CANADIAN ENVIRONMENTAL LAW ASSOCIATION

L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

Creating Community Right-to-Know Opportunities In the City of Toronto

A Report Prepared for

Toronto Public Health

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Prepared by:

Anne Wordsworth, Researcher
John Jackson, Researcher
Jessica Ginsburg, Legal Advisor
Rick Lindgren, Senior Legal Advisor

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130 SPADINA AVE • SUITE 301 • TORONTO • ON. • M5V 2L4
TEL: 416/960-2284 • FAX: 416/960-9392 • www.cela.ca

TABLE OF CONTENTS

1. Introduction

1.1 Purpose

Toronto Public Health engaged the Canadian Environmental Law Association (CELA) to research and write a report that will contribute to the City's understanding of the strategies used by governments, industry and environmental groups to increase public access to information on toxic substances. This report will be used by the Medical Officer of Health as a source of information in preparing a report to the Toronto Board of Health on community right-to-know.

The purpose of this report is to investigate and describe the range of right-to-know strategies and practices in Canada, the United States and Europe that provide people with access to information on hazardous substances in their communities. With the knowledge and analysis acquired from the exploration of these practices, the report will identify and evaluate practical and effective strategies, and propose those that the City of Toronto could consider in order to improve citizens' access to information on toxic substances and to better inform people of the presence of these chemicals in their neighbourhoods. The overall goal of providing this information would be the improvement of public health and the enhancement of the environment in the City of Toronto.

1.2 Methodology

The methodology used for this report consisted of three phases: first, a review of community right-to-know provisions throughout North America and Europe; secondly, the development of a questionnaire, followed by interviews with experts and people experienced and knowledgeable about right-to-know practices; and third, the synthesis and analysis of this information, and the writing of this report.

A review of community right-to-know strategies, practices and laws, which was used to inform this report, was conducted through extensive Internet searches, through library databases of scholarly and popular journals, and using the library and legal resources of the Canadian Environmental Law Association. With respect to right-to-know initiatives discussed in this report, the authors specifically looked for studies that evaluated the effectiveness of these programs. Although some programs have been assessed by governments or the academic community, many of them have not been fully evaluated.[1]

After the initial review was completed, a questionnaire was developed and more than 50 key informant interviews were conducted. These interviews were with experts from all levels of government and relevant government agencies, emergency services personnel, the academic

[1] It has been suggested that the effectiveness of information disclosure practices is sometimes difficult to quantify because these laws stimulate voluntary actions by facilities that are outside of monitored regulatory regimes or done in advance of regulation.

community, environmental and community organizations, unions, and with representatives from companies and industry associations. Individuals who are quoted, or referred to, in this report have given verbal or written permission to use their names. Those interviewed are listed in Appendix 2.

Through all stages of developing this report, we were assisted by a Project Advisory Team set up by Toronto Public Health. The Project Advisory Team was composed of representatives from City of Toronto divisions of Public Health, Economic Development and Culture, and Environmental Services, as well as representatives from the United Steelworkers of America, the Canadian Centre for Pollution Prevention, the Canadian Association of Physicians for the Environment, the Toronto Board of Trade and the Toronto Cancer Prevention Coalition. See Appendix 3 for a list of the Project Advisory Team members. In addition, City of Toronto legal staff provided input and advice.

2. What is Community Right-to-Know?

2.1 Definition

Community right-to-know refers to the ability of the community -- workers, community groups, and individuals -- to obtain access to information held by government or industry on chemical substances or conditions that might pose a risk to health or to the environment. The purpose of right-to-know, as aptly expressed by New Jersey's *Worker and Community Right to Know Act*, is to inform communities and workers of the "full range of risks they face so that they can make reasoned decisions and take informed action concerning their employment and their living conditions".[2] Making this information available has played a crucial role in the reduction of exposures to toxic substances in the community and in the workplace, and contributed to protecting public health and the environment.

It is not only workers and citizens who benefit. Community right-to-know strategies have proven to be of value to other segments of the community, particularly legislators, regulators, emergency response personnel, the media, investment companies and the business community. In addition, legislation that provides the community with information on hazardous substances also serves workers in small and unorganized workplaces who often find it harder than unionized workers to gain access to such information.

In the last twenty years, there has been a heightened interest in providing environmental information to the public. At the same time, computer technology has created dynamic opportunities for instant and universal dissemination of information. Unlike previous cumbersome approaches, such as freedom of information requests, the Internet offers immediate public access to data and contextual information, links with other databases and geographic presentations of data.[3]

In this report, the definition of community right-to-know is not restricted to environmental information that companies and governments are legally obliged to disclose. It encompasses many presentations of information on hazardous chemicals – through databases, labelling, posting and public education. This report also examines the different sources from which this information may come – governments, companies, labour and non-governmental organizations.

Where information is available, the report looks at the way in which it is made available. The report evaluates the information in terms of its presentation and distribution, whether data are given out directly or interpreted, whether information is easily accessible, specific to a geographic location or facility, whether it can be used to generate reports and if it is available without charge. As well, the general level of interest in the available information and its usefulness to the public and governments are assessed. Although this report examines right-to-

[2] Sect. 34:5A-2, *New Jersey Worker and Community Right to Know Act* PL 1983, c.315, as amended July 1, 2003.
[3] Thomas C. Beierle, "The Benefits and Costs of Environmental Information Disclosure: What Do We Know about Right-to-Know", Resources for the Future Discussion Paper 03-05, March 2005, p.5.

know practices in Europe and Canada, most examples are drawn from the history and experience of practices in the United States, the acknowledged frontrunner in all aspects of right-to-know.

2.2 History of Community Right-to-Know in the City of Toronto

Expanding the community's right-to-know has been a subject of ongoing interest in the City of Toronto for at least two decades. In January 2005, the Toronto Board of Health directed the Medical Officer of Health to report back on "practical and effective community right-to-know strategies to increase public access to information on toxic substances in Toronto, including consideration of the feasibility of a community right-to-know by-law".[4]

Twenty years before in 1985, the Council of the former City of Toronto had agreed in principle to pass municipal right-to-know legislation that would require facilities in the City to publicly disclose the hazardous substances that they used or stored in the community. A right-to-know by-law was drafted in 1986, and prepared for presentation to the Ontario government for enabling legislation.

However, the City chose not to proceed with the draft by-law when the province introduced occupational health and safety legislation that would make information on hazardous substances more widely available. Although the *Occupational Health and Safety Act* subsequently made information on hazardous materials used in workplaces available to workers through Material Safety Data Sheets, this information could only be accessed by the public through the Medical Officer of Health.

In May 2000, Toronto City Council endorsed in principle a plan developed by Toronto's Environmental Task Force, entitled the *Environmental Plan – Clean, Green and Healthy, A Plan for an Environmentally Sustainable Toronto*.[5] The Environmental Plan called on the City to develop a community right-to-know by-law that empowered community members to know the location, sources and health effects of toxic chemicals in their communities.[6] The Environmental Task Force stated that "we can …be exposed through direct contact with toxic materials in the workplace, at home and in our hobbies. One of the most compelling reasons to clean up the land we live on, the water we drink and swim in, and the air we breathe, is to reduce (and eventually) eliminate health impacts from environmental conditions".[7]

The Toronto Cancer Prevention Coalition, an advisory group established by Toronto Public Health, also identified the development of a right-to-know strategy for the City of Toronto as a priority in its Action Plan in 2002. This Plan, in which a community right-to-know strategy was also recommended, was adopted by City Council.

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[4] Toronto Board of Health Meeting, January 17, 2005, *Community Right to Know Strategy for the City of Toronto*, Recommendation (1).
[5] Briefing Note to Toronto Interdepartment Environment Committee from the Environment and Occupational Working Group of the Toronto Cancer Prevention Coalition, October 19, 2004.
[6] Environmental Task Force, *Environmental Plan - Clean, Green and Healthy, A Plan for an Environmentally Sustainable Toronto, Final Report*, February 2000, Recommendation 2, p.33.
[7] *Ibid.* p.32.

In response to the Environmental Plan and the Toronto Cancer Prevention Coalition's Action Plan, the Medical Officer of Health released a report on "Ten Key Carcinogens" (March 2002). The report assessed the potential for exposure to ten significant carcinogens in Toronto's environment and workplaces, and found that basic information on carcinogens was lacking, and called on all levels of government to "do much more to fill in the gaps".[8]

During the same period, Toronto Public Health commissioned a report for internal purposes on the feasibility of a Geographic Information System database. Such a database could further the City's goal of promoting access to environmental information, and would consolidate different sources of data into a coherent system. The study, *A Feasibility Study for the Development of an Environmental Geographic Information System (GIS) for the City of Toronto* by Marcy Burchfield and Dr. Miriam Diamond of the University of Toronto (June 2002), found that it would be feasible for the City to use current internet technology to provide environmental information in a spatial way.

More recently, the Occupational and Environmental Carcinogens Working Group of the Toronto Cancer Prevention Coalition undertook a case study to determine the extent of information available on hazardous substances in the City of Toronto. They looked for information on carcinogens that might be present in the South Riverdale/Beaches community. In their December 2004 report, they found that "there is a fundamental lack of timely and relevant information on occupational and environmental risks".[9]

[8] Toronto Public Health, News Release, "Medical Officer of Health calls for action on cancer", March 21, 2002.
[9] Toronto Cancer Prevention Coalition, "Report of the Occupational and Environmental Carcinogens Working Group, Development of a Community Right-to-Know Strategy for Toronto: Case Study in South Riverdale/Beaches Community", December 10, 2004, p.2.

3. Community Right-to-know Programs: Benefits and Concerns

As a result of more than twenty years of experience, particularly in the United States, the benefits and the concerns of community right-to-know have been well-documented and widely discussed in the available literature.[10]

3.1 Benefits of Community Right-to-Know Programs

i) Right-to-know recognizes the inherent rights of individuals, workers and communities to know the hazardous substances to which they may be exposed. This knowledge enables them to take action to reduce their exposure to these risks and to prepare for emergency situations.

Community groups, for example, have been able to pursue "good neighbor agreements" targeting specific chemicals of concern in their neighbourhoods with local companies who make commitments to reducing them.[11] Ohio Citizen Action has spent its resources in the last 5 years developing "good neighbor agreements" with Ohio companies, using publicly available environmental information as a starting point.[12] As a result, Cincinnati Specialties built a chlorine enclosure to prevent accidents; Morton International made a 90 per cent reduction in chloromethane reductions; and, Brush Wellman reduced beryllium releases to the air by 96 per cent. All agreements imposed much stricter requirements than state or federal regulations.

ii) The disclosure of information improves environmental performance and stimulates reductions in hazardous substances.

After the introduction of Material Safety Data Sheets (MSDSs) into the workplace in the United States, 30 per cent of the employers surveyed reported that they had replaced hazardous chemicals in their workplaces with less hazardous ones because of the information they received on an MSDS. More than 56 per cent of employers reported a "great" or "very great" improvement in the availability of hazard information in the workplace and in management's awareness of workplace hazards.[13]

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[10] Thomas C. Beierle, "The Benefits and Costs of Environmental Information Disclosure: What Do We Know About Right to Know?", Resources for the Future Discussion Paper 03-05, March 2003.
[11] Sanford Lewis and Diane Henkels, "Good Neighbor Agreements: A Tool for Environmental and Social Justice", Social Justice, Volume 23, no.4.
[12] Sandy Buchanan, Executive Director, Ohio Citizen Action, "Ohio Citizen Action good neighbor campaigns 1998 – 2003", at http://www.ohiocitizen.org/campaigns/good/gnc.bkgd.html
[13] Government Accounting Office, "Occupational Health and Safety, Employers' Experiences in Complying with the Hazard Communication Standard", May 1992 at http://archive.gao.gov/d32t10/146524.pdf

Public disclosure has also proven to be an effective policy instrument for pollution prevention and emissions reduction. The first reporting from pollutant release inventories provided corporate managers with unprecedented new information on their company's emissions and influenced their decisions to make significant reductions. In Scarborough, Novopharm, a major pharmaceutical manufacturer, changed its solvent coating process using dichloromethane, a probable carcinogen, to a water-based process. From being the largest emitter of dichloromethane in Canada, it reduced its emissions to negligible levels.[14]

iii) Right-to-know programs produce data that lead to new insights and understanding of environmental problems, and how to remedy them.

