the issue of full cost pricing as an alternative to continuous demands on the province for subsidies but do not reach a conclusion on whether this approach should be adopted.[13]

The degraded condition of the water service system in many Ontario communities might have been predicted by recognizing that political priorities determine rates and the capital to be invested. From a political perspective, it may be difficult to justify raising prices. Restructuring the rate regime for water so that reasonable costs for an acceptable standard of service can be reliably recovered from its users would make the sector self-sustaining.

Given the extensive subsidization of water services, particularly in smaller communities, and the historic practices of permitting damaging sewage pollution, the principle of user pay will be costly to consumers. Low income households living in some communities are particularly exposed.[14] Where society favors subsidies to ensure that all citizens have access to service,

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[11]MISA Advisory Committee. 1991. Water Conservation in Ontario: Implementing the User Pay System to Finance a Cleaner Environment. MOE, Toronto. May. P. iv

[12]D'Ombrain, Nicholas. 2001. Machinery of Government for Safe Drinking Water in Ontario. Walkerton Inquiry: Toronto. para. 467.

[13]Sancton, Andrew and Teresa Janik. 2001. Provincial-Local Relations and Drinking Water in Ontario. Walkerton Inquiry: Toronto. p. 28.

[14]According to the MOE, there are large and small communities that are facing "severe problems." See the Inquiry transcript, April 12, p. 188, ll. 15-23.

government should subsidize resource users with direct payments, untied to the level of consumption, rather than subsidies that lower the apparent cost of the resource. Relative to subsidies in kind paid by taxpayers, direct payments to users combined with user pay promotes transparency, accountability, and efficiency.[15]

Provincial funding currently earmarked to support water infrastructure could instead be granted directly to low income consumers. For example, Superbuild's current capital spending of $240 million over two years would translate into two annual support payments of $1000 for 120,000 families. Water support payments might be administered as a provincial income tax credit.

Direct payments to users is a common policy approach. For example, the federal heating assistance plan announced in the 2000 budget update has a similar structure, providing $125 per individual or $250 per family to help low- and modest-income families with heating costs.

Figuring out how exactly to apply the principle of user pay in a situation where a variety of users share a system, particularly a system with high fixed costs and relatively low short run variable costs, is inherently complex. Some users may have been on the system for a long time and made contributions in their historic rates to some of the capital needs of the system whereas other users may be new. Some users may emit effluents to the sewage system with contamination characteristics different than the norm. Some users may make volumetric demands of the system at times coincident with system peak usage whereas others may make their demand outside the times of peak system usage. Some users will make large volumetric demands and others little. A regulatory mechanism is required to deal with these issues, the design of which we turn to next.

[15]Less efficient arrangements have been tried in other commodities and jurisdictions to deal with the infrastructure costs challenges presented by low density systems. Ontario's regulatory regime for natural gas distribution, although it maintains full cost pricing in aggregate, effectively requires significant urban to rural transfers of wealth due to the adoption of franchise-wide "postage stamp" rates for distribution services and permitting system expansion to serve customers that are not cost effective at existing rates. Ontario's full-time rural residential electricity customers have always enjoyed explicit subsidies from provincial taxpayers and urban electricity consumers through a program called Rural Rate Assistance. During the 1990's, the State of Victoria in Australia privatized its state-owned electricity distribution sector. To subsidize rural dwellers, the government packaged high cost rural and low cost urban franchise areas together to create regional utilities.

Chapter 3: Independent Economic Regulation of Water Utilities

In a climate of tight provincial and municipal government budgets, the huge capital requirements to make badly needed upgrades to Ontario's water infrastructure are often unavailable unless the traditional funding methods are replaced by a more sustainable business model based on user pay.

To protect the public interest, all industrial operations must be subject to a range of social controls. Normally, the price and quality of industrial products are controlled primarily by competitive market forces and liability law. However, consumers reliant on the services of a natural monopoly need protection from excessive charges, undue rate discrimination, or value loss through low quality service. The capital embedded in potable water and waste water pipeline systems can appropriately be considered a natural monopoly. As a practical matter, only a government agency can set strict standards and regulate with authority. This chapter examines some regulatory principles and options for implementing fairness and instilling a durable sense of legitimacy to full cost pricing of water service in Ontario.

The general purpose of economic regulation of water service is to balance the needs of consumers and producers. Consumers should pay a price just high enough to cover the fair and reasonable costs of service. Producers should have an assurance of a stable regime where they can make the necessary investments to supply service with the secure knowledge that they can recover fair and reasonable costs over the long term.

Based on the Ontario Energy Board's success with natural gas regulation from the 1960's until 1998, this paper recommends the creation of an Ontario Water Board. The Ontario Water Board would be an independent, quasi judicial tribunal with a public interest mandate. It would be required to adjudicate rate matters and provide parties the protection of due process, including the right of the parties to seek judicial review to protect their rights.

The structure of the Ontario Energy Board up until 1998 was mature, based on about one hundred years of administrative law development. It was a stable and reliable system with a proven ability to provide private investors with the confidence necessary to supply adequate capital to meet Ontario's natural gas distribution needs.

The concept of Ontario water rate regulation has some history. The report sponsored by OSWCA by Fortin and Mitchell recommended:

> Establish a mechanism, based on an existing agency such as the Ontario Municipal Board, to review and regulate water and wastewater rate setting and the overall

performance of waste and wastewater utilities.[16]

NATURAL MONOPOLIES AND PUBLIC UTILITIES IN WATER SERVICES

Natural monopoly services are normally provided by some kind of public utility, which may be a state agency or a private, commercial company. The concept of a natural monopoly is difficult to define. A natural monopoly is often defined as some service that exhibits a pronounced economy of scale, so that increments of production can be met at much less than the average cost of production.

The classic reference on regulatory theory – *Principles of Public Utility Rates* – was authored by professor James Bonbright and published in 1961 and reissued in edited form in 1988. Six monopoly conditions and concepts are offered by Bonbright as delimiting the field of public utilities, with the first identified as a necessary condition:

- "subadditivity" of cost, where a single firm is able to provide the service at lower total cost than two or more firms
- necessity of the service to the user
- a low price elasticity of demand, where the price elasticity is the ratio of the change in usage of a commodity for a given change in its price, meaning that consumers will continue to buy at inflated prices
- high fixed and low variable cost structure where production and consumption are synchronous, thereby preventing reselling and enabling discriminatory pricing
- costs that vary by time of use and where consumer demand is episodic
- the service in question requires contiguous service zones and territorial integrity.[17]

The business of providing water service to consumers requires many individual components. Many of the components of services are naturally competitive, others fit into a grey area of potential competition, and a few elements of service are more strict natural monopolies. Practices in Ontario's gas sector have shown that constructing distribution facilities and reading meters are examples of operations that can be readily contracted competitively. Examples of water-related services that might be suited for competitive procurement if the market for such services is sufficiently mature includes emergency services, billing and customer care, operating treatment works or sewage treatment plants, and some engineering services. One area where an irreducible natural monopoly appears to exist is the capital tied up in physical piping system.

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[16]Fortin, M, B Mitchell. 1990. Water and Wastewater Charges: The User Pay Principle. OSWCA, Mississauga. October. P. iii.

[17]James C. Bonbright, Albert L. Danielsen and David R Kamerschen, 1988, *Principles of Public Utility Rates, Second Edition*, Arlington: Public Utilities Reports, pp. 8-10.

While firms subject to competitive pressures are likely to price their products for services at marginal costs, in the water business pricing at the short run marginal cost would raise insufficient revenue to support the business.

Uncontrolled, profit-maximizing natural monopoly utilities are potentially injurious to the public interest. Unopposed by competitive pressures, a monopolist could maximize its profits by curtailing the supply of its service and discriminating between customers on the basis of their price elasticity, so that those with the fewest alternatives and ability to pay are charged most.

Should a competing supplier arise able to serve existing customers, where new and incumbent providers are unable to differentiate their product through customer service quality, both producers, facing high fixed but low marginal costs, might engage in price cutting so severe as to undermine the ability of both firms to recover their capital. Alternatively, competing suppliers might have strong enough monopoly powers to transfer the cost impacts of lower throughput volumes onto customers. In either case, the societal costs of providing the service would not be minimized.