For government regulators, corporate managers and communities, the data have been useful in evaluating pollution problems and identifying specific areas for improvement. The U.S. Environmental Protection Agency (EPA) discovered from its Toxics Release Inventory that air releases were significant, and that stepped-up regulatory action was needed. As a result, significant new amendments to the Clean Air Act were introduced. New Jersey's information on carcinogenic styrene emissions reported by boat manufacturers led the state to persuade the industry to reformulate the manufacturing process.[15]

3.2 Concerns with the Disclosure of Information

i) Costs are incurred in the collection and reporting of environmental information, particularly in the start up of new programs.

Industries incur costs in collecting and reporting information on their processes, while governments incur costs in the collection and dissemination of environmental information. Direct compliance costs by industry vary considerably according to the degree of information that companies already collect on their processes, the way in which it is collected and the amount of information required by governments.

ii) Governments and companies are concerned about the unpredictability and loss of control in giving the public information that may be used to influence what facilities should do. There is an additional concern that the public may be unduly alarmed because they do not understand the context and the significance of the data.

[14] Environment Canada, "Pollution Prevention Success Stories" at http://www.ec.gc.ca/pp/en/print.cfm?storyid=106
[15] New Jersey Dept. of Environmental Protection, *Industrial Pollution Prevention in New Jersey: A Trends Analysis of Material Accounting Data from 1994-2001*, Spring 2004.

iii) Information that is readily available may be used for purposes that were not intended, such as corporate spying, terrorism or criminal intent. [16]

The protection of trade secrets, or confidential business information, has been one of the outstanding concerns for industry since legislation first required them to disclose information on chemicals used or released from their plants.[17] In response to these concerns, many right-to-know statutes, such as Canada's Workplace Hazardous Materials Information System (WHMIS) and the National Pollutant Release Inventory (NPRI), contain provisions for protecting trade secrets.

The opportunity for using environmental information for criminal purposes or for terrorism is currently the subject of debate in the United States and Canada. After the terrorist attacks on September 11, 2001,[18] important questions were raised with respect to how and what information on hazardous chemicals should be released, and some steps have been taken to control access to sensitive information. Because of these concerns, for example, both countries have restricted public access to worst case scenarios contained in emergency plans filed by companies with large quantities of hazardous substances on their sites (See Section 5.3).

[16] For a discussion of industry criticism and the role of information disclosure, see John D. Echeverria, Julie B. Kaplan, "Poisonous Procedural Reform: In Defense of Environmental Right to Know", Georgetown Environmental Law and Policy Institute, Georgetown University Law Center, 2002.
[17] Chemical Week, "Right to Know Knocks: Will the Chemical Industry Open Up?", August 29, 1997, v.159, n.32, p.19.
[18] September 11, 2001, is the date on which terrorists attacked the World Trade Center Towers in New York City and the Pentagon in Washington, D.C.

4. Current Status of Community Right-to-know in the City of Toronto

4.1 Rights to Environmental Information

In Ontario, the municipal and provincial *Freedom of Information and Protection of Privacy Acts* were introduced in 1990 with the general purpose of providing "a right of access to information under the control of institutions".[19] In addition to these rights, several federal and provincial statutes have been passed that give the public further rights to know about hazardous substances in their community. The following is a brief overview of the statutes that will be discussed in more detail in the report. [20]

National Pollutant Release Inventory: Under the *Canadian Environmental Protection Act (CEPA)*, facilities are required to report to Environment Canada air and water emissions, on-site land disposal and underground injection, as well as transfers of hazardous wastes off-site for disposal, treatment or recycling, of a specified list of hazardous substances. This information is available on Environment Canada's website. (The PollutionWatch website, established by Environmental Defence and the Canadian Environmental Law Association, presents the same information in a more publicly accessible format.)

Environmental Emergency Regulations: Again under *CEPA*, facilities are required to report specific hazardous chemicals above a certain threshold that are stored on-site that may cause an emergency situation, to prepare emergency plans and to notify the government that plans have been prepared. Information on the companies, the chemicals stored on-site and the quantities is available through an Internet site, with a government-approved password.

Ontario's Occupational Health and Safety Act: Regulation 860 establishes the Workplace Hazardous Materials Information System (WHMIS). WHMIS requires employers to assess materials used in their workplaces to determine whether they are hazardous, to ensure that such materials are properly labelled and to make Material Safety Data Sheets available to workers. Material Safety Data Sheets, which contain safety information about hazardous chemicals or products, may also be made available to the public through a request to the company from the Medical Officer of Health.

Section 19 of Ontario's Environmental Protection Act and Section 13 of the Ontario Water Resources Act: These sections require the Ontario Ministry of the Environment to maintain a list of outstanding permits, certificates of approval and orders, and to make the information available to the public, if it is requested. Certificates of approval are Ministry of the Environment documents that permit companies to conduct various activities in compliance with Ontario's

[19] Sect. 1 (a), *Ontario and Municipal Freedom of Information and Protection of Privacy Acts*.
[20] Some of this information has been outlined by John Swaigen, Legal Counsel, Office of the Information and Privacy Commissioner, Ontario, "Getting and Using Information to Protect the Environment", in a speech to the A.D. Latornell Conservation Symposium, November 2001.

environmental laws. They provide enforceable requirements for the protection of human health and the environment, and address site specific considerations.[21]

Environmental Bill of Rights and the Environmental Registry: The *Environmental Bill of Rights* created the first electronic public registry in Ontario. The Bill requires certain Ministries to post environmentally significant proposals on the Environmental Registry. "Significant" certificates of approval, permits or licences must be posted by the Ministry of the Environment, and other Ministries such as Natural Resources, who give permits for environmental activities for a minimum of 30 days to give the public an opportunity to comment.

Airborne Contaminant Discharge Monitoring and Reporting Regulation (O.Reg. 127/01): This regulation, under Ontario's *Environmental Protection Act*, effective May 2000, requires large and medium-sized companies to file annual reports on their emissions of 358 air contaminants. These reports are made public through the Ministry of the Environment's OnAIR database. Although the Ministry requires reporting on more chemicals than the NPRI and, in some cases at lower thresholds, there is considerable overlap between this regulation and the NPRI.

Drinking-Water Systems Regulation (O.Reg. 170/03): Under the Ontario *Safe Drinking Water Act* Drinking-Water Systems Regulation, owners of municipal drinking water systems are required to post warning notices when they are out of compliance, for example, for failing to sample and analyze water quality as set out in the regulation. The regulation also requires each owner of a municipal drinking water system to prepare an annual report on the operation of its system and drinking water quality. These annual reports must be given to any person who requests a copy without charge. Municipalities must also make users aware that the report is available and how to obtain it, and municipalities of more than 10,000 people must post them on the Internet.

Records of Site Condition Regulation (O. Reg. 153/04): This *Environmental Protection Act* regulation requires a Record of Site Condition documenting that soil contamination on any former industrial or commercial land (brownfield) has been cleaned up to regulatory standards before it can be redeveloped. The regulation came into effect on October 1, 2005. A Brownfields Environmental Site Registry on the Ministry of the Environment's website makes soil testing of specific contaminated sites publicly available.

4.2 Challenges in Gaining Access

Numerous commentators have looked at the public's ability to find environmental information in Canada, and found it "sorely lacking".[22] Lawyers writing in the *Journal of Environmental Law and Practice* concluded that, in Ontario, "despite the gains that have been made in the arena of

[21] The Ministry of the Environment, "Green Facts: Environmental Approvals in Ontario", January 2005.
[22] Nils Zimmerman, Michael McGonigle and Andrew Day, "Community Right to Know: Improving Public Information About Toxic Chemicals", 5 Journal of Environmental Law and Practice, Vol.5, 1995. The authors state that "the public has the right to decide which toxic chemical risks it is prepared to live with", and that this "information should be easily accessible and presented in an understandable and useful form.", p.96.

public access to environmental information, governments remain averse to full and voluntary disclosure in many environmental matters".[23]

These assessments are consistent with the experience of individuals and groups interviewed for this report. While the past decade has seen considerable activity improving access to environmental information in the United States, community right-to-know activities in Canada have not kept pace.

In 2004, the Environmental and Occupational Carcinogens Working Group of the Toronto Cancer Prevention Coalition undertook a pilot project to determine how accessible information on hazardous substances, particularly carcinogens, in one specific community was.[24] The Working Group chose the neighbourhood of South Riverdale/Beaches as a case study because of the history of local environmental contamination, the diversity of the community and the high level of activity of environmental and community organizations.

They reviewed the data readily available through on-line databases – the National Pollutant Release Inventory, PollutionWatch, OnAIR and the Environmental Registry – for information on carcinogens.

The NPRI and PollutionWatch proved to be the most accessible and helpful sources. However, of 115 facilities of interest to them, only 11 large companies reported to the NPRI. Information on hazardous chemicals was available for only 10 per cent of the companies. In the case of the OnAIR database, the study found that pollutant release information from the Ministry's OnAIR site was difficult to access. There were time limits on the site, and each company needed to be searched separately.

A further search for information focussed on locating the Ministry of the Environment's certificates of approval or other environmental instruments for about 30 smaller companies of concern to the community, such as dry cleaners and autobody shops. Of the smaller companies using hazardous chemicals, certificates of approval could be found for only two of them through the Environmental Registry. A further search, initiated by a freedom of information request to the Ministry of the Environment, uncovered certificates of approval for 10 of the 30 businesses.

City staff have also noted that it is difficult to obtain data on industrial facilities next to a development proposal, even though this information could be useful to determine compatibility and set back requirements for residential development next to such facilities. Although certificates of approval are public documents, the Ministry of the Environment only makes them available through freedom of information requests.

For almost one hundred small businesses in the South Riverdale/Beaches community, there was little or no information. These included dry cleaners, auto body shops, funeral homes, printing companies, and gas stations, for example. Small businesses were of higher concern because they

[23] Lynda M. Collins, Jerry V. DeMarco and Alan D. Levy, "Accessing Environmental Information in Ontario: A Legislative Comment on Ontario's Freedom of Information and Protection of Privacy Act", 13 Journal of Environmental Law and Policy, Vol.13, 2004, p. 269.
[24] See Note 9.

are exempt from reporting requirements such as NPRI, and, therefore, public access to information is much more limited.

One of the notable barriers to finding information in the Ministry was the problem of identifying companies. Many of them are identified in Ministry files by numbers, rather than by company name. No information on prosecutions could be found because of the need for companies' legal names.

Others have met with similar barriers in trying to obtain information about environmental problems.

Sierra Legal Defence Fund publishes an annual list of companies and municipalities that are not in compliance with Ontario laws related to air and wastewater. Although this list was published by the Ministry of the Environment until 1995, Sierra Legal Defence Fund decided to make this information public on its own when the Ministry discontinued detailed reporting. After the Ministry suspended the publication of information on violations, the number of violations tripled and enforcement activities declined.[25]

Sierra Legal Defence Fund faced considerable obstacles, both procedural and financial, in its attempts to obtain detailed non-compliance information. It was necessary to submit repeated freedom of information requests under the *Freedom of Information and Protection of Privacy Act* to the Ministry of the Environment. For one request for air and water compliance information, the Ministry of the Environment estimated the fee at $19,347.20.[26] The group applied for fee waivers under a provision in the Act that allows fees to be waived where information would benefit public health and safety. After being refused by the Ministry, they appealed successfully to the Information and Privacy Commissioner, and the Ministry was ordered to supply the information, charging only for photocopy costs. It still took the organization almost a year before the information was delivered to them.

The annual non-compliance report was one of the most popular produced by Sierra Legal Defence Fund, and was picked up by media throughout Ontario. Making the information available increased the pressure on companies, particularly chronic violators, to clean up. Companies who appeared regularly on the list became the subjects of local concern.[27] For example, the Chinook Group, in Sombra near Sarnia, had 355 violations in 2001. Local campaigns heightened awareness of the issues and led to changes in the operation.[28]

In 1999, the Ministry of the Environment began producing an environmental compliance report on its website but, according to Sierra Legal Defence Fund, it failed to report the number of pollution discharges that violated legal limits. The Environmental Commissioner's Office also commented that the Ministry's compliance reports "have deteriorated to the point where they are of little value to the interested public".[29]

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[25] Sierra Legal Defence Fund, "Cracking Down on Polluters", Executive Summary, March 22, 2004, p.1
[26] Information and Privacy Commissioner, Order P-1557 (98).
[27] Dr. Elaine MacDonald, Staff Scientist, Sierra Legal Defence Fund, Personal Communication, August 11, 2005.
[28] Sierra Legal Defence Fund, *News Release*, "Ontario's 'Dirty Dozen Polluters' Exposed", March 22, 2004.
[29] Environmental Commissioner of Ontario,"*Thinking Beyond the Near and Now", Annual Report 2002-2003*, p. 48.

Sierra Legal recommended that the Ministry return to providing "full information regarding violations of both air and water pollution laws",[30] and in September 2005, the Ministry of the Environment made detailed non-compliance reports available on its website, identifying municipal and industrial facilities that have violated Ontario's legal pollution discharge limits, and enhancing the reports with additional information on discharges and requirements. [31]

Problems in obtaining environmental information have also been raised by the Ontario Environmental Commissioner's Office in its Annual Reports. The *Environmental Bill of Rights (EBR)* aimed to give the people of Ontario a voice in environmentally significant decisions. Many significant decisions are made when permits, licences and approvals are issued. Accordingly, proposals for "significant" certificates of approval must be posted on the Environmental Registry. Members of the public are invited to comment on the permits and the conditions that the Ministry attaches to certificates of approval. However, the Environmental Commission was receiving complaints from the public that information was hard to get from government offices.

In response to these complaints, the Environmental Commissioner's Office (ECO) conducted two "Secret Shopper" field audits of Ministry offices – one in 1994/1995, and one in 2001.[32] The Commissioner's Office set out to determine whether the public has access to sufficient information on posted "instruments", and whether the staff of Ministries, such as Environment and Natural Resources, are forthcoming and helpful.

The Environmental Commissioner described the findings of the second audit as "disappointing and worse than those gathered in the ECO's 1994/1995 study" with respect to the Ministry of the Environment.[33] The audit found that only one in six Ministry offices was able to provide full information about the proposed instrument and to answer all questions. In the other five cases, Ministry staff were only able to answer questions in varying degrees. In two cases, Ministry staff told the ECO researcher that it would be necessary to file an access to information request. Information requests under the *Freedom of Information and Protection of Privacy Act* (FIPPA) to the Ministry of the Environment can take up to 30 days or often more in practice, during which time the normal 30-day public comment period would likely have expired. The Information and Privacy Commission's adjudicator in 1999 ruled that Ministries "should not as a matter of general policy direct members of the public seeking information for the purpose of an EBR consultation to the Act (*FIPPA*), but should address the issue using its own expertise and statutory powers".[34]

Even when the public does not make formal requests, governments have a legal obligation to make information available where it is in the public interest, and particularly where the

[30] See Note 25, Recommendation 1, p.9.
[31] Ministry of the Environment, News Release, "Ontario Environment Ministry Delivers Tranparent and Accountable Pollution Reporting", September 23, 2005.
[32] See Environmental Commissioner of Ontario, *"Opening the Doors to Better Environmental Decision Making", Annual Report 1994-1995*, p.27, and *"Developing Sustainability", Annual Report 2001-2002*, p.28.
[33] *Ibid.*, *Annual Report 2001-2002*, p.31.
[34] Information and Privacy Commission, *PO-1688, Ministry of the Environment, 1999* at http://www.ipc.on.ca/scripts/index_.asp?action=31&N_ID=1&P_ID=4069&U_ID=0

information relates to a "grave environmental, health or safety hazard to the public".[35] In 2004, the City of Toronto received 3,346 freedom of information requests, more than any other municipality. [36] The Information and Privacy Commission has received many appeals regarding the withholding of information by officials in both the provincial government and the City of Toronto. In order to clarify what information should be routinely divulged, the Commissioner has recommended that both the provincial government and the City of Toronto enhance transparency by identifying categories of information, including environmental information, that can be "routinely and proactively" disclosed upon the request of a member of the public.[37]

Environmental information is also valuable to companies, such as Jantzi Research, that provide research and consulting services to institutional investors who incorporate environmental, social and governance criteria into the selection and management of investments. Focusing on the Toronto Stock Exchange's Composite Index, Jantzi Research rates companies on a wide range of social and environmental criteria. Corporate responsibility, measured in part by environmental indicators, has been found to correlate with enhanced financial returns.[38]

In evaluating environmental performance, Jantzi Research looks carefully at emissions data, using data reported through the National Pollutant Release Inventory as well as other sources.[39] High emission levels by companies are one indicator of environmental performance that suggests a company may be a financial risk. In some cases, the disclosure of this information has an effect on a company's behaviour. Following the announcement in the United States of Toxics Release Inventory emissions, for example, the companies who received the most significant negative stock price reactions lowered their emissions. [40]

Compliance information is also an important indicator of performance for Jantzi Research. Before Ontario made compliance information available in September 2005, Jantzi Research had to obtain it through requests under freedom of information legislation.

Other environmental information that governments keep confidential, such as information on companies implementing pollution prevention plans under the provisions of the *Canadian Environmental Protection Act*, would also be useful to Jantzi Research. As the link between environmental performance and companies' overall financial performance becomes more apparent, this will be increasingly reflected in investment advice and stock prices.

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[35] Section 11 of the *Freedom of Information and Protection of Privacy Act*, and Section 5 of the *Municipal FIPPA* say that "despite any other provision of this Act, a head shall, as soon as practicable, disclose any record to the public or persons affected if the head has reasonable and probable grounds to believe that it is in the public interest to do so and that the record reveals a grave environmental, health or safety hazard to the public." "Grave" is not defined in either Act.

[36] The Communications Office, Ontario Information and Privacy Commission, has indicated that there is no breakdown of these requests that would indicate how many relate to requests for environmental or health information, Personal Communication, Nov. 7, 2005.

[37] Information and Privacy Commission, *Annual Report 2004*, p.8.

[38] Marc Orlitzky, Frank L. Schmidt and Sara L. Rynes, "Corporate Social and Financial performance: A Meta-analysis", Organization Studies 24 (3): 403-441, found that "corporate virtue in the form of social responsibility and, to a lesser extent, environmental responsibility is likely to pay off…".

[39] Kevin Ranney, Managing Partner, Jantzi Research, Personal Communication August 15, 2005.

[40] Shameek Konar and Mark A. Cohen, "Information as Regulation: The Effect of Community Right to Know Laws on Toxic Emissions", Journal of Environmental Economics and Management, Jan.1, 1997, Vol.32, n.1.

Another concern that some environmental groups have raised with current right-to-know provisions is the difficulty in obtaining raw data rather than interpretation of the data. For example, information on the City's website is limited to broad overviews of the water and sewer systems with no specific daily data on water quality or sewage treatment plant effluents. The Lake Ontario Waterkeeper asserted that he wants to see the detailed data on the City's air, water, sediment, and soil conditions rather than just receiving the City's assessment of environmental conditions.[41] This allows a group to make its own assessment and to target pollution problems in the City.

[41] Mark Mattson, Lake Ontario Waterkeeper, Toronto, Personal Communication, August 18, 2005.

5. Approaches to Environmental Information Disclosure and Community Right-to-Know

5.1 Pollutant Transfer and Release Registers

Pollutant transfer and release registers have become one of the most significant community right-to-know practices in the world.

The first of these was likely the Netherland's Pollutant Emission Register (PER), which was initiated in 1974.[42] The objectives of the program were:

- "to monitor annually the emissions from all sources of air and water pollution on a (sub)-national scale;
- to verify the progress of environmental policy;
- to provide the official emission data to national and international bodies; and,
- to disseminate the emission data to the public and to pollution modeling."[43]

The Netherlands PER has developed to become possibly the "most comprehensive" pollutant transfer and release registry.[44] It requires about 700 companies to report their emissions to air and water of approximately 900 substances. It integrates into a geographic information system (GIS) not only data on air and water emissions from large industrial point sources, but also estimates of emissions from smaller industries and from non-industrial sources such as farms, households, transportation, small and medium-sized businesses, and waste disposal sites. It includes greenhouse gas emissions, ozone depleting substances, acid deposition precursors, volatile organic compounds, nutrients, solid waste, pesticides and other toxic substances. All information is available to the public. PER is an example of how extensive and inclusive a pollutant inventory can be.

In 1986, the United States established the Toxics Release Inventory (TRI) when it passed the *Emergency Planning and Community Right-to-know Act (EPCRA)*. It set up a national inventory of toxic emissions to air, water and land, which requires manufacturers and other facilities to report on releases and transfers of 666 listed chemicals.[45] The information must be reported on standardized forms and entered into a publicly accessible computerized database.

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[42] Frances H. Irwin et al, "A Benchmark for Reporting on Chemicals at Industrial Facilities", World Wildlife Fund, 1995, p. A1.

[43] Inspectorate General for Environmental Protection, *Emission Data for the Nettherlands: 1995 and Estimates for 1996*, December 1997, p. 8.

[44] Bradley Karkkainen, "Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm", Georgetown Environmental Law Journal, Jan. 2001, 89, 2, p.348.

[45] The current TRI toxic chemical list contains 581 individually listed chemicals and 30 chemical categories (including 3 delimited categories containing 58 chemicals). If the members of the three delimited categories are counted as separate chemicals then the total number of chemicals and chemical categories is 666 (i.e., 581 + 27 + 58). See EPA website at http://www.epa.gov/tri/chemical/index.htm

Although companies in the U.S. were reporting legally permitted emissions, as a regulatory tool the TRI was an immediate and unexpected success.[46] Lauded as one of the most effective environmental laws in the United States, it is credited with achieving a 46 per cent reduction in toxic emissions within the first 11 years of reporting.[47]

In 1993, Canada established its national publicly accessible database, the National Pollutant Release Inventory (NPRI), under the *Canadian Environmental Protection Act*. The legislation imposed requirements similar to the TRI on certain industries for reporting releases. As of 2004, the NPRI provides site-specific information on 324 substances, including the amounts a facility releases to the air and water, wastes that are disposed of on-site and by underground injection, and the quantities shipped off-site for disposal, treatment or recycling.[48]

Companies with more than 10 employees, using listed substances in quantities of more than 10 tonnes, and in concentrations greater than 1 per cent, are required to report emissions, on-site disposal and transfers of these substances. As well, companies must report the reasons for changes in releases from the previous year, the reasons for transferring NPRI materials off-site for disposal or recycling, anticipated changes in each of the next three years and types of pollution prevention methods used.

The NPRI allows for confidentiality. If a company requests it, the federal Environment Minister must decide whether disclosing the information is in the interest of protecting the environment, public health or safety, and if the public interest in the disclosure outweighs any material financial loss of the company or any damage to the company's privacy or reputation.

Although most information disclosure legislation allows for the protection of confidential business information, experience has shown that few companies take the option to make trade secret claims. For example, in 2002 (the most recent year for which Environment Canada has given this data), under the NPRI only ten out of 3,191 facilities were granted confidentiality – less than 0.31 per cent.[49] Furthermore, this applied only to a specified substance in the report – not all substances released by those facilities. Similarly, in New Jersey where legislation gives chemical facilities the option to declare right-to-know reports "confidential", less than one per cent of the 600 companies reporting made trade secrets claims.[50]

The NPRI database gives the basic data as reported by the companies. This allows the government, the public and interested parties to compare the environmental performance of different companies or industry groups, and to follow pollution trends over time. It also allows companies to identify within their own industry sectors the facilities that are performing well and those that are doing a poor job controlling emissions. The revelation of this information puts pressure on companies to reduce their emissions.

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[46] Mary Graham and Catherine Miller, "Disclosure of Toxic Releases in the United States", Environment, October 2001, v43, i8, p.8.
[47] U.S. Environmental Protection Agency, *1999 Toxics Release Inventory Public Data Release*, Washington, D.C., EPA 2001.
[48] See Environment Canada's NPRI home page at http://www.ec.gc.ca/pdb/npri/npri_about_e.cfm
[49] Environment Canada, *National Overview: Summary of 2002 Data*, National Pollutant Release Inventory.
[50] Chemical Week, "Right to Know Knocks: Will the Chemical Industry Open Up?", Aug. 29, 1997, v.159, n.32, p.21.

The government credits NPRI with helping to "track progress in pollution prevention, evaluate releases and transfers of substances of concern, identify and take action on environmental priorities, and implement policy initiatives and risk management measures".[51]

Other benefits of pollutant release inventories have been identified as helping local environmental and citizens groups hold government officials accountable, create pressure for action and informally regulate polluting firms. *A Citizens' Guide to the National Pollutant Release Inventory* illustrates how groups across Canada have used NPRI information to identify sources of pollution in their communities and press for improvements.[52] The Citizens' Environmental Alliance of Southwestern Ontario, for example, under its Toxic Tracker program, releases a report every year using NPRI data to show the total amount of releases and transfers in Windsor and Essex County, and listing the major polluters. The Toronto Environmental Alliance has used NPRI data to produce a City map, "Industrial Emission of Known Toxins in Toronto", showing which neighbourhoods bear the heaviest pollution burdens.