APPLYING ONTARIO'S SUCCESSFUL EXPERIENCE WITH ECONOMIC REGULATION OF NATURAL GAS TO WATER

What follows are two separate case studies examining aspects of regulating another natural monopoly public utility in Ontario -- natural gas distribution -- in the period up until 1998. These case studies demonstrate a regulatory model validated by experience and suited for Ontario.

Case Study on Public Regulation as a Superior Social Control Alternative to Public Ownership: Ontario's Natural Gas Industry vs. Ontario Hydro

Ontario's experience with energy utility regulation demonstrates the public interest advantages of regulating natural monopolies through independent quasi-judicial tribunals dedicated to adjudication, operating under a public-interest mandate, and required to abide by the strictures of due process. Ontario's experience with energy regulation also demonstrates the tendency of publicly regulated but privately owned utilities to be more publicly accountable than publicly owned firms.

The distribution components of the natural gas and electricity sectors are in many ways comparable to each other and to the water sector. All rely on fixed physical distribution networks to reach customers. These networks are capital intensive in the sense that the ratio of capital employed per unit of annual distribution revenue is greater than in most sectors. Delivery of all three commodities is also a necessity of modern life. Unplanned interruptions of service can impose significant inconvenience, costs, or even risk on consumers. Public safety issues apply to each.

The former Ontario Hydro bears some significant similarities to Ontario's water sector. Like water rates, electricity rates have historically not reflected full costs, as demonstrated by the stranded cost – officially estimated at $20.9 billion – left over after the break-up of Ontario Hydro in 1998 and the 8% rate increase announced 30 March 2001. Water service in most communities and electricity service everywhere are both reliant on taxpayer-provided capital – the former in the form of grants and loans, the latter in the form of loan guarantees. Both sectors have given rise to significant environmental concerns.

Three major structural differences distinguish gas, electricity, and water:
1. *Ownership:* Gas is primarily privately owned whereas electricity and water are primarily publicly owned.
2. *"Bundling":* The gas industry, since commodity deregulation began in 1985, has become profoundly structurally unbundled.[18] Until 1998, Ontario's electricity was structural bundled in the "Hydro family" of Ontario Hydro and the municipal utilities it controlled. The only extent to which water services are unbundled today derive from those few instances of contracting-out operations.
3. *Economic regulation:* All the natural monopoly components of the gas system were subject to public rate regulation by a legally independent tribunal until 1998, whereas electricity rates were unregulated until 1993 and regulated by cabinet from 1993 thereafter. Water rates are usually controlled by municipal councils.

From a public interest perspective, Ontario's natural gas sector has been highly successful. The industry's public safety record is very good. Distribution rates are stable and relatively low by comparison with other North American gas utilities. Access to gas is now provided to virtually all parts of the province where it can be economically justified. The environmental concerns associated with natural gas are relatively modest compared to those associated with most other energy commodities. Natural gas service in Ontario is supplied without taxpayer liabilities.

Starting in 1985, commodity competition has been introduced and has flourished, with a significant majority of all gas sold in Ontario now provided by non-utility suppliers. Ontario has been the world leader in natural gas deregulation since 1985. The flexibility of the regulatory regime was demonstrated by the fact that until 1998, the OEB successfully facilitated competition in the purchase and sale of commodity gas – a role never envisioned by the original drafters of the legislation – although its authority to do so was moot. Such a broad consensus of interested parties supported the move to competition that the OEB successfully directed the development of new approaches to commodity pricing and procurement. All gas is now sold in Ontario for market prices. Since 1985, the savings to Ontario consumers due to deregulation have been significant. Deregulation has also helped strengthen the security of supply since in the event of supply shortfalls consumers automatically receive powerful price signals to conserve.

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[18]Consumers in Ontario are dependent on a chain of gas producers, exchange operators, marketers, long distance pipelines, storage operators, and distributors who are usually separate companies.

From a public interest perspective, Ontario's electricity sector has been successful in some respects but very unsuccessful in others. Power system reliability in Ontario is high and electricity service is broadly available. However, Ontario Hydro was among the top two polluters in Canada in the categories of SOX, NOX, carbon dioxide, and tritium. Electricity prices are high by national comparison. Prices are set arbitrarily and have never reflected demand/supply relationships. In the event of shortage, consumers do not receive conservation signals except by public appeals for reduced usage. By official estimate, Ontario's power system has imposed liabilities against the public purse of $38.1 billion, offest by assets worth only $17.2 billion. Major capital projects were historically mismanaged. For example, the Darlington nuclear power project was completed 270% over budget in inflation-adjusted terms, 10 years late, and suffering from serious design flaws that caused extensive downtime during its first several years of operations. Despite these deficiencies, none of the responsible officials was ever fired or even publicly reprimanded. Ontario Hydro and its predecessor, the Hydro Electric Power Commission of Ontario, have been the subject of special legislative reviews, standing committees, select committees, Royal commissions, task forces, and official expert review panels since the 1920s.

One way to compare the public interest success of gas service and regulation compared to both Ontario's water and electricity sectors is the relatively low level of public concern, media attention, and political acrimony about gas. The only significant attention to gas matters in the last ten years has focussed on the practices of some gas marketers and the December 2000 gas commodity price spike. Public discussions around Ontario's water and electricity sectors are much more intense and complicated.

Government ownership of industrial enterprises makes the ownership interests of citizens and taxpayers dilute. Dilute ownership leaves management effectively in control. The unfortunate consequences of leaving decision making authority in the hands of such unattended management is demonstrated by Ontario Hydro's ultimate fate. Although Ontario Hydro always received clean audit opinions and issued unwavering public reassurances, in 1998 the government effectively (and correctly) declared Ontario Hydro bankrupt.

Continuous regulatory oversight has meant that Ontario's natural-gas monopolies have consistently been more open with information than was Ontario Hydro, despite the fact that Ontario Hydro was subject to Ontario's Freedom of Information and Protection of Privacy Act, while the natural-gas monopolies were not.

Regulation also made the private gas utilities more sensitive to public-interest concerns than the publicly owned Ontario Hydro. In response to regulatory decisions accepting some public-interest arguments (but contrary to Energy Probe's recommendations), Ontario's natural-gas monopolies have instituted "Demand-Side Management" programs designed to decrease their gas sales to their customers. The major utilities have convened multi-stakeholder consultative processes that have managed those programs in a manner that is generally acceptable to a wide range of stakeholders. Neither Ontario Hydro nor its successor companies has maintained such programs or processes.

A comparative analysis of the benefits of private ownership and public regulation of energy utilities, compared to public ownership was undertaken in 1992 by Dr. Mervin Daub, Professor of Business at Queen's and at the time a member of the Ontario Energy Board. Daub's analysis provides several insights relevant to the Walkerton Inquiry. He made a case that public regulation and privatization of Ontario Hydro would provide a superior form of social control than is available through public ownership. He argued that his recommended combination of regulation and privatization would not require recourse to taxpayers for future costs since private investors would be responsible for future liabilities. He argued that politicization of decision making could be eliminated and that more intense scrutiny could be applied by professional regulators with a narrow mandate than by politicians with broader interests and responsibilities. He argued that there is a basic governance problem with the old Ontario Hydro by pointing out, "Several small hands touching an elephant irregularly will not likely change its course, especially when it has learned that in important respects it is really free to do more or less as it wishes." He also noted, "There is an abundance of historical evidence that the government has not always resisted this temptation to 'close the distance' between Hydro and itself, whether because of strong direct interest-group lobbying representation, or for its own reasons." In contrast, he observed that gas regulation was conducted at regular intervals in public hearings, the public is invited to participate, decisions with reasons were issued, and the whole process was open to scrutiny. "As a result, it is likely that there is less capriciousness about the political interference with the gas industry than there is in the case of electricity." One of Daub's conclusions, which is reminiscent of problems in Ontario's water supply, was that "the social control of Hydro that does exist is too diverse to be effective."[19]

In electricity and water, public ownership in Ontario has proven inconsistent with public control. Ontario's successful experience with private ownership and public regulation of natural gas delivery provides a successful model to emulate in water.