The Canadian Chemical Producers' Association (CCPA), under its Responsible Care initiative, has also established an emissions inventory, called the National Emissions Reduction Masterplan (NERM), with annual reports available on its website.[53] This initiative requires all members of the Association to report more substances and at lower thresholds than those required by the NPRI.

The NERM reports present data in terms of total combined emissions rather than reporting emissions of individual chemicals on an industry-by-industry basis. For information on the emissions of specific companies, Responsible Care companies have a stated policy that they will provide local communities with detailed information on the specific chemicals they use and their emergency response plans on request. Their Community Right-to-Know Policy includes principles such as:

- accurate hazard information shall always be provided regardless of trade secrets; and,
- citizens around company fixed facilities have a right to know the health, safety and environmental risks associated with the manufacture, distribution, transportation of products, and the corresponding safeguards.[54]

They have also established independent verification teams that inspect the plants once every three years to ensure that companies live up to their Codes of Practice.

Responsible Care companies, however, make up only a small subset of the companies in Canada required to report to the NPRI. For this reason, voluntary reporting programs such as NERM do not replace the need for a national public system that covers major facilities of other industries in Canada.

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[51] See Note 48.
[52] John Jackson, "A Citizens' Guide to the National Pollutant Release Inventory: Community right to know: How to find out what toxics are being released into your neighbourhood", Canadian Institute for Environmental Law and Policy, May 2000.
[53] Responsible Care's "Reducing Emissions Report" is available at http://www.ccpa.ca
[54] The Ethics and Codes of Practice of Responsible Care, November 2000, provided by Brian Wastle, Canadian Chemical Producers' Association.

Environment Canada describes another benefit of NPRI as motivating industry to prevent and reduce pollutant releases.[55] However, it is unclear whether the publication of NPRI data has resulted in the same significant emissions reductions that have been realized in the United States, estimated at approximately 46 per cent reduction between 1988 and 1999.[56] One study found that in the first seven years of NPRI reporting, on-site releases decreased by 26.9 per cent and offsite transfers reduced by 8.5 per cent. But the transfers are suspected to have increased rather than decreased because, as pointed out by Environment Canada, industry substantially over reported transfers in the first year because of a misunderstanding on reporting requirements. The study's authors concluded that this increase in off-site transfers "reveals persistent reliance on end-of-pipe solutions, rather than pollution prevention through reduction at the source".[57]

A report by Environmental Defence and the Canadian Environmental Law Association, called "Shattering the Myth of Pollution Progress in Canada", analyzed a consistent set of chemicals reported by Canadian companies to the NPRI over 8 years. They found that reported releases and transfers of pollutants had increased 49 per cent between 1995 and 2002.[58] They pointed out that some of these increases may be the result of more companies reporting because of changes in reporting requirements and increased compliance by toxics emitters with the NPRI program.[59] In contrast, according to NERM, Responsible Care companies have collectively reduced their emissions by an estimated 78 per cent, or 205,000 tonnes since 1992.[60] The CCPA states that some of this reduction reflects a change in their membership, as well as more accurate reporting.

Although the community's right-to-know has been well served by pollutant inventories, there are still ways in which these inventories could be expanded and improved.

The NPRI and the TRI are both limited to only a relatively small number of toxic substances. It is possible for companies to reduce their emissions of a listed toxic substance by substituting it with an unlisted substance that may be equally hazardous. These substitutions are not reported, and it is difficult to know whether the substituted chemicals are less hazardous or not.[61] It is

[55] Environment Canada, About the NPRI, "What are the benefits of NPRI?", found at http://www.ec.gc.ca/pdb/npri/npri_about_e.cfm
[56] U.S. Environmental Protection Agency, *1999 Toxics Release Inventory Public Data Release*, Washington, D.C., EPA 2001.
[57] Kathryn Harrison and Werner Antweiler, "Incentives for Pollution Abatement: Regulation, Regulatory Threats, and Non-Governmental Pressures," Journal of Policy Analysis and Management, Vol. 22, No. 3, (2003), p. 370.
[58] Environmental Defence & Canadian Environmental Law Association, "Shattering the Myth of Pollution Progress in Canada: A National Report", December 2004, p.1.
[59] *Ibid*.., p. 8.
[60] Canadian Chemical Producers' Association, "2003 Reducing Emissions Report", p.2.
[61] Mary Graham, "Regulation by Shaming", Atlantic Monthly, April 2000, p.40.
[61] The United States Environmental Protection Agency states on their "Chemical Information Collection and Data Development" website that "of the 3,000 chemicals that the US imports or produces at more than 1 million lbs./yr, a new EPA analysis finds that 43% of these high production volume chemicals have no testing data on basic toxicity and only 7 per cent have a full set of basic test data. This lack of test data compromises the public's right to know about the chemicals that are found in their environment, their homes, their workplace, and the products that they buy." This information can be found at http://www.epa.gov/opptintr/chemtest/hazchem.htm

estimated that 90 per cent of the chemicals most commonly used in the United States are not fully tested for toxicity.[62]

Another limitation of most inventories is that they represent only the emissions and transfers of large facilities. They do not require reporting from smaller companies and diverse sources – dry cleaners, agricultural operations, and cars, for example -- that may contribute significantly to the overall pollution burden. For example, only approximately 8 per cent of the manufacturing establishments identified by Statistics Canada report to the NPRI.[63]

In addition, the U.S. EPA found that major stationary sources, like chemical plants or hazardous waste incinerators, generate 24 per cent of the air toxics, while smaller stationary sources, called "area sources", such as dry cleaners and gas stations, were collectively responsible for 35 per cent. Mobile sources (cars, buses and trucks, for example) were estimated to be the source of 41 per cent of toxic air pollutants.[64] The Netherlands' Collective Emissions System, which was described at the beginning of this section, is probably the most comprehensive effort to pull together this kind of information.

Fortunately, the legislative architecture of the NPRI allows the government to add and subtract toxic substances from their lists without legislative changes. The lists of substances and the reporting thresholds can be changed each year through an annual notice in the Canada Gazette. Thus, the NPRI can easily be expanded to capture more substances or to lower thresholds. The number of substances has almost doubled since 1993 from 178 to 324 in 2004.

Another limitation of both NPRI and the TRI is that neither provides the public with any assessment of the health risks that may arise from exposure to the emissions of these toxic chemicals. In order to help the public understand the possible impacts, the U.S. public interest group, Environmental Defense Fund, integrated health information into Scorecard, their website that presents the Toxics Release Inventory emissions data in a community-friendly format.

Governments as well as most large companies today use electronic systems to collect and distribute information.[65] Although computerized databases facilitate the transfer of information, there are still costs incurred in the establishment of pollutant registers. For government agencies, the initial costs of setting up programs and databases can be high, but maintenance costs are lower. Overall, costs of collecting and reporting environmental information are small compared to the major expenditures required for other environmental regulatory programs.[66] For

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[63] Nancy Olewiler and Kelli Dawson, Department of Finance, *Analysis of national pollutant release inventory data on toxic emissions by industry*, Department of Finance Canada 1998, p. 8.

[64] Office of Air Quality Planning and Standards Research, U.S. Environmental Protection Agency, *Taking Toxics Out of the Air*, February 1998, based on1993 emissions inventory data which do not include accidental releases or natural sources.

[65] U.S. Dept. of Labor, Executive Summary, "Hazard Communication in the 21st Century", March 2004 at http://www.osha.gov/dsg/hazcom/finalmsdsreport.html

[66] Bradley C. Karkainen, "Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm", The Georgetown Law Journal, January 2001, Vol. 89:257, at p.291 states that EPA's direct costs for the TRI are approximately $25 million, "a modest fraction of its $7 billion budget".

companies, the amount of time it takes to fulfil TRI reporting obligations is estimated by the U.S. Environmental Protection Agency at about fifty person-hours of labour annually.[67]

The success of pollutant release and transfer registers has inspired a global interest in the adoption of toxic release inventories. Organizations such as the United Nations and the Organization for Economic Cooperation and Development have called on governments to establish publicly accessible national pollutant release and transfer registers.[68] For example, all European countries are now required to make information available on industrial air and water emissions through the newly created European Pollutant Emission Register (EPER 2000).[69] Still in its infancy, this register covers only 50 chemicals.[70]

5.2 Databases

On-line databases have become an indispensable feature of community right-to-know strategies. The U.S. Toxics Release Inventory was the first time that a government agency was mandated to collect information through a computerized database and make it accessible to the public on-line.[71] Through this requirement, the expectations for community right-to-know have been considerably elevated. Now the public is not only offered access to information, but access that is easy and virtually free.

The demand for this type of access is reflected in proposed legislation, such as New York State's *Environmental Community Right-to-know Act*.[72] This Act, introduced this year but not yet passed, would compel the Commissioner of the Department of Environmental Conservation to establish a data network of all releases to air, land, water and environment, searchable by zip code. It would transfer data from state permits currently available only through freedom of information requests to a computerized database, easily accessible to the public.

The most comprehensive database is Envirofacts Data Warehouse, established by the U.S. Environmental Protection Agency (EPA) in 1996. With a view to building on the success of the TRI and expanding the public's right-to-know, former President Bill Clinton issued a policy statement, "Reinventing Environmental Regulation", in March 1995, that committed the EPA to making "information from all programs available through Internet and other electronic means that many Americans can access directly from their homes, schools and libraries".[73]

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[67] *Ibid* p.292.
[68] Pollutant Release and Transfer Register: The Information, Swedish Environmental Protection Agency at http://kur.qbranch.se/kur/info
[69] Peter H. Sand, Institute of International Law, University of Munich, "The Right to Know: Environmental Information disclosure by Government and Industry", paper presented to the 2nd Transatlantic Dialogue, Warrenton, Virginia, June 15, 2002.
[70] See European Pollutant Emission Register at http://eper.eea.eu.int/eper
[71] TRI was established as part of the *Emergency Planning and Community Right-to-Know Act of 1986*, Sections 313, 42 U.S.C. s.11023 (1994 & Supp. III 1997.
[72] New York State Assembly, Bill A.1952, *An Act to amend the environmental conservation law, in relation to enacting the "environmental community right to know act of 2005*, introduced January 24, 2005.
[73] President Bill Clinton, *Reinventing Environmental Regulation*, March 16, 1995, available at http://govinfo.library.unt.edu/npr/library/rsreport/251a.html, p.8.

Envirofacts consists of 11 major EPA databases including the Toxics Release Inventory, as well as databases on air pollution, water discharge permits, Superfund sites, hazardous waste activities, brownfield restoration, drinking water test results, radiation monitoring, compliance and enforcement reporting.[74] As well, the EPA makes extensive use of Geographic Information Systems to allow the public to generate pollution-related maps. Their system is called EnviroMapper.

Enforcement and Compliance History Online (ECHO) is an example of an important U.S. database that is available on its own or through Envirofacts. It can be searched by location, facility, industry sector, environmental media (air, land or water) and inspection history. ECHO was developed in response to freedom of information requests by organizations trying to obtain compliance and enforcement records for specific companies. The new database avoids the costly and inefficient process of filing freedom of information requests, providing an easily accessible inventory of companies' compliance. It includes inspections conducted by EPA or State governments, violations of air, water and waste laws, and enforcement actions and penalties. Its main limitation is that enforcement activities are incomplete because states do not have to report enforcement activities for many smaller facilities.

Not only does ECHO replace the need for the public to apply for, and government to respond to, freedom of information requests, it allows community members to identify companies that are out of compliance with their permits, informs them about whether the government is inspecting facilities and whether the laws are being enforced. It also allows investment companies to identify businesses with potential environmental liabilities.[75]

OMB Watch[76], an independent non-governmental organization, acts as a third party monitor of the public's right-to-know in the United States, by offering free public access to several major EPA databases and files on its Right-to-know Network (RTK-NET) website.

A key advantage of incorporating environmental information into on-line databases is the ease and accessibility that it offers. Patrick Garvey, the Director of Envirofacts, described its efficiency this way:

> "It used to take 30 days or longer to handle a citizen request under the Freedom of Information Act. If you were to request all of the records on a company, the request would have had to go to at least four different program offices at EPA, and they would have all responded in their own time frames – and you probably would have been charged. Now all it takes are a few well-placed clicks of a mouse button to get that same information."[77]

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[74] U.S. Environmental Protection Agency, Envirofacts Data Warehouse, "Data Update" indicates the databases and the frequency of the updates of each of them at http://oaspub.epa.gov/enviro/data_update

[75] The Working Group on Community Right-to-Know, "Our Right-to-Know: Environmental Compliance", Washington, D.C., August 15, 2003.

[76] OMB Watch was founded in 1983 as an independent watchdog of the White House Office of Management and Budget (OMB).

[77] Chemical and Engineering News, "Toxics Data: How Much is Too Much?", June 2, 1997, p.26.

Although no evaluation of Envirofacts has been carried out in terms of public satisfaction with its usefulness, its presentation or its explanations, Envirofacts is a popular website, attracting between a million and one and a half million visits each month. It has been described as one of government's busiest websites. The overall trend in use has been an increase of 10 to 20 per cent per year.[78]

Envirofacts is not universally popular, however. Interviewed in Chemical and Engineering News, industry representatives raised concerns about the potential for the public to misunderstand the information.[79] To address this concern, the EPA has provided extensive explanations of the information contained in the databases, and defined every term used in a comprehensive data dictionary.

Another industry concern has been the accuracy of information. An EPA official in the Office of Environmental Information reports that there have been no major problems with inaccurate information. Automated routines check to make sure the data accurately matches the data in the source systems, and an Error Correction Process allows users to notify EPA if they believe any of the information is inaccurate. Much of the information reported in the databases comes from companies themselves.

The possible use of Envirofacts for corporate espionage has also been raised, but confidential business information is not included in EPA databases.

In Canada, both Environment Canada and the Ontario Ministry of the Environment have considered establishing a comprehensive database of environmental information. However, to date the federal and provincial governments have established only single focus databases, some of which are accessible to the public, while others require passwords and government approval to gain access to the information. Compared to the information-rich and easily accessible databases offered in the United States, the environmental information available through databases in Canada is patchy, and considerable effort is required to find out which ones exist and how to access them.

There are two important on-line national databases that provide environmental information in Canada, operated by the federal government. The National Pollutant Release Inventory, described in Section 5.1, is the most publicly accessible on-line federal database.

The same information is also presented on the PollutionWatch website, set up by Environmental Defence and the Canadian Environmental Law Association, in a more user-friendly way. Information on polluting companies in a neighbourhood can be obtained easily by entering a postal code. As well, PollutionWatch allows anyone to use the NPRI data to create pollution reports of their choice -- highlighting trends, emissions of specific companies, air releases, breakdowns of releases by specific chemicals or by health effects such as quantities and kinds of carcinogens, by province or by waterway.

[78] Lin Darlington, Office of Environmental Information, U.S. Environmental Protection Agency, Personal Communication, August 23, 2005.
[79] See Note 77, p.27.

The federal government has set up a second important national database in support of its Environmental Emergency Regulations (E2 Regulations). This database provides information on site-specific chemical hazards (see Section 5.3) based on notification required by Environment Canada. However, it is only accessible to the public with a government-approved password.

Environment Canada has also created a water portal for water quality monitoring data, managed jointly by the federal government and the government of British Columbia, on Environment Canada's website. Their goal in providing this information is to "enable all of us to make informed decisions together about our water resources".[80] At one time, Environment Canada had plans for a more comprehensive national environmental database that would reflect cross-country air and water quality monitoring, but it has been slow in implementing this vision. According to Don Andersen, of the Water Quality Monitoring Branch, the British Columbia water portal is "the model they are trying to develop for the whole country".[81]

The Department of Fisheries and Oceans also makes monitoring data available on its Marine Environmental Data Service. Information from the National Contaminants Information System, including information such as dioxins in fish, can be accessed on a three-tiered system – one that is readily accessible to the public, another password-controlled level that requires a principal scientific investigator to approve the dissemination of the information, and a third tier of scientific information that is restricted until it has been published. This site is not set up so that the public can easily find information. It is necessary to identify such things as time frames, and specific locations of Fisheries and Oceans laboratories. Statistics show that it is mostly used internally by government and by universities, and only infrequently by the public.

Although the Ontario Ministry of the Environment has no formal right-to-know policy, government representatives within different branches of the Ministry generally expressed interest and a commitment to improving the Ministry's public reporting practices and the type of information available through its website. One interviewee acknowledged that the Ministry has considerable data, very little of it publicly accessible. Currently, the most common way to obtain data is by requesting it from different branches of the Ministry, or by submitting freedom of information requests.

The Ministry representatives anticipate that the government will go further in the direction established by Ontario's Air Monitoring and Reporting Regulation (O. Reg. 127/01), referred to as OnAIR. An important facet of this Regulation is the requirement that reporting facilities make their data publicly available on the Internet or by inspection at their corporate offices. This regulation, which was phased in starting in 2001, requires annual reporting of air releases by electricity-generating facilities, and a range of industrial, commercial, institutional and municipal sectors. The information is available through the OnAIR database. Like NPRI, it is also a pollutant release and transfer register. However, the federal NPRI and the Ontario Regulation differ in several significant respects:

[80] Pacific and Yukon Region Water Quality Monitoring Program, Environment Canada at http://waterquality.ec.gc.ca

[81] Don Andersen, Water Quality Monitoring Branch, National Water Research Institute, Environment Canada, Personal Communication, July 27, 2005.

- Ontario's system covers only releases to air in contrast with the NPRI, which covers releases to air, water and land;
- Ontario's system covers more pollutants than the NPRI does;
- For some substances, the reporting thresholds are lower in the OnAIR programme than in NPRI; and,
- OnAIR data are made available to the public at the same time they are submitted to the government. Under the NPRI, data are not available to the public for at least six months after the data are provided to the government.

The federal government and Ontario are currently working to harmonize their programs to provide the public with a single-window access to data and to make it easier for facilities to report.

Although the data are publicly available on-line, the OnAIR database does not lend itself easily to the generation of reports or identification of trends. For example, in the South Riverdale/Beaches case study, OnAIR was found to be challenging for the public to access.

Under the new Records of Site Condition Regulation, the Ministry has created another publicly accessible database that posts the data for soil testing and other information related to conditions on specific sites. The Brownfields Environmental Site Registry website, however, does not indicate all City sites that may be of concern because of historical contamination problems. It only provides information on lands where the soil has recently been monitored in the expectation of new development.

The Ministry of the Environment also requires every company that generates or transports hazardous waste to file reports annually on an electronic database, the Hazardous Waste Information Network. This information is not easily accessible to the public, however. It requires users to search the status of a generator with a generator number and company name. [82] Furthermore, the registered generator list can only be downloaded at certain times of the day.

The Office of Transformation, a newly formed branch of the Ministry, is considering initiatives for reforming the certificates of approval process. As part of its reform, it is "looking at the Ministry's public reporting practices to…improve the type of information available through its website and other means".[83] Certificates of approval have been consistently difficult for the public to retrieve. Although many new applications for certificates of approval are posted on the Environmental Registry, it is not a comprehensive database. Before the Ministry can create a publicly accessible database, however, they must ensure that the data is complete and accurate enough to do this.[84] A certificate of approval database would allow the public to measure a company's compliance with legally binding conditions that the Ministry attaches to certificates of approval. Making this information public has the potential to increase the pressure on companies that are poor environmental performers.

[82] The Hazardous Waste Information Network is on the Ministry of the Environment's website at https://www.hwin.ca/hwin/oda/manifest/generators_manifest_search.jsp

[83] Transformation Office, Ministry of the Environment, "Consultation with Stakeholders: Approvals and Compliance Assurance", May 2005.

[84] The current internal Ministry database of certificates of approval was implemented in 1999.

The United Kingdom uses another approach to making information on permits and approvals widely available to the public. Taking advantage of computer databases, the British Environment Agency offers comprehensive information through an integrated system of Public Registers.[85] When licence applications are made to the Environment Agency, the application and all relevant information is made available to the public. After the licence is issued, monitoring information, violations of the licence, enforcement actions and any applications to vary the licence are also made available on the Public Registers. The information can be accessed throughout England and Wales in government offices, or it can be obtained through an on-line database using a postal code, town or company name. The Public Registers include Waste Registers, Water Registers and specialized Registers for other environmental licences such as contaminated lands.

The City of Toronto also collects considerable environmental information that would be of interest to the community, if it were available in an organized database. Some of this information was identified in the City's GIS feasibility study. It includes the historical land use database, PCB storage sites, air quality modelling, surface water quality monitoring, point source industrial discharge and spill information, abandoned landfill sites, as well as identification of areas of natural interest. Other desirable City-held information, such as sewer use by-law pollution prevention plans, was also identified by interviewees.

City staff noted that information-rich environmental reports were often prepared for committees, and suggested that this information could be made more widely available as part of creating an overall picture of the environment in the City. Environmental studies that are not necessarily routinely posted – studies on the Waterfront or the Wet Weather Management Plan, for example, -- could be presented on the City's website in a way that would highlight the City's environmental work and improve public access to its technical information and policy development.

5.3 Emergency Response Provisions

Emergency response has historically been closely entwined with the laws that govern community right-to-know. The ability to respond appropriately and immediately to emergency situations was a primary motivation behind the passage of the *Emergency Planning and Community Right-to-Know Act (EPCRA)* in the United States.[86] At the time of its enactment, the critical provisions of the Act were the creation of state emergency response commissions and local emergency planning committees, and the empowerment of these state and local officials and the community by making information on hazardous chemicals available to them.

EPCRA requires facility operators to compile a chemical inventory of all hazardous substances above a certain threshold level used or stored on site, and to supply the inventory form to the

[85] United Kingdom Environment Agency, Home of Public Registers; all registers can be accessed at http://www.environment-registry.gov.uk/epr/index.asp
[86] Title 42 U.S.C. Sec. 11001 et seq., *Emergency Planning and Community Right-to-Know Act* (1986).

state emergency response commission, the local emergency planning committee and local fire department on an annual basis. The inventory forms include:

- an estimate of the range of the maximum amount of specified hazardous chemicals present at the facility at any time during the preceding calendar year,
- an estimate of the range of the average amount of those chemicals present daily, and
- the general location of hazardous chemicals in the facility.

Companies are also required to submit Material Safety Data Sheets, which were previously only circulated to workers in industrial facilities, or a list of MSDS chemicals to the state emergency response commission, the local emergency planning committees and the local fire department.[87] This information is also made available to the community on request.[88] Local emergency planning committees must develop and periodically review emergency response plans for their communities.

In 1990, *Clean Air Act Amendments* (Section 112r) were introduced in the United States with the further goal of reducing the likelihood of chemical accidents and their potential consequences. The legislation required facilities with large quantities of certain flammable (63) and toxic (77) chemicals on site to create risk management plans, to register them with EPA at least every five years, and to provide copies to local agencies responsible for responding to chemical releases.

A Government Accounting Office study, "Chemical Safety: Emergency Response Community Views on the Adequacy of Federally Required Chemical Information" was conducted in 2002 to determine the adequacy of information for emergency responders.[89] They found that the chemical inventory form information required by EPCRA "is useful and critical in preparing for chemical incidents".[90] While most responders generally felt the information from chemical inventory forms and risk management plans was adequate, they suggested reporting thresholds be lowered and the list of chemicals expanded.[91]

These risk management plans were also intended to be made available to the public. As with the TRI, it was assumed that making the knowledge available to the public on the principle of community right-to-know would induce companies to reduce the amounts of hazardous chemicals they were using or to substitute hazardous chemicals with less threatening alternatives.

Risk management plans must contain a hazard assessment, a prevention program and an emergency response program for accidental chemical releases. As part of the hazard assessment, companies are required to draw up "worst case scenarios" that illustrate the potential impacts of a chemical accident on a community. These are also known as Off-Site Consequence Analyses. Risk management plans were to be made available electronically by the EPA.

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[87] Chemical Emergency Preparedness and Prevention Office, Factsheet, *The Emergency Planning and Community Right to Know Act*, EPA, March 2000.
[88] Sec. 11044, *EPCRA.*
[89] United States General Accounting Office, *Chemical Safety: Emergency Response Community Views on the Adequacy of Federally Required Chemical Information*, July 2002 available at http://www.gao.gov
[90] *Ibid.* p.6.
[91] *Ibid.* p.3.