Case Study on Accountability: OEB Treatment of an Enbridge Deferred Tax Issue Prior to Bill 35

One way to answer the question of whether utilities can be effectively controlled through regulation is to look at particular issues where regulators are faced with stark choices between interests of utilities and the interest of consumers. The following example illustrates the role of due process in ensuring financial accountability of regulated firms.

Enbridge Consumers Gas is a regulated natural gas distribution utility operating in Ontario. In 1998, Enbridge brought an application to separate and make unregulated certain functions from

[19]Daub, M.1992. "Regulation of Private Enterprise vs. Direct Control of Crown Corporations: A Comparison of Gas and Electricity in Ontario." Working Paper 92-08, Queen's School of Business. Also filed as Exhibit 758 in the Environmental Assessment Board's hearing on Ontario Hydro's Demand/Supply Plan (October 1992).

the regulated utility, which was heard in December as E.B.O. 179-14/15. The decision, one of the last decisions issued under the former OEB Act, was rendered on March 31, 1999. One issue in the case involved $126.2 million in costs which Enbridge wished to recover from gas ratepayers.

Citing government price control initiatives designed to fight inflation, in decisions in 1975 and 1976 the Board required Enbridge's predecessor to use a cash or "flow-through" method to recover income taxes in rates (against the urging of the company at the time). Because tax allowances for capital expenditures are generally accelerated relative to their useful lives, ratepayers received temporary benefits from this practice. Because the utility was expanding steadily, these benefits (which are also obligations of future ratepayers) became significant. The accounting term for these amounts is "deferred taxes."

Enbridge had operated a water heater rental business within the regulated utility for over 20 years. Until 1997, the Board had allowed Enbridge to assign only short run marginal costs to this activity while all overheads were allocated to be recovered in gas distribution rates. When Enbridge began its water heater rental business, it adopted the flow-through method of accounting for the tax implications. This resulted in a steady accumulation of deferred taxes related to this ancillary (non-core) business. Enbridge had not been given explicit permission by the Board to do this. The allocation process for overheads and taxes helped allow Enbridge to acquire and maintain a market share of 90% or greater in its franchise territory for water heaters.

In 1997, the rules began to change when the Board ruled that ancillary activities, such as the water heater rental business, should be costed at fully allocated cost, effectively ending access to free overheads paid for by gas ratepayers and requiring the water heater business to recover its own overheads.[20] Enbridge's response to the 1997 decision was to bring an application to separate most of its ancillary businesses from the regulated utility. Water heater rentals was by far the largest of these ancillary businesses.

Enbridge's separation application was subject to full due process as required under the old OEB Act. There were 16 intervenors (including such interests as users of all sizes, gas marketers, and other utilities), formal written interrogatories, cross examination of witnesses in a public hearing, written arguments – in chief from the utility, in rebuttal from intervenors, and in reply from the utility – and a decision with reasons from the Board.

The main issue in the separation application was who should bear the responsibility for the related deferred taxes. Enbridge argued that the firm was using the Board-approved tax accounting methodology, many gas distribution ratepayers had benefited from low water heater rental rates due to the tax treatment, and that therefore Enbridge should be allowed to recover $126 million from gas distribution ratepayers over a reasonable period. Consumer representatives argued that Enbridge never had permission to accumulate deferred taxes on ancillary programs for later recovery from ratepayers and that shareholders had benefited (earning a return on the

[20]Ontario Energy Board, E.B.R.O. 495.

capital spent on ancillary businesses) from the rate-making treatment for income taxes. Energy Probe argued that the costs should be split between shareholders and ratepayers because on one hand the company should have advised, but did not advise, the Board and the public of the accumulating tax liability issue as it arose, but on the other hand, the company was following a much earlier decision of the Board favouring deferred taxation, albeit in a different context.

The Board ruled that Enbridge had no authority to apply the tax treatment approved for utility operations to ancillary businesses, that it was Enbridge's responsibility to inform the Board of this issue, and that therefore the $126 million was the shareholders' responsibility. It did, however, authorize the company to recover up to $50 million from ratepayers as the related taxes become due, in recognition of the benefits to ratepayers (mainly the effect of higher load factors from year-round water heating on asset utilization) over the years.[21]

Enbridge made an application to the Lieutenant-Governor-In-Council (LGIC) to have the issue re-heard by the Board. Energy Probe's counsel wrote to the LGIC stating:

> Producing fair and appropriate regulation of energy monopolies is very demanding work. If the LGIC interferes with the Board's decision making authority and independence, we would anticipate a deluge of appeals to fly to the LGIC. Energy Probe suggests that the interests of gas ratepayers, industry investors and the public wold be greatly harmed if the complex tradeoffs sometimes required were removed from the Board, where in the main these matters have been admirably discharged, and moved to a political process ill adapted for the task.[22]

The LGIC took no public action in response to Enbridge's request.

Enbridge then publicly stated its intention to take the decision to judicial review. Perhaps because the decision was taken with full due process, the utility declined to follow through.

In the end, Enbridge shareholders incurred a tax liability of approximately $76 million.

The Enbridge water heater deferred tax liability case illustrates a number of important characteristics of Ontario's former regulatory regime.

Utility shareholders can suffer repercussions if they exploit loopholes that appear in bad regulatory decisions, like the original decision allowing the flowing through of tax benefits without accounting for resulting liabilities. In effect, utility shareholders, like all other parties affected by regulatory decisions, have an interest in the integrity of the regulatory process.

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[21]Ontario Energy Board, EBO 179-14/15, March 31, 1999.

[22]Correspondence: M. Mattson to LGIC, June 2, 1999.

Utility shareholders can also suffer repercussions if their utility fails to deal fairly and fully disclose all relevant information. The Enbridge deferred tax case demonstrates an instance where, in hind sight, it is clear that the private monopoly was not willing enough to argue for self-interested proposals. Management apparently judged that the regulator's overall pleasure was more important to the company's short term well-being than winning every argument that should logically have gone the company's way. This understandable but corrupting phenomenon is the exact opposite of the much-discussed phenomenon of "regulatory capture," where regulators gradually come to think like those they regulate.

Private utility operators have strong incentives to ensure that their actions bear close scrutiny. If they don't, they can be penalized by the regulator. Shareholders have a direct interest in ensuring that utility management successfully anticipates the regulatory process.

PRINCIPLES TO GUIDE PUBLIC REGULATION OF WATER UTILITIES

Economic regulation is a weak substitute to competition and should only be used when and where competitive alternatives are unavailable. Although economic regulation of monopolies is necessary, its limitations – such as discouragement to efficiencies, weak ability to successfully innovate, and encouragement to excess investment – have been documented extensively by Averch and Johnson[23] and many others. As much as feasible, those components of the water system suited for competition should be competitively organized.

Economic regulation in water services should focus its attention primarily on the irreducible natural monopoly in physical infrastructure of the utility system referred to previously. To be able to attract sufficient capital to meet the needs of our currently substandard water infrastructure, substantial rate increases will be necessary. Investors will need reason to be confident that rates can be sustained to allow investments to earn a fair rate of return over the long term.

As previously noted, applying the apparently simple principle of user pay to water service can be complex. While economic regulation should be guided by public interest criteria, it should be recognized that the public interest in the circumstances that are likely to arise is far from self defining. While the legal mandate of the regulator should set out public interest purposes, these purposes should be very general. Examples of purposes that might be considered include protecting the long term interests of consumers by ensuring just and reasonable rates, fairly allocating costs among consumers, ensuring the long term financial integrity of the system, facilitating rational investment, and promoting transparency to the public.

Due process, as set out in the Statutory Power and Proceeds Act, should apply to economic regulation. The case for due process does not hinge on a claim that due process generates perfect

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[23]Averch, Harvey, and Leland Johnson. 1962. Behaviour of the Firm Under Regulatory Constraint. American Economic Review. December, 52:1053-69.

decisions. The strength of due process lies in its ability to test the strength of positions under disclosure and cross examination, to protect the rights of affected parties to be heard, to make regulators accountable, and to ultimately result in decisions that are respected by producers and consumers. If the courts respect the expertise of the regulatory board and due process has been observed, regulatory decisions are likely to be respected by the courts, as has been the experience with Ontario Energy Board.

Macaulay and Sprague note that administrative tribunals prevent "arbitrary executive action."

> Perhaps the most important characteristic of the administrative arena is that issues are consistently resolved in the public interest. Notwithstanding that an issue is raised by one party with a particular interest in the outcome, when the merits of that issue come before the administrative decision makers, the final decision should accord with the statutory mandate to pursue the public interest.[24]

Ontario's gas experience suggests that regulation with due process is highly cost effective and beneficial to the public interest. Over the last four main rates cases adjudicated in the legal regime that prevailed before the revision of the OEB Act, the direct hearing costs borne by the utility ratepayers were recovered about 13 times over from cost reductions ordered by the Board. While a full consideration of the cost effectiveness of regulation would have to take account of indirect costs related to internal overheads of the regulated firm borne by consumers, it appears safe to say that the previous regulatory structure was beneficial to consumers.

Enbridge Consumers Gas Ratepayer Savings Due to Regulation - 1996 Through 1999

Case	Revenue Requirement Reduction by OEB	Estimated Hearing Costs	Ratepayer Return on Hearing Costs
EBRO 492	$32,000,000	$3,000,000	1067%
EBRO 495	$40,700,000	$3,000,000	1357%
EBRO 497	$43,800,000	$3,000,000	1460%
RP-1999-0001	$44,900,000	$3,000,000	1497%
Totals	$161,400,000	$12,000,000	1345%

The economic interests of water utilities, which an economic regulator oversees, naturally conflict with other public interests. Environmental standards, environmental law enforcement, economic development criteria, and labour interests are all examples of factors that naturally pull in the opposite direction of short term cost minimization. Producers and consumers need to know

[24]"Robert W. Macaulay,Q.C., James L.H. Sprague, *Practice and Procedure Before Administrative Tribunals, Volume 1*, Carswell.

that their concerns can be fairly considered. To be fully effective and legitimate, economic regulators should be as independent as possible from all potentially conflicting interests.

Economic regulators should be subject to judicial review. As noted by Macaulay and Sprague, "One of the reasons for the growth in the number of administrative tribunals is the availability of the supervisory role of judicial review of tribunal decisions to ensure adherence to principles of procedural fairness and natural justice."[25] Access to judicial review protects the rights of regulatory litigants by strengthening the accountability of the tribunal and ensuring that due process is protected. Energy Probe's direct experience with judicial review is defensive (in 1991 Energy Probe successfully defended a regulatory decision that supported our right to present evidence to an Environmental Assessment panel against an application to throw our evidence out). However, the tribunals' reluctance to face judicial review appear to have assisted Energy Probe in making its issues heard.[26]

Regulatory processes should require full disclosure of relevant information. Although the definition of what information is relevant should be left up to the regulator, it should be recognized that regulated firms allowed some substantial guarantee of cost recovery have limited claim to commercial confidentiality and competitive advantage.

The rules of standing should ensure that all affected parties have access to the process. The academic literature and regulatory practice recognizes that effective adjudication requires a balance in the presentation of various points of view.[27]

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[25]Robert W. Macaulay,Q.C., James L.H. Sprague, *Practice and Procedure Before Administrative Tribunals, Volume 1*, Carswell.

[26]In recommending the advantages of making regulators subject to judicial review, I recognize that I am contracting the advice of some eminent legal scholars, including Harry Arthurs, former dean of Osgoode Hall and President of York University. In his paper "Protecting Against Judicial Review" (1983, 43 Rev. du Barreau 277) Arthurs argues that administrative tribunals need to be democratized and to have the freedom to make decisions without threat of intervention from the courts. Arguing that "one man's due process is another's red tape," he argues that administrative tribunals, staffed by experts and attuned to policy and practical matters, are better placed to make nuanced public interest decisions than the courts. Arthurs's purpose in advocating against judicial review is that legislatures that craft the mandate of tribunals, and to whose will tribunals may be more attuned than courts, are better placed to protect the interests of "unorganized ordinary citizens." He says "judicial review proceedings disfavour the poor and the powerless." Energy Probe, which appears to fit within the categories Arthurs claims to speak for, has had the opposite experience.

[27]Robert W. Macaulay,Q.C., James L.H. Sprague, *Practice and Procedure Before Administrative Tribunals, Volume 3*, Carswell.

The principle of standing can be actualized by allowing public interest intervenors, who might not otherwise have the means to participate, an opportunity to recover costs through a costs process based on principles imported from civil litigation. In several Canadian jurisdictions, legislators have recognized the need to encourage public participation in regulatory proceedings by granting regulatory bodies the power to award costs. For example, the *Utilities Commission Act, B.C.* and the *Ontario Energy Board Act, 1998*, the Nova Scotia *Gas Distribution Act*, *s. 31* contain cost award provisions. Regulators in Manitoba and Alberta have similar provisions. Several regulators have put these provisions into practice through rules that provide public interest intervenors an opportunity to recover from the regulated entity or entities reasonably incurred costs of intervening in a regulatory proceeding if the interventions are deemed by the regulator to have been conducted in a responsible fashion and to have been of assistance to the tribunal. The decisions to provide such awards historically arose from a recognition that regulators must make decisions in the public interest and in order to determine the public interest the regulator must hear, take into account, and weigh a wide variety of opinions including those of individuals and public interest groups. In its E.B.O. 116 Report of the Board (1985), the Ontario Energy Board recognized that the awarding of costs to intervenors was in the interest of encouraging public participation.

Consistent with the user pay principle, reasonable utility, board and intervenor costs should be recovered from consumers of the regulated service. This application of the user pay principle has recently been recognized in Ontario with the passage of regulation O.R. 529/99 which provides for the Ontario Energy Board to assess its costs against the regulated entities it oversees. Regulated entities adjust their cost of service to reflect these regulatory costs and recover them from consumers.

Regulators should not attempt to prejudge the efficient basket of assets for a particular regulated business. While economies of scope between potable water service and waste water service are apparent, it may be that a more efficient arrangement is to have potable water and waste water services provided by separate firms. A food or beverage company might see brand advantages in being a potable water supplier but not a waste water service provider. Utility owners should have the freedom and incentive to assemble and change their business to maximize efficiency.

The proper functioning of government is undermined when it has conflicting interests, such as when governments regulate themselves. The greater the separation between the government regulator and the utility which it regulates, the more likely the regulator will act independently. If regulation is to be imposed on government-owned utilities, extra attention to regulatory independence would be necessary. At least some level of regulation by state utility commission of publicly owned water systems exists in several US states, including Maine, Montana, New Jersey, Rhode Island, and West Virginia.[28] From a regulatory perspective, the public interest

[28]Beecher, Janice, Richard Dreese and John Standford. 1995. Regulatory Implications of Water and Wastewater Utility Privatization. Columbus: National Regulatory Research Institute. July. P.133.

would benefit from water utility privatization because privatization structurally eliminates conflicting interests in regulation and provides regulatory accountability through potential financial penalties administered to investors. Even if utilities are not government-owned but remain government-funded, the independence of any regulatory effort could be impaired.

CHOICE OF REGULATORY INSTRUMENTS

Various formulations of economic regulation have been tried or proposed. Two basic forms of economic regulation appear to be best suited for Ontario's water sector, depending on the ownership arrangements in place. In the event that some municipalities continue to own their water systems but contract out the operations of those systems, franchise bidding is effectively a form of regulation that might be used. Regulation can also be accomplished by implementing cost of service and rate of return regulation.

Franchise bidding or competitive contracting uses competition to aid the regulatory process. Under the traditional form of franchise bidding, the operation of a water utility for a defined time period is let through a competitive process. Franchise bidding can be used to extract economic rents from service providers, control prices to consumers, and contractually enshrine service quality standards.

A form of franchise bidding was used in Ontario for the privatization of Cornwall Electric in 1998. In that privatization, bidding was not only based on the price potential bidders were prepared to pay for the asset but also the basket of other promises they were prepared to make. The successful buyer in that case was Enbridge Consumers Energy Inc., which offered a long-term consumer rate guarantee and a guarantee of employment for existing employees.