The original intention of the *Clean Air Act Amendments*, however, was derailed in the debate about terrorism in the United States. Concerns about terrorism led to legislation that restricted access to Risk Management Plans and "worst case scenarios", in particular.[92] Only summaries of Risk Management Plans were ever made available on the Internet by the EPA, and after the terrorist attacks of September 11, 2001, even these were removed.[93] The public was allowed only limited access to the plans affecting their communities through local public libraries.

However, OMB Watch, a non-governmental watchdog group that promotes the public's right-to-know, has been pressing the EPA through legal actions to make risk management plans public. It recently obtained access to the summaries, and made them available through its affiliated RTK-Net website.[94]

Because the U.S. government pulled back on the distribution of information to the public, very few people have been able to view the plans to gain an adequate understanding of the hazards of nearby facilities and how to respond if an emergency occurs. The lack of this information also means that it is difficult to evaluate whether companies have created safer conditions on their site by limiting or substituting hazardous chemicals. [95]

In this respect, the experience in New Jersey with the *Toxic Catastrophe Prevention Act* better illustrates the effectiveness of this type of regulation in reducing hazards.[96] The Act regulates 215 chemicals considered extraordinarily hazardous substances, and requires owners and operators of facilities to have a Department of Environmental Protection approved risk management plan, if they handle, use, manufacture, store or have the capability of generating an extraordinarily hazardous substance at certain specified quantities. As a result, more than 500 water treatment plants have either reduced the volumes of chlorine they are using to below threshold levels or they have switched to safer alternatives, making the communities around them safer.[97]

In September 2005, New Jersey took the further step of allowing workers to participate in hazard reduction by giving them the authority to accompany environmental inspectors.[98] The Department of Environmental Protection Commissioner introduced an Administrative Order that

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[92] Chemical Week, "Worst Case Disclosure Scrapped", March 28, 2001, v.163 i13, p.46.
[93] Thomas C. Beierle, "Environmental Information Disclosure: Three Cases of Policy and Politics", Resources for the Future, Washington, D.C., Discussion Paper 03-16, March 2003.
[94] OMB Watch, News Release, "OMB Watch Wins in Court for Access to Risk Management Data", July 11, 2005, available at http://www.ombwatch.org
[95] Hazardous Waste Consultant, "GAO looks at the Adequacy of Chemical Emergency Response Information", July 2002, v.20, i7, p.1.5(3) states that EPA overestimated the number of companies reporting because, in part, "to avoid being regulated under the program, a number of potentially subject facilities changed their procedures by reducing chemical inventories below reporting thresholds, or by replacing or eliminating a regulated chemical.".
[96] Information on the New Jersey Toxic Catastrophe Prevention Act (N.J.S.A. 13:1K-19) can be found at http://www.nj.gov/dep/enforcement/relprev/tcpa/tcpa.htm
[97] New Jersey Department of Environmental Protection, communication between Reggie Baldini and Paul Orum, Working Group on Community Right-to-Know, September 19, 2001.
[98] Environment News Service, "New Jersey Workers Included in Toxic Release Inspection", Sept. 26, 2005; also, NJ Work Environment Council, News Release, "DEP Order Allows Workerts to Help Protect the Environment and Prevent a Chemical Katrina", Sept. 26, 2005.

requires state inspectors of facilities covered under the *Toxic Catastrophe Protection Act* to involve workers in these facilities in identifying potential sources of toxic chemical releases and hazards, including those that might lead to catastrophic chemical incidents.

Requirements, comparable to those of the U.S. *Clean Air Act Amendments*, have been imposed more recently by Environment Canada under Part 8 of the *Canadian Environmental Protection Act*. These Environmental Emergency (E2) Regulations came into force on November 18, 2003. They require companies that store or use listed hazardous substances in specified quantities, or who have containers with a capacity for a specific quantity of that substance, on their sites:

- to notify Environment Canada within 90 days of the regulation coming into force;
- to prepare a plan and submit a notice of preparation within 6 months; and,
- to supplement and test the plan and submit a Notice of Implementation within one year.

There are 174 substances on the list of extremely hazardous chemicals. The kinds of chemicals and the thresholds that require reporting are the same for 140 of the substances listed in the U.S. *Clean Air Act Amendments*. The E2 Regulations require emergency plans and an analysis of the off-site consequences, including "worst case scenarios", similar to those that have been the subject of controversy in the United States.

Unlike the original U.S. *Clean Air Act Amendments*, the E2 Regulations do not require companies to make the environmental emergency plans public. Although Environment Canada encourages the companies to share the plans with fire departments and the local community, this is done on a voluntary basis.

The practice of sharing emergency plans, though, is part of the Responsible Care commitment of the Canadian Chemical Producers' Association. Responsible Care companies are obliged by their Codes of Practice to make the surrounding community aware of the hazards on their sites and their emergency response plans. Member companies make information available to community members through a variety of means – open houses, notices in newspapers or community meetings. Rohm and Haas, for example, in Scarborough shared its worst-case scenario involving one hazardous chemical used at its facility through the use of a full-page ad in the Scarborough Mirror.[99]

Although the E2 plans themselves do not have to be shared with the public, information is available through Environment Canada's E2 Regulations website. Information that identifies companies with hazardous substances on-site, the chemicals as well as the amounts, and the locations of the companies is made available to anyone who requests legitimate access to it and is given a government-approved password. Members of the public tend to request information on specific facilities and are usually provided with a hard copy of the requested information, rather than being given password protected access to the database.

[99] Jim Hanna, Manager, Product Integrity, Rohm & Haas, Personal Communication, August 22, 2005.

Because of security concerns raised by the Canadian Association of Fire Chiefs, more detailed information is available only to safety and first response personnel in Canada by requesting password-protected, secure (encrypted) access to the CEPA database.

A search on this database undertaken as part of this project found 25 locations in the City of Toronto, where significant quantities of hazardous chemicals such as hydrochloric acid, chlorine or toluene diisocyanate are stored.[100] This list included at least 4 City-owned facilities.

According to Asit Hazra, Chief of the Emergencies Prevention Division at Environment Canada, the knowledge about where certain toxic or other hazardous substances were being used and stored was "a critical missing element in effective emergency planning" before these regulations came into place. Now, by requiring companies to do emergency planning for these substances, Environment Canada anticipates that the frequency and severity of environmental emergency incidents in Canada will be reduced.

In addition, having this information accessible by the public has prompted many regulated facilities to seek product substitution, and already led to improved public safety. For example, companies who had to report large volumes of chlorine on their site have switched to the less hazardous hypochlorite. The switch to less hazardous substances as a result of these regulations has been described as "significant".[101]

The opportunities for using environmental information for criminal purposes or for terrorism is currently the subject of much debate in the United States, and concerns have also been raised in Canada. A recent study prepared for the U.S. Congress found that "because few terrorist attacks have been attempted against chemical facilities in the United States, the risk of death and injury is estimated to be low, relative to the likelihood of accidents at such facilities or attacks on other targets using conventional weapons".[102] The study found that the risks of accidents may be increasing with potentially severe consequences for human health and the environment, and that many chemical facilities lack adequate safeguards.

In Canada, fire chiefs, including Toronto Fire Services, are concerned about individuals with criminal intent having uncontrolled access to information regarding chemical storage sites. Because of these concerns, Environment Canada controls who has access to the database by requiring a password. In spite of the concerns about terrorism, there has been no evidence of terrorist activity identified as a result of information provided on the E2 database.[103]

With respect to transportation, federal regulations, under the *Transportation of Dangerous Goods Act*, require companies to file emergency response assistance plans only for certain extremely high risk chemicals, such as radioactive materials. These plans include notification of communities, and must be approved by Transport Canada. Special policies and notification

[100] Although locations of companies are identified, there is no public information that indicates where the chemicals are located on the site.
[101] Asit Hazra, Chief, Emergencies Prevention Division, Environmental Emergencies Branch, National Programs Directorate, Environmental Protection Service, Environment Canada, Personal Communication, Sept. 19, 2005.
[102] Congressional Research Service, *CSR Report for Congress, Chemical Plant Security*, Order Code RL31530, updated February 14, 2005.
[103] See Note 101.

procedures have also been developed with the Ontario Ministry of the Environment to notify Toronto officials when PCBs are transferred, stored or decontaminated.

In addition, some information on the transportation of chemicals is publicly available because facilities report transfers of toxic materials off-site as waste, or for recycling and recovery as part of their NPRI reporting. In New Jersey, Massachusetts, and Eugene, Oregon, which have materials accounting provisions [see section 5.5 of this report], information is reported on hazardous materials transported into and out of reporting facilities annually. This allows emergency planning officials to identify potential hazards and to develop plans to minimize those risks.

Such requirements relating to the transportation of hazardous materials, however, are very few. For example, in the United States, toxic materials that are transported in and out of facilities are exempted from the right-to-know provisions of EPCRA. With the few exceptions just noted, there are no formal programs or requirements under the Canadian *Transportation of Dangerous Goods Act* for companies to inform the public when hazardous chemicals are being transported through their communities.

5.4 Inventories & Material Safety Data Sheets

In 1988, New York City Council passed the Community Right-to-Know Law.[104] The purpose of the law is to protect the environment, the health and safety of community members and emergency response personnel by providing information about the exposure to, and dangers associated with, the storage, use and handling of hazardous substances, extremely hazardous substances and regulated toxic substances.

It requires approximately 6,000 New York City companies to file facility inventory reports every year for a list of substances located on their properties that are hazardous or pose special health hazards. The inventory reports provide an estimate in ranges of the maximum amount and average daily amount of the substance at the facility. Companies are also required to file a Material Safety Data Sheet for each hazardous substance stored at the facility. The Material Safety Data Sheets supply information on the nature of the chemical, its hazards and how to handle it safely.

The law is more stringent than the U.S. *Emergency Planning and Community Right-to-know Act*, as it applies to more substances and at lower thresholds. For example, it captures large dry cleaners, which must report their use of perchloroethylene. The law is implemented and enforced by the New York City Department of Environmental Protection. Filing fees levied on users of hazardous substances help finance the administrative costs of the program.[105]

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[104] The New York City Council, Committee on Environmental Protection, Infrastructure Division, *Report on Enforcement and Compliance with the City's Community Right-to-Know Law*, October 30, 2003 at http://webdocs.nyccouncil.info/attachments

[105] Fees are "based on the amount of hazardous substances present, the number of different hazardous substances present and the type of hazardous substances present". According to the Department of Environmental Protection of

The Police, Fire Departments and other agencies, such as the Departments of Sanitation and Health, use the database to identify substances present during emergencies. The public also has access to this information by request through a Citywide Facility Inventory Database, maintained by the Department Of Environmental Protection and available at designated locations. There are some confidentiality provisions.

On the basis of information gained through right-to-know provisions, New York City has worked with its economic development department to educate businesses on green practices.

In 1985, the City of Toronto had planned to pass a by-law with similar provisions. Ontario pre-empted this plan by adding a provision to the *Occupational Health and Safety Act* intended to provide public access to Material Safety Data Sheets on request. Part IV, Sections 38 (2), (3), and (4) allow for the availability of Material Safety Data Sheets outside the workplace. The Medical Officer of Health, the local fire department or the Ministry of Labour may request copies from an employer. The public may request this information from the Medical Officer of Health.

After the U.S.E. Hickson Ltd. fire in Scarborough on April 9, 2000, a representative of the Toronto Fire Fighters' Union used the provisions of the *Occupational Health and Safety Act* to obtain copies of the Material Safety Data Sheets through the Medical Officer of Health. The Hickson plant manufactured a variety of products including wood preservatives, roofing products, specialty cements and other sealants.[106] The fire at their facility caused a dense plume of smoke and the evacuation of several homes.[107] The union wanted to document exposures of its members to certain chemicals that might result in future illnesses brought on by the fire. Since then, the fire fighters regularly request Material Safety Data Sheets from the Fire Chief after major fires.

The City of Toronto's Fire Services are satisfied with the information that is available to them through site tours, emergency planning exercises and plans placed in fire safety boxes located at each facility. They are also satisfied that Material Safety Data Sheets will be available on-site when they are called to a fire or another emergency situation. They have commented that "database sources of information are labour intensive and not reliable for emergency response".[108]

However, the fire fighters believe additional MSDS information would be useful to them if it could be retrieved before arriving at the scene of an emergency. Knowing what hazardous materials are stored or used on-site would influence their strategies and the precautions that they would take in fighting fires or containing spills. A workers' representative for the Toronto Fire Fighters, commented that: "It is not that the information is not available to the fire fighter. It is

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New York, filing fees in the year 2003 were approximately $2.6 million, from the Report of the Committee on Environmental Protection, New York City, Oct. 30, 2003.