Franchise bidding provides short term stability that can enhance the public acceptability of institutional reforms. This feature of franchise bidding proved particularly important in the Cornwall case. The community was initially reluctant to support the sale of the municipal utility out of concern over the potential loss of the utility's historic price advantage relative to the rest of Ontario and over the potential impact of the sale on utility employees. Enbridge offered employment guarantees apparently in the expectation of expanding its electricity business in other parts of Ontario.

Franchise bidding suffers from a number of limitations. It does not provide a permanent solution for water pricing and service. Franchise bidding has limited ability to provide efficient incentives for capital expenditure. The franchisee has incentives at the beginning of the contract period to invest capital, but only if the payback periods for particular investments are short enough to allow net gains within the contract period. At the end of the contract period, the franchisee has an incentive to mine the utility's capital. The success or failure of franchise bidding rests on strength of the underlying contracts. Developing contracts with sufficient foresight to fairly accommodate all future requirements and changes in circumstances might be challenging. Franchise bidding

should be subject to oversight and extensive public disclosure, ideally through a regulatory agency like the proposed Ontario Water Board.

A more promising approach to protecting the long-term public interest is through a more traditional instrument for utility regulation: cost of service regulation, where the rate of return on invested capital is controlled.

Cost of service and rate of return regulation is usually done on a prospective basis. The process requires determining an appropriate revenue requirement and then determining how these costs will be allocated to customers and how customers will be billed for the service. Determining the revenue requirement requires a number of steps: finding a rate of return on capital just sufficient to maintain the firm's access to incremental capital sufficient to meet its needs, ensuring a minimum cost capital structure, determining appropriate accounting policies to apply, and approving operating and capital budgets.

This form of regulation has been criticized as cumbersome, prone to high direct and indirect regulatory and compliance costs, artificially increasing companies' incentives to "goldplate" investment, and discouraging efficiency. Some of the characteristics of cost of service and rate of return regulation that have been criticized in other contexts could actually be useful in Ontario. Ontario's current water system could not currently be accused of being goldplated.

Recognition of the limitations of cost of service and rate of return regulation has fuelled efforts to remove from regulation aspects of service where competition can replace regulation.

The criticisms have also encouraged the development of a range of incentive or performance-based regulatory instruments. The leading jurisdiction innovating regulatory incentive instruments has been the U.K., where the economist Stephen Littlechild developed a regulatory instrument called RPI-X and directed its successful implementation.[29] This paper considers how the concepts behind RPI-X might be applied to Ontario's water sector without addressing other forms of incentive regulation.

RPI-X, also known as price cap regulation, is a formulaic approach to rate making where rates, rather than profits, are subject to direct regulation. Rates are based on the retail price index less some efficiency factor (which can be negative or positive) for some predetermined review interval, following which the performance of the firm is evaluated and the formula is reset. To ensure that profits are not realized by cutting service quality, comprehensive service quality standards are imposed. For example, water, gas and electric companies in the U.K. pay penalties directly to affected consumers for service interruptions and failure to make appointments on time. In addition, regulated firms have been subject to very strict incentives to minimize

[29]One example of Professor Littlechild's work in this area is "Economic Regulation of Privatized Water Authorities: A Report Submitted to the Department of the Environment", January 25, 1986.

disconnections of service for non-payment, incentives so effective that, relative to the level of disconnections that prevailed during the period of government operation of utilities, by 1998 disconnections were nearly eliminated. In November 1998, the UK government introduced legislation to end disconnections for non-payment for homes, schools and hospitals.

RPI-X is effectively cost of service and rate of return regulation with a time lag. The incentive benefits of RPI-X result from the time lag between formula changes. To be financially sustainable in the long term, the formula must be set such that utilities are able to sustain their capital. If the regulator is effective in setting rates at the minimum level consistent with utility's financial integrity, over the long term consumers realize the efficiency benefits incentivized by the time lag.

A regulatory strategy that appears attractive for dealing with Ontario's water sector deficiencies is to initially focus on cost of service and rate of return regulation and gradually make a transition to price cap regulation. The benefit of adopting cost of service and rate of return regulation initially would be to encourage investment, to ensure transparency, and to allow regulatory practice to mature in a new sector. Once good operations have been demonstrated, encouraging efficiency can become a higher priority. The regulator can enhance efficiency by shifting toward price caps and increasing the regulatory lag. Under this proposed regime, the level of regulatory effort and resources should decline over time.

HOW MIGHT A FUTURE ONTARIO WATER BOARD WORK?

While water utilities in Ontario are many and range in size from large to very small, the gas utilities regulated by the Ontario Energy Board are few and range from very large – Enbridge Consumers with about 1.3 million customers in Ontario – to medium-sized utilities – Natural Resource Gas has one major industrial customer and about 4,500 residential, commercial, and seasonal agricultural customers. Given the larger numbers and the difference in size between water and gas utilities, some regulatory procedures developed originally for gas cannot be transferred to water without adaptation.

Good regulation requires transparency. The OEB requires the utilities it oversees to observe common accounting standards. This concept can be beneficially imported to the water sector. To enhance transparency and simplify regulation, common accounting and disclosure standards should be required for all regulated water utilities in the province.

A future Ontario Water Board would need flexibility in the choice of regulatory instruments. Long-term franchise agreements, if that is the route some municipalities choose, should be subject to regulatory oversight on a one-time basis. Where ownership remains integrated with operations, some form of cost of service regulation will be required. A formulaic approach might be used for smaller systems and a complaints-based process for tiny systems.

As previously discussed, conducting cost of service regulation on a long time interval can encourage efficiency that can ultimately lower customer costs. The concept of regulatory lag might be applied by establishing a rolling five year review cycle for larger utilities. This approach would help manage regulatory workloads.

Yardstick regulation can be used as a method of simulating competition. Utilities in similar circumstances can be compared and performance criteria adjusted based on the experience of peers.

The imposition of regulatory costs, which, like other overhead costs is not proportional to size, may encourage mergers to achieve efficiencies.

CHANGES TO THE OEB'S MANDATE IN 1998

With the passage of Bill 35 in 1998, the mandate of the OEB was significantly changed. It is too early to tell whether this system will be institutionally stable and successful in supporting private sector investment.

Under Bill 35, a wide range of electricity matters became subject to OEB regulation. While the Board retained its adjudication responsibilities, it also gained rule making powers. It gained the flexibility to adopt alternatives to cost of service regulation and to forebear from regulation in the event that some particular regulated component of the energy sector is found to be competitive. Due process was made optional rather than mandatory as the OEB's previous mandate required. The minister gained directive power over the OEB under Section 27.

Since the new Act was passed, the Board has taken a series of steps away from full due process toward informal consultation, discretion, and negotiation among the parties. New rules issued by the Board are subject to notice and comment provisions but are not subject to the hearing requirements that historically existed. The OEB's access to adequate resources to maintain due process appears to have played a role in this change.

The government has demonstrated on several occasions that the ultimate decision making authority resides with cabinet rather than the Board. For example, in May 2000, during a hearing on an electricity transmission rate issue, the energy minister gave a speech publicly directing the OEB to find in favour of some industrial interests in the proceeding. The Board's decision was consistent with the Minister direction.[30] In June 2000, the energy minister issued a directive to

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[30]Wilson, Jim. Minister of Energy Science and Technology. 2000. [on line] [quoted April 19, 2001.] Speech to the 9th Annual Gas Fair and Power 2000 Conference. May 15. <http://www.est.gov.on.ca/english/ar/sp_000515.html> In the speech, he said "I've listened concerns that gross load billing would make most self-generation projects uneconomic" and that this was an outcome "we want to avoid." He went on, "The issue is currently before the Ontario

the OEB ordering a review of a previous distribution rate decision and realigning the purposes of the OEB as set down in the legislation. In the same month, the minister also tabled legislation – Bill 100 -- which would have postponed the implementation of distribution rate increases until after the next election.[31] Also in June 2000, the Cabinet adopted regulation 00/365 that amended the mandate of the OEB as set down in the legislation. Regulation 00/365, which was adopted during the consideration of an application by the government-owned transmission utility Hydro One for an expansion of its system, reduces the scope of OEB oversight of such plans. The validity of Regulation 00/365 is currently be considered by the courts. In March 2001, the Ontario Cabinet passed regulation 01/61 under the Municipal Act abrogating Section 4.4.18 of the report of the OEB in the "2000 Model Franchise Agreement" that granted municipalities the right to levy fees on utilities to recover reasonable costs incurred by the municipalities in providing services related to utility construction activities.