[106] Staff Report from the City of Toronto Medical Officer of Health to the Board of Health, on the impacts of the fire at the U.S.E. Hickson Ltd. Plant, April 19, 2000.

[107] Chemical Week, "Hickson Fire Causes Evacuation", April 19, 2000.

[108] Bob Leek, Captain, Toronto Fire Services, Survey Comment, August 17, 2005.

that it has not been obtained and listed for use as part of the fire. Computers are being installed on all fire trucks in Toronto. Imagine the possibility of being dispatched to a call and en route receiving a list of chemicals there and the possible problems with spills and fire, or even the use of water on some chemicals".[109]

5.5 Materials Accounting Requirements

A materials accounting system requires facilities to track and report on all the fates of the hazardous substances they use, and to ensure that the total quantity of outputs matches the total inputs. Inputs include all materials brought on site and produced at the facility, as well as beginning inventory and wastes. The outputs include materials shipped off-site as product or waste, released to air, water or land, materials transferred or treated on site, and ending inventories.

Pollutant release and transfer registries such as the Canadian NPRI and the U.S. TRI are not materials accounting reporting systems. The main distinctions are that the NPRI does not require reporting on materials used by the facility, transported into and out of the facility, and incorporated into products shipped out by the facility. However, facilities reporting releases and transfers under the NPRI usually collect this data and use it to calculate their releases and transfers, but these use data are not made publicly available.

The benefits of full materials accounting include:

- a more complete understanding of the use and presence of toxic chemicals and of how they might affect workers and area residents;
- the basis to assess toxics use reduction - the premier pollution prevention strategy;
- the stimulation of toxics use reduction by users of substances; and
- the opportunity to identify cost savings.

In 1983, New Jersey passed the *Worker and Community Right-to-know Act*. In 1989, Massachusetts passed the *Toxics Use Reduction Act*. Both of these programs require those facilities that report releases and transfers under the U.S. TRI program to submit materials accounting data to the state.

They also include requirements for the reporting facilities to develop toxics use reduction plans and update these periodically. As a result of its toxics use reduction planning program, by 1998 Massachusetts was able to meet its goal of reducing toxic byproduct generation in the state by 50 per cent. [110] In 2004, the New Jersey government carried out an evaluation of trends based on

[109] Paul Atkinson, Workers' Representative, International Association of Fire Fighters 3888, Survey Comment, August 20, 2005.

[110] In its most recent annual report, *Toxics Use Reduction Act: Measuring Success*, the Massachusetts Department of Environment monitored data normalized for changes in production for a core group of industries that have reported to the program since 1990. In 2000, the core group comprised 340 facilities and used 664.4 million pounds, or 57 per cent of the total toxic chemicals reported in 1990. From 1990 to 2000, these facilities reduced toxic byproducts by 58 per cent, toxic chemical use by 40 per cent, quantities shipped in product by 47 per cent, toxic

the materials accounting data. They found that between 1994 and 2001, nonproduct output (NPO) decreased by 33 per cent or nearly 71.7 million pounds.[111] Nonproduct output measures the amount of toxics prior to treatment. It includes all toxic materials generated during the production process. This means that the nonproduct output numbers are higher than the amount of toxic chemicals released or transferred from a facility because some toxic chemicals are destroyed during pollution treatment processes. Therefore, it provides a better indication of the extent to which reductions in releases are the result of pollution prevention activities.

Another example of the kind of knowledge that can be derived from materials accounting is through data on toxics entering and leaving facilities. For example, in 1994, 1.7 billion pounds of cancer-causing substances were shipped to and from New Jersey facilities. This was 219 times higher than the amount transferred off-site as waste.[112] The waste number is the only number that shows in TRI or NPRI data. The data from the material accounting reports give residents a much better understanding of the possible hazards from transportation of materials through their neighbourhoods.

In 1996, the City of Eugene, Oregon, which has a population of approximately 140,000 people, established a Toxics Right-to-Know program through a voter-initiated *Toxics Right-to-Know Charter Amendment* to the Eugene City Charter. The stated purpose in the referendum was:

> Be it resolved and ordained by the people of Eugene that: all hazardous substance users in Eugene shall file an annual, public, materials balance report listing inputs and outputs of all hazardous substances obtained, used, or generated.

Each year manufacturers must report on their inputs and outputs of approximately 1,300 hazardous materials if they have ten or more full-time employees and inputs of 2,640 pounds or more in total of the designated hazardous substances. In addition, reports must be provided for hazardous waste disposal incinerators or solid waste incinerators that receive infectious wastes.[113]

Fifty-four manufacturers had to report for 2004. The following chart shows the categories that each company has to report. The numbers given are for the total amount reported in 2004.[114]

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releases to the environment by 90 per cent, and transfers off-site for further waste management by 36 per cent. This report is available at http://www.mass.gov/dep/toxics/priorities/succes03.htm

[111] New Jersey Department of Environmental Protection, *Industrial Pollution Prevention in New Jersey: A Trends Analysis of Materials Accounting Data From 1994 to 2001*, Spring 2004, p. 15.

[112] Mark H. Dorfman and Marian Wise, "Tracking Toxic Chemicals: The Value of Materials Accounting Data", Inform, 1997.

[113] City of Eugene, *2002 Hazardous Substance Tracking Instructions*.

[114] Table derived from www.ci.eugene.or.us/toxics/.

Material Accounting Category	Millions of pounds in 2004
Jan. 1 inventory	1.2
Jan. 1 waste	0.029
Produced onsite	0.465
Brought onsite	16.7
INPUT TOTAL	**18.4**
Chemically altered	3.0
Shipped as product	8.7
Shipped as waste	0.619
Dec. 31 waste	0.03
Emitted to air	0.912
Discharge to Sewage Treatment Plant	0.672
Surface water release	0.000
Treated onsite	3.2
Recovered onsite	3.7
Disposed onsite	0.0
Dec 31 inventory	1.2
OUTPUT TOTAL	**18.4**
Environmental Releases	1.5
Transferred Away	9.3
Usage	19.6

As this table shows, the Eugene materials accounting system includes much more than the releases and transfers that would be reported under the NPRI and TRI systems. The major addition in the Eugene system is the 8.7 million pounds of hazardous substances shipped off site as product; this is almost half of the total reported.

All the reports generated by Eugene businesses are available to the public at the Eugene Public Library and on the City's website. Businesses are required to report in electronic form to make it easier to quickly make the data publicly available.

The City's toxics right-to-know website is accessed approximately 1,500 times a month. The site is used not just by the public, but also quite heavily by Eugene's Public Works and Waste Water Division and the Eugene Water and Electric Board.[115]

The Charter contains provisions allowing a company to claim that its data should be held in confidence by the City. If a company claims confidentiality on any of its information, it must submit a publicly available report from an independent auditor showing that it is taking "the greatest possible precautions" and that more protective alternative processes or chemicals are not available. No one has claimed confidentiality thus far during the life of the Eugene program.[116]

[115] Jennifer Gleason et al, Oregon Toxics Alliance, "Questions and Answers Regarding Eugene's Toxics Right to Know Law", February 7, 2005 at http://www.oregontoxics.org/RTKQA.html
[116] Glen Potter, Eugene Fire & EMS Department, Personal Communication, September 23, 2005.

Oregon's Department of Environmental Quality prepared a report that included an evaluation of Eugene's right-to-know program in 2000. The evaluators concluded that they could make only preliminary judgements because the program was only two years old at that point.[117] Among their findings were the following:

- The Eugene program captures data on eight to nine times as many hazardous substances as does the TRI.
- The TRI program captures 90 per cent of the releases reported under Eugene's programs.
- When they separated out extremely hazardous substances from the rest of the materials reported, the evaluators found that 82 per cent of the substances reported on under the Eugene system were not captured under TRI.

In terms of impacts of the Eugene program at reducing use and release of toxic substances, there is anecdotal evidence that the Charter amendment has stimulated companies to reduce their use of certain hazardous substances. For example, Forrest Paints reduced its release of volatile organic chemicals by 61 per cent in part, according to the owner, so that it would no longer be highlighted as one of the town's largest polluters.[118] The staff person for the Eugene program reports that they have never had complaints from reporting facilities about misuse of the data.[119]

The program costs in 2002 were $80,000, including one part-time employee. The municipal costs are fully recovered by a fee charged to businesses. The fees are based on the number of employees that the company has. In 2002, the annual fee was $10.79 per full-time employee to a maximum of $2,000.[120] Environmental groups believe that the fee structure should be changed, and be based on the amount of hazardous substances used and released rather than on the number of employees. They believe that this would send the message that the concern is with the hazardous substances used rather than the number of employees.[121]

The municipal board that oversees Eugene's community right-to-know is proposing that the types of facilities that are required to report be expanded beyond manufacturers to include gas stations, auto repair shops, photo processors, and dry cleaners. This is just in the preliminary discussion stage.

Eugene's Chamber of Commerce opposes any expansion of the program. Indeed, they want the entire program to be dropped.[122] They consider it to be "an unnecessary and burdensome" regulation for Eugene manufacturing companies. The Chamber doesn't believe there is "public benefit from the program that is proportionate to the costs companies incur to comply."

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[117] Oregon Toxics Reporting Advisory Group, "City of Eugene Toxics Right-to-Know Program Evaluation, " *2000 Oregon Toxics Reporting Policy Evaluation Report*, December 2000, Appendix A.
[118] See Note 115.
[119] See Note 116.
[120] City of Eugene, *Toxics Right-to-Know Background and Overview*.
[121] Oregon Toxics Alliance, "What a few bigger businesses did to small businesses in Eugene", at *http://www.oregontoxics.org/RTK_bigbiz.html*.
[122] Terry Connolly, Director of Government Affairs, Eugene Area Chamber of Commerce, Personal Communication, November 17, 2005.

5.6 Labelling, Posting and Notification

Not all right-to-know strategies use the Internet as their sole means of information dissemination. Labelling, posting and other forms of notification are well-established methods of conveying information to workers, consumers and communities. They are a line of defence, warning people directly when they come into contact with a potential environmental or health threat.

(a) Labelling

The most well known initiative of this kind is the state of California's Proposition 65, or the *Safe Drinking Water and Toxic Enforcement Act* of 1986. Passed by a voter initiative, it was intended to protect California residents from chemicals that cause cancer, birth defects or reproductive harm, and to inform them of their potential for exposure.[123]

Proposition 65 requires businesses that "knowingly and intentionally" expose anyone to a chemical that is known to cause cancer or reproductive harm to give "clear and reasonable warning".[124] Small businesses with less than 10 employees are exempt. Warnings can be given by labels on consumer products or notices published in newspapers. It is also common for businesses to post warnings in workplaces or public areas affected by designated chemicals. Landlords sometimes serve tenants with warnings if the tenants are exposed to pesticides used for landscaping, or to lead in paint. A list of chemicals that cause cancer or reproductive toxicity must be published by the Governor of California at least once every year.

In the first few years after its passage, a number of manufacturers eliminated known carcinogens from their products in order to avoid warning labels. For example, makers of fine china cut the amount of lead leaching from their glazes by half.[125] Major plumbing supply manufacturers agreed to produce brass faucets that were virtually lead free, and a national brand of car wax and carburetor cleaner was reformulated to eliminate carcinogens.[126] In a recent example of Proposition 65 activities, the attorney general filed suit in August 2005 against McDonalds, Burger King, Pepsi and six other manufacturers for failing to warn California consumers about acrylamide in french fries and potato chips.[127]

However, warnings are not required if a listed chemical is below an established regulatory threshold or numerical limit. Companies can still use chemicals if they can demonstrate that exposure to the amount of chemical in a product "poses no significant risk". In order to use the chemical and avoid warning the public, they must prove that the risk of cancer in a lifetime of exposure is less than 1 in a 100,000.