Due process has been undermined and OEB decisions are no longer binding. Independent utility regulation -- historically a source of significant benefits for Ontario gas consumers and essential for encouraging adequate gas infrastructure investment -- has now been lost. The long term impacts on the investment climate in Ontario's energy sector remain to be seen.

Energy Board, and I'm confident that the OEB, as our independent regulator, will come up with a decision that protects the best interests of customers and advances competition." Some industrial interests preferred a rate design that could improve the cost-effectiveness of self-generation projects by shifting sunk transmission costs to customers who do not have access to self-generation. The mechanism for cost shifting is called net load billing.

[31]Bill 100 was withdrawn in November 2000.

Chapter 4: Strengthening Environmental Law Enforcement

Providing a high standard of water service to all Ontarians would be a much cheaper and easier task if our ground and surface waters were clean. Unfortunately, most of the water in inhabited parts of Ontario is contaminated, some so badly that no reasonable effort except dilution can restore it to potable standards, although in most cases physical and chemical treatments properly applied suffice. The Walkerton crisis was initiated by a pollution event. Weaknesses of the responsible institutions and processes they administer would not be important if pollution did not threaten our environment.

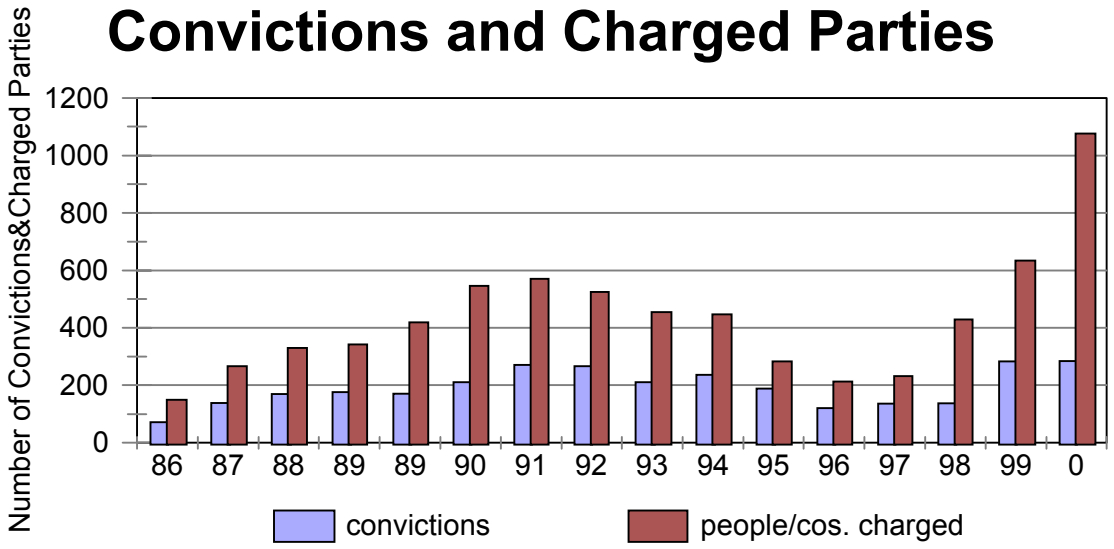
Our community has passed statutes to protect the quality of our water. The primary laws providing quasi criminal sanctions against water pollution are the Ontario Water Resources Act, the Ontario Environmental Protection Act, and the federal Fisheries Act. The purposes of the parliaments in passing these laws cannot be achieved without adequate law enforcement. This chapter addresses enforcement of these laws for the protection of drinking water and the control of pollution from wastewater. Certificates of approval and other provincial regulations, private rights, and municipal bylaws which also require effective enforcement, are not addressed in this paper.

Pollution crimes should be subject to enforcement in the way our environmental laws and regulations intend. Effective enforcement results in widespread public benefits. It demonstrates respect for the law, discloses information to the public about pollution, and promotes specific and general deterrence. Ultimately, effective enforcement can help protect our water and lower the societal cost of providing acceptable drinking water to all Ontarians. An Ontario Environmental Protection Agency should be established under the Minister of the Solicitor General to perform this function.

ONTARIO'S ENVIRONMENTAL LAW ENFORCEMENT ROLLERCOASTER

The Ministry of Environment's Investigations and Enforcement Branch (IEB) was formed in 1985. It was mandated to be responsible for enforcement of all environmental legislation for the Ministry.

Tracking the Ontario government's law enforcement record is complicated by changes in reporting conventions and disclosure policies. The purpose of the following data is to try to illustrate the general underlying trends in intensity of enforcement activity.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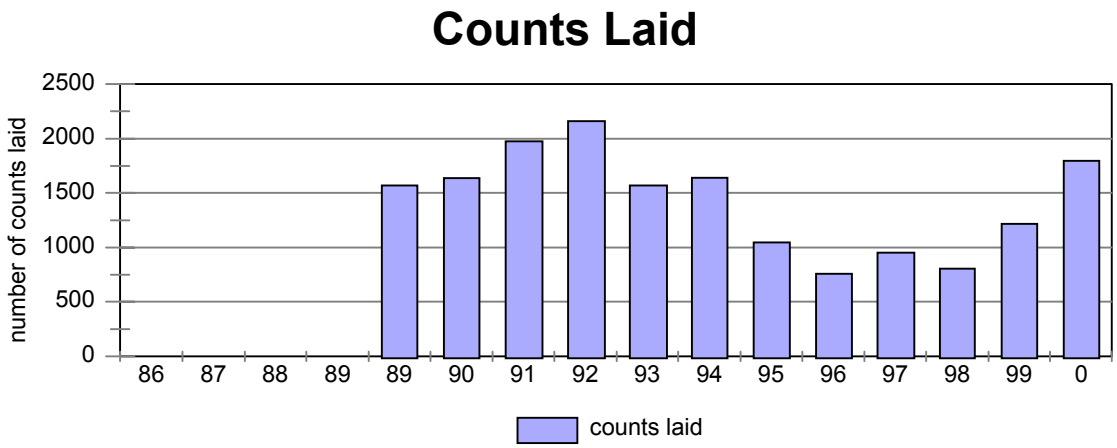
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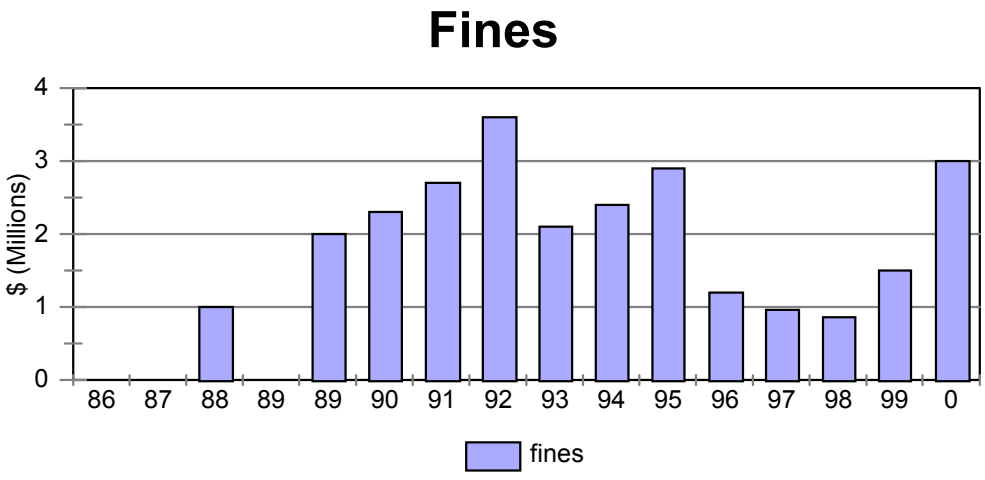
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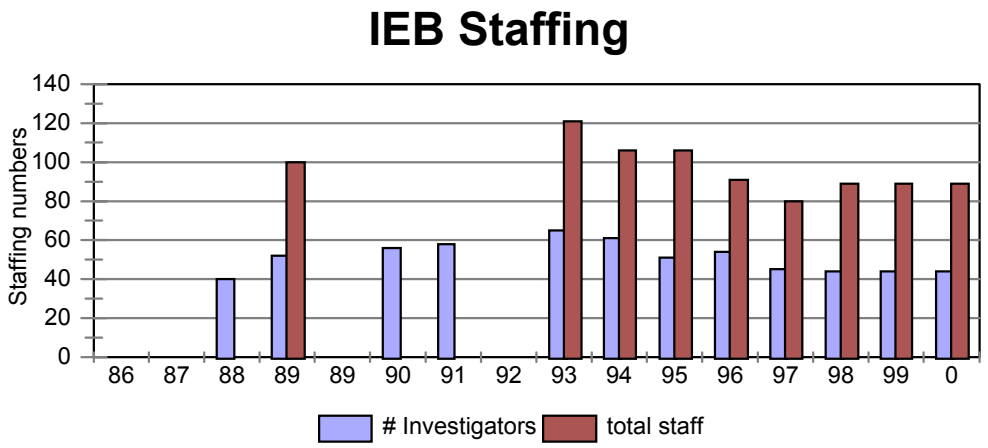

Data set on environmental enforcement activity in Ontario - 1986-2000[32]

date	convictions	people/cos. charged	counts laid	fines	# Investigators	total staff
86	71	149				
87	138	266				
88	170	330		1.0	40	
89	176	343			52	100
89	171	419	1568	2		
90	210	546	1639	2.3	56	
91	272	571	1975	2.7	58	
92	266	525	2158	3.6		
93	211	455	1570	2.1	65	121
94	237	446	1640	2.4	61	106
95	188	283	1045	2.9	51	106
96	121	214	758	1.2	54	91
97	136	232	951	0.96	45	80
98	137	429	805	0.86	44	89
99	284	635	1216	1.5	44	89
0	285	1076	1796	3	44	89

[32]For the period 1986 to 1991, data on convictions and the number of people and companies charged is taken from "Offences against the Environment-1991" published by MOE. Note that 1986-1989 are fiscal years and 1989 and forward are calendar years. For the 1989 to 1991, the counts laid is taken from "Environmental enforcement statistics" by Len Griffiths and John Nicholson, published in Hazardous Material Management, April/May 1999. The remaining data is taken from MOE filings with the Inquiry, April 17, 2001.

These data sets show that the activity level of the IEB increased until 1992, declined from the period 1993-1997, and then increased in the period 1998-2000. It also appears that activity levels started to decline before staffing levels declined.

In the period from 1985 until 1991, the IEB successfully demonstrated the enforceability of our environmental laws on a large scale. However, under administrations of different political colours enforcement has been allowed to wane. Structural change – creating an Ontario Environmental Protection Agency – would help depoliticize enforcement.

The rollercoaster pattern of enforcement activity appears not to be attributable to the funding available to IEB.[33] Rather, the pattern seems to be attributable to changing attitudes toward enforcement. In 1999, near the all-time low of enforcement activity, a spokesperson for the MOE told the Toronto Star that ministry officials were working with companies to try to resolve pollution problems and that "The goal is pollution prevention."[34] The MOE's renewed commitment to enforcement since 1999 may have been encouraged by the rise of citizen-based enforcement initiatives and their success in protecting the environment.

ENFORCEMENT CASE STUDIES

The Energy Probe Research Foundation has experienced the value of prosecution for environmental protection through the experience of its division, Environmental Bureau of Investigation (EBI). EBI is a citizen-based group that investigates pollution crimes for the purposes of criminal prosecution. Together with local citizens, it investigates pollution complaints and gathers evidence to determine if crimes have been committed. EBI provides investigative and technical resources to allow members of the public to participate in the protection of community resources.

Since it was formed in 1997, EBI has participated in three cleanups and two convictions – one subject to appeal. It now has approximately 20 investigations underway into wrongdoing by governments and corporations in Ontario, Quebec, and New Brunswick.

EBI's experience is that investigations and prosecutions are effective means of protecting the natural environment from pollution. Three of the cases initiated by EBI illustrate this point.

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[33]D'Ombrian, Nicholas, 2001. Machinery of Government for Safe Drinking Water in Ontario. Paragraph 96. This reference relies on government submissions to the Inquiry filed by Smith Lyons.

[34]McAndrew, Brian, 1999."Water polluters not being punished." *Toronto Star,* March 1, p. A1.

Kingston

In March 1997, Janet Fletcher, a Kingston environmentalist and member of EBI, with the assistance of the Sierra Legal Defence Fund (SLDF), laid charges against the City of Kingston. The charges alleged violations of the federal Fisheries Act related to toxic emissions from a municipal dump in what was once a wetland on the Great Cataraqui River. Evidence of wrongdoing assembled by members of EBI and SLDF was presented to the MOE. The MOE IEB later laid public charges alongside EBI's private ones. The accused was tried on the private and public charges together, with the prosecution teams cooperating. In December 1998, the City was convicted of four privately laid counts and ultimately fined $120,000. The City was also convicted of violating provincial environmental statutes on three counts laid by MOE for an additional fine of $30,000. The case is currently under appeal.

A 1994 scientific study commissioned by the City of Kingston indicated that toxic leachate was probably flowing from the closed landfill site. This study even pointed out on a map the exact location of one of the likely discharge points. Evidence was gathered at this site in 1996 to lay the charge. Until the charge was laid, the City had taken no concrete steps to stop the pollution. The day after the summons was served, the City sent heavy equipment to excavate the leachate discharge location. The City has since installed sheet piling and purge wells. The City has been transferring the captured leachate to a sewage treatment plant. In addition to these direct benefits, the prosecution has attracted a great deal of attention to pollution problems in Kingston and alternative pollution solutions through the media and direct communication with the public.

Hamilton

In November 1999, Lynda Lukasik, a Hamilton environmentalist, assisted by SLDF and EBI, laid charges against the City of Hamilton under the provincial Environmental Protection Act and the federal Fisheries Act. The charges alleged that the City's Rennie Street Public Works yard was discharging PCBs and ammonia into Red Hill Creek. Red Hill Creek is the last remaining natural creek flowing directly into Hamilton Harbour.

The City of Hamilton was informed about leachate from the old Rennie Street dump pouring into the fragile waters of Red Hill Creek 10 years previously. Almost a year and a half before the private charges were laid, the Ministry of the Environment advised the City that its discharges into the Creek contained dangerous PCBs and that the City "was required to take the necessary remedial measures to eliminate the seepage of wastes into the Creek."

Evidence of wrongdoing assembled by members of EBI and SLDF was presented to the MOE, after which the MOE’s IEB laid its own charges.

On September 18, 2000, the City of Hamilton pled guilty to all the charges. The City was fined $450,000, the largest fine for an environmental crime ever levied against a municipality in Canada. It committed $8-million to $11-million for clean-up.

Following the charges, the City undertook investigations that discovered another previously unmapped landfill nearby. Berming and leachate collection was undertaken immediately after the charges were laid, with the leachate stored on site. A floating boom to capture floating leachate was installed. The City fenced the site to prevent public access. The City also put up “no trespassing” signs. Like the Kingston prosecution, the Hamilton prosecution has drawn public and media attention to pollution issues.

Deloro

In November 1997, Janet Fletcher, on behalf of EBI and represented by SLDF, laid eight charges against the Ontario government under the federal Fisheries Act Section 35(1) and 36(3) and the Ontario Water Resources Act Section 30(1). The charges allege the continuous discharges of arsenic, cadmium, cobalt, copper, nickel and zinc from the Deloro industrial site into the Moira River and Young's Creek. A trial on these charges has been completed and the decision will be brought down June 12, 2001.

In November 1998, with the assistance of SLDF, I, Thomas Adams, laid a private prosecution charge against the Ontario government under the provincial Environmental Protection Act for radioactive contamination of the natural environment west of the Deloro mine site property in the Village of Deloro. Trial on these charges has not yet commenced.

After initially indicating its intention to not intervene in the case, the Attorney General eventually did intervene. A non-government lawyer was appointed to prosecute the case. A high level of cooperation has been demonstrated between the appointed lawyer and EBI and SLDF.

The Bay of Quinte, into which the Moira River flows, has been designated as an area of concern under the Great Lakes Water Quality Agreement between Canada and the United States. Studies associated with the Bay of Quinte Remedial Action Plan estimate that the Moira River is the source of 70% of arsenic loadings to the Bay and that the Deloro site is the major contributor of this arsenic contamination.

The MOE has managed and controlled the site since 1979. A government memo from 1965 shows that senior government officials met with the company and arranged for the eventual transfer of the site liabilities to the Crown.

In 1980, the Ontario government exempted itself from an assessment of the site cleanup project under the Environmental Assessment Act, claiming that it had urgent work to do at the site, including the containment of surface runoff. The MOE’s control order on the previous owner

issued in 1978 and studies done for the MOE by the engineering firm J. L. Richards in the early 1980's identified many remedial actions to protect the public and the environment.

Some significant remedial actions were taken during the period up until the private charges were laid, primarily right after the government takeover. However, since private charges were laid many of the remaining improvements previously officially recommended or required have been undertaken. The Deloro site perimeter, which includes most of the highly contaminated zone around the industrial site, has now been fenced to exclude the public. Signage warning of some of the dangers are now posted on the perimeter. A health risk assessment study was undertaken. It identified among other problems, several local children with elevated urine arsenic levels and contaminated garden soil. A downstream river assessment was conducted that identified highly contaminated sediments. Radioactive waste was removed from the town playground as well as an area of the town near the site west entrance frequented by local citizens, including children. The Deloro prosecution has been covered in national and local media.

A class action suit, independent of EBI and SLDF, has been launch by local citizens against many parties, including the MOE.

IMPROVING THE EFFECTIVENESS OF GOVERNMENT ENVIRONMENTAL ENFORCEMENT

To improve the effectiveness of Ontario's environmental police while enhancing public confidence in law enforcement, structural reforms to the existing policing function, now the responsibility of the MOE's Investigation Enforcement Branch (IEB), are needed. IEB is a second tier agency within the Ministry of Environment. The IEB is responsible to the same Minister in charge of the government's abatement functions and the Ontario Clean Water Agency (OCWA). The Environment Minister also has direct input into municipal water funding programs. The Minister's abatement and cost responsibilities may conflict with and detract from investigations and enforcement effectiveness. The IEB should be removed from the MOE, reconstituted as the Ontario Environmental Protection Agency, and placed within the Ministry of the Solicitor General.

As indicated to the Inquiry by James Merritt, former MOE Assistant Deputy Minister, these conflicts have been recognized by the government.

> Mattson: And is it correct to say that the conflicts arose because in addition to the Ministry of Environment operating, owning and providing funding for water and sewage facilities, the Ministry of Environment was also responsible for setting and enforcing standards for Ontario water and sewage facilities?

Mr. Merrit (for MOE): That's correct.[35]

Abatement staff often see polluters as "clients" and primarily rely on cordial, sometimes cozy, relationships to accomplish objectives.

> Chapman: Oh, I see, I see, but isn't it common that the Ministry of the Environment does refer to the regulated municipality or the industry as their client?
> MR. ERV McINTYRE (for MOE): Yeah, I believe so.[36]

There is even some suggestion created by the testimony that the MOE saw those subject to enforcement processes as "clients."

> Mr. Muldoon: My simple question is who is the client?
> Mr. Merritt (for MOE): The -- and that was a particularly -- particular challenge for the Minister to -- to, in fact, identify the -- the client. In this context, it was -- it was an encouragement to -- to be more externally focussed rather than internally focussed, but the client was very broad here, the client for our particular Ministry, perhaps unlike many other ministries, ranged from -- from the environment as a whole all the way through to -- to individuals that phoned our office with -- with questions and concerns and -- and, even in the reverse sense, the people we were -- we were bringing forward through the enforcement process in some respects were our client.[37]

An independent environmental police agency would help to mitigate existing law enforcement problems. If the IEB was re-created as an independent police agency, as other policing agencies in Ontario are currently structured, the Province would be ensuring that environmental laws are enforced with the same commitment and independence we rely on for serving and protecting other important public law enforcement interests. MOE Abatement staff receive thousands of "Occurrence Reports" each year. Abatement staff have a role in determining which reports will be investigated by IEB. Accordingly, thousands of occurrences each year are not forwarded to IEB to determine the grounds for investigation. An independent environmental police agency would receive all occurrence reports and decide on the need for proceeding with an investigation.

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[35]Walkerton Inquiry Transcript, 2001. April 12, p. 197.

[36]Walkerton Inquiry Transcript, 2001. March 7, p. 198.

[37]Walkerton Inquiry Transcript, 2001. March 7, p. 158.

The enforcement of environmental laws is not on an equal footing with the way criminal code violations are policed in the sense that other officials in the same ministry may be supporting some activity that may be in violation. Even when the IEB gets an opportunity to investigate, its investigations can conflict with regional office Abatement staff. Subsequently, investigations may be impeded or ended. Information most critical to an investigation may not be the nature or extent of pollution violations but whether or not Abatement staff have approved or been informed of but failed to control particular polluting activities.

If an independent environmental policing agency is empowered with the responsibility for reviewing occurrence reports and determining the grounds for an official investigation, it will increase the arm's length between the police and the abatement regulator. The merits of an investigation should be left to the determination of the investigative wing of government and the Crown Attorney's office and out of contact from any government officials that see polluters as clients.

A police agency of any kind must be structured in a manner that ensures its independence and limits the defences of "officially induced error" and "abuse of process" from shielding those who would otherwise be charged. Measured against this test, the current IEB structure is potentially problematic. An independent environmental police agency, responsible for investigating occurrences and deciding on the appropriateness of charges, will reduce the likelihood of conflicts and improve the abilities of the environmental police to do their job well.

Many other environmental groups not active in environmental law enforcement have focussed their attention narrowly on the question of resources available to the entire Ministry of Environment. This concern has also been expressed by the official opposition, who during the last election promised 100 new investigator positions in the event that it formed the government.

While legitimate environmental protection activities must be adequately resourced, judging from the level of fines, it appears that in the period 1996-1998 the resources, measured by total staff, available for environmental law enforcement were not being used effectively. The historical record shows that the decline in enforcement activity started in the mid 1990s prior to significant cuts at the MOE. Hiring more investigators without strengthening the underlying foundation of the investigative apparatus would be unlikely to meaningfully enhance Ontario's natural environment.

The proposed reporting arrangement for the Ontario Environmental Protection Agency would correspond to the current arrangement for the MOE's Legal Services Branch whose members are seconded to the MOE from the Attorney General's office.[38]

[38]Walkerton Inquiry Transcript, 2001. April 12, p. 191.

Chapter 5: Conclusions

Ontario's water problems need lasting solutions that can only be achieved through structural changes. The safe provision of water in Ontario would be enhanced if the direct supply of water was depoliticized. Government's efforts should be refocused on regulating those aspects of water service that are natural monopolies and enforcing environmental laws. Nothing is more basic to the legitimate role of government than preventing the abuse of market power and law enforcement.

Consumers must pay the real cost of water. Government funding now used to support water investment should instead be used to directly support low-income water users.

The superior outcome arising from Ontario's historic regulatory treatment of the private natural gas utilities, relative to its approach to social control of electricity through a Crown corporation, demonstrates a successful model for a future Ontario Water Board. The Board could ensure legitimacy and credibility of cost-based water prices. The Board could also create the conditions which would allow sufficient private capital to become available so that Ontario could revitalize its water sector.

Our environmental laws express community standards. Ensuring that these standards have teeth is a necessary function of the state. The Ontario government should create an Ontario Environmental Protection Agency to investigate and enforce environmental laws under the supervision of the Ministry of the Solicitor General.