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[123] Proposition 65 News at http://www.prop65news.net/Pubs/Litigation/default.htm contains an explanation of California's *Safe Drinking Water and Toxic Enforcement Act* and updates of legal actions related to this legislation
[124] See California Health and Safety Code s.25249.
[125] Clifford Rechtschaffen, "How to Reduce Lead Exposures With One Simple Statute: The Experience of Proposition 65", Environmental Law Reports 29, 10581-10591, documents the signficant reductions of lead in calcium supplements, brass kitchen faucets, water well pumps, ceramics, hair dyes, wine capsules and factory emissions in response to Proposition 65.
[126] Mary Graham, "Regulation by Shaming", The Atlantic Monthly, April 2000, p.36
[127] "Carcinogen Warning Sought for Fries, Chips", August 27, 2005 at www.latimes.com

Proposition 65 can be enforced by different agencies, as well as the public who also have the right to file suits. Fines up to $2,500 a day are distributed between:

- the Hazardous Substances Account General Fund (50 per cent),
- the office of the district attorney, attorney general, or a person bringing the action (25 per cent), and,
- the local health officer to pay for enforcement activities (25 per cent).

Studies of Proposition 65 indicate that it has been effective in several ways. First, its requirement that businesses warn consumers of known carcinogens and reproductive toxins has resulted in the reformulation of products to reduce or eliminate carcinogens.[128] Secondly, it has led to companies making greater reductions in air emissions in California, compared to the United States as a whole.[129] And, third, regulations resulting from Proposition 65 have generated toxicity and exposure data on approximately 300 chemicals as companies seek to establish the limits below which there is "no significant risk" to consumers.[130]

There are several other important examples of labelling and distributing notices as a way of communicating the presence of hazardous materials:

- Labelling of hazardous materials, the provision of Material Safety Data Sheets and training are the essential components of workplace right-to-know, introduced by WHMIS in Canada and the OSHA Communication Standard in the United States. They have played a key role in making workplaces safer. However, neither labels nor MSDSs are standardized across workplaces. They vary considerably in presentation and content. As a result, studies have shown that MSDSs are not easily understood by workers,[131] and they may, in some cases, be inaccurate.

- In Canada, under the *Pest Control Products Act*, pesticide labels must identify the active ingredient, describe the hazards, how to use it safely, and what to do in case of an accident. Environmental groups have criticized pesticide labelling because, although pesticide labels show the active ingredients, many other harmful ingredients that are contained in the product are not identified. Also pesticide labels do not identify potential properties such as carcinogenicity. Only in California under Proposition 65 are pesticides labelled as carcinogenic or causing reproductive harm when testing has shown pesticides or their ingredients have these toxicological properties.

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[128] Randolph Smith, Wall Street Journal, "California Spurs Reformulated Products", Thursday, November 1, 1990. See also Note 102.

[129] David Roe and William S. Pease, "Toxic Ignorance", 1998 Environmental Forum 15(3): 24-35, shows total overall air emissions of the 147 specified chemicals from 1988 to 1995 dropped 48 per cent in the United States, while in California, the overall emsisions of the same chemicals from the same classes of facilities dropped 75 per cent.

[130] Bradley C. Karkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, Georgetown Law Journal, Jan. 2001; 89, 2, Research Library, p.346 states "Proposition 65 generates a rich flow of toxicity and exposure data that has allowed the state to establish regulatory standards for dozens of pollutants, at a far faster pace than under conventional regulatory approaches." Also, Roe and Pease (*ibid.*) say "state regulators were able to calculate and issue RAV-based exposure standards for 282 separate chemicals within the law's first few years of operation.

[131] Elena Fagotto and Archon Fung, "Improving Workplace Hazard Communication", Issues in Science and Technology, Winter 2002, online at http://www.issues.org/issues/19.2/fagotto.htm

- Under Canada's *Transportation of Dangerous Goods Act*, safety marks, generally labels or placards, are required on railway containers or truck cargoes to show the presence and nature of dangerous materials being carried through communities. These labels or placards indicate the properties of hazardous substances, such as flammability or radioactivity, rather than the actual chemical being transported. Under the *Transportation of Dangerous Goods Act*, communities do not have to be notified of hazardous materials being transported. The only exceptions are extremely dangerous chemicals, like weapons grade plutonium, which require plans approved by Transport Canada.

(b) Notification

In some instances governments use newspaper advertising or direct mail as ways of notifying communities about chemical hazards, particularly with respect to drinking water.

In the United States, the purpose of providing drinking water information is to enable the public to "make practical, knowledgeable decisions about their health and their environment".[132] "Consumer Confidence Reports" were the "centerpiece" of right-to-know provisions in the 1996 amendments to the U.S. *Safe Drinking Water Act*.[133]

Large drinking water suppliers are required by the Act to send every household an annual report on the state of their drinking water, mailed with their water bills or under separate cover.[134] These "Consumer Confidence Reports" must make consumers aware of any contaminants found in drinking water and the standards for comparison, as well as the potential health effects of any contaminant that exceeds a legal standard.

This information must also be posted on the Internet by large water systems. Smaller water systems may provide the information through local newspapers. The U.S. EPA includes the reports from large drinking water suppliers in a national publicly accessible drinking water database, which is also part of Envirofacts. As well, consumers must be notified by community water suppliers of any violation of a contaminant standard with the potential for adverse health effects within 24 hours.

Ontario's Drinking-Water Systems Regulation (O. Reg. 170/03) under the *Safe Drinking Water Act* also requires the owners of drinking water supplies to prepare an annual report on the operation of their systems and the quality of the drinking water.[135] Most owners of drinking water supplies in Ontario are municipalities. They are required to take "effective steps" to advise customers that copies of the report are available and how they can be obtained. They must give it to anyone who requests it without charge, and if a drinking water system serves more than 10,000 people, the annual drinking water reports must be published on the Internet.

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[132] Environmental Protection Agency, *Consumer Confidence Reports: Final Rule*, at http://www.epa.gov/safewater/ccr/ccrfact.html
[133] *Safe Drinking Water Act*, 42 U.S.C. s/s 300f et seq. (1974)
[134] Environmental Protection Agency, *Consumer Confidence Report Rule*, 40 CFR, Part 141, Subpart O
[135] Ministry of the Environment, *Technical Update for Municipal Drinking Water Systems under O. Reg. 170/03*, June 2005.

Unlike the U.S. *Safe Drinking Water Act*, Ontario's Regulation does not require that customers receive annual drinking water reports directly. The onus is on the customer to request the report or to seek it out on the Internet. The City of Toronto, for example, makes its annual report available on the City's website but does not send it to every household.

In the event of a serious drinking water contamination problem, Ontario's Drinking Water regulation also requires that the public be warned.[136] It is up to the Medical Officer of Health in each community to decide how this will be done. In the City of Toronto, the plans to alert people depend on the nature of the contamination and the area affected. If contamination with E-coli bacteria was detected in the drinking water of a single building, people would be notified by posted warnings and directly by public health representatives coming to their doors. If a larger area of the City was found to have contaminated drinking water, the Medical Officer of Health would immediately impose a boil water advisory and communicate it through the media and door-to-door notification, if feasible.

(c) Posting

Posting with physical signs is widely used for warning the public when contaminant levels make beaches unsafe for swimming or fishing. Most unsafe swimming conditions and beach closures are the result of sewer overflows or bypasses when heavy rains overwhelm the capacity of the sewer systems. Sewer overflows can be a source not only of undesirable bacteria but also carry chemical contaminants from industries and households using the sewers.

Although beaches are posted primarily because of bacterial contamination from sewage and not because of potential exposure to toxic chemicals, posting and notification of sewage discharges has been a focus of right-to-know activities for some communities in the United States and Canada. The value of posting can be to raise awareness of pollution problems and build support for remedying them.[137]

Like many North American communities, the City posts Toronto beaches along the Lake Ontario shore with signs that warn swimmers when contaminant levels are high. The City also has advisory information available on its website that designates beach areas as "safe to swim" or "unsafe to swim".[138]

Rather than posting numerical water quality monitoring data on the City's website, the data is sent daily to Environmental Defence, a Toronto-based environmental group. Environmental Defence acts as a third-party monitor, providing the actual bacteria counts on a special Toronto beaches website.[139] Although no formal evaluation of the use of Environmental Defence's site

[136] *Ibid.*, Warning Notices.
[137] Working Group on Community Right-to-Know, "Posting Pollution Increases Awareness", Washington, D.C., April 16, 2003.
[138] See "Toronto Beaches Water Quality Reports" for Toronto Public Health's evaluation of Toronto's beaches at http://www.toronto.ca/beach/
[139] For actual water quality monitoring results and E.coli levels, see Environmental Defence's Toronto Beaches website at http://www.torontobeach.ca/home.htm

has been carried out, according to a representative of the group, the community is "primed for this kind of information", and the site is very popular.[140]

In contrast, the United States' *BEACH (Beaches Environmental Assessment and Coastal Health) Act* requires the EPA to create a database and make publicly available all beachwater monitoring results, closings and advisory information from coastal and Great Lakes states.[141] In this way, the public has access to data not only on when beaches are closed but they may also consult the actual monitoring results. However, although the framework for this national database is in place, the information is not yet posted on the "Find Your Beach" website.[142]

Beyond the posted warnings, though, people know little about the sources of contamination, the location of pipes or the kind of pollutants that are discharged. The Ministry of the Environment's last comprehensive report on the discharges of Ontario's sewage treatment plants was published in 1993. As a result, as the Environmental Commissioner's Office has pointed out, "there has been little public pressure for sewage treatment improvements".[143]

A novel right-to-know law in New York State, the *Discharge Notification Act* of 1996, also called the Fisherman's Right-to-know Act, requires all factories, sewage plants and regulated polluters to post signs that mark their outfall pipes where they enter rivers, lakes or streams. These posted signs must identify the permit holder under the Department of Environmental Conservation's State Pollutant Discharge Elimination System, and indicate how citizens can obtain specific information on the nature of the pollution discharge. Signs include telephone numbers for the permit holder and the New York State Department of Environmental Conservation. As of April 2003, 360 major dischargers had posted signs.

In many communities, there is a reversal of this program to mark outfalls -- groups paint fish on sewer grates to make the public aware that any contaminants they put down the sewer end up in waterways where they have an impact on aquatic life.

In Hamilton, citizens used their knowledge of the location of storm and combined sewer outfalls to do visual observations. Environment Hamilton, a local environmental group, organized citizens in the east end of the city under a project called Pipewatch.[144] Whenever people noticed an unusual discharge from several sewer outfalls in a particular east end neighbourhood, they called both the municipality's 24-hour spills report line and the Ministry of the Environment's Hamilton district office.[145] After many callers identified problems at three or four storm sewer outfalls, the Ministry sent an abatement officer to follow up on the complaints. Eventually,

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[140] Sarah Winterton, Program Director, Blue Flag Program, Environmental Defence, Personal Communication, Aug. 25, 2005.
[141] U.S. Environmental Protection Agency, *Beaches Environmental Assessment and Coastal Health Act of 2000*, can be found at http://www.epa.gov/waterscience/beaches/act.html
[142] General information on listed beaches is available, but monitoring information is not yet posted on "Find Your Beach" at http://oaspub.epa.gov/beacon/beacon_national_page.main
[143] Environmental Commissioner of Ontario, "The Environmental Impacts of Sewage Treatment Plant Effluents", *2002-2003 Annual Report*, p.48.
[144] Information on Pipewatch can be found on the website of Environment Hamilton at http://www.environmenthamilton.org/projects/pipewatch/phaseTwo.htm
[145] Lynda Lukasik, formerly of Environment Hamilton, Personal Communication, August 19, 2005.

provincial orders were issued to the municipality. The Ministry orders required that the City of Hamilton identify all discharge points into the creek where the storm sewers were located. Once discharge points were identified, the City was required to sample and analyze any discharge coming from these points. This testing revealed that 80 per cent of the discharge into storm sewers within the creek watershed was contaminated with sanitary waste. The problems have led to an ongoing dialogue between the Ministry and the municipality about the need to address malfunctioning storm sewers in the city of Hamilton.

In 2002, the state of Indiana put in place a right-to-know rule for reporting combined sewer overflows to the public.[146] Under pressure from citizens' groups for notification of these events, the state government agreed to alert the public when combined sewer systems had overflowed. Each community was given the discretion to decide on their notification procedures. Indianapolis, for example, used local cable access to include sewer overflow information with the weather reports. Improving Kids' Environment, an environmental group that lobbied for this right-to-know initiative, would like to see communities notify citizens with automatic telephone messages. The notification program, according to a spokesperson for Improving Kids' Environment, has changed the perception of the seriousness of sewer overflow problems from overflowing wastewater to "a disgusting problem that needs to be fixed".[147]

In addition, Indiana cities are now required to report their sewer overflows to the state government. When the state declined to make the information available on its website, Indiana Kids' Environment used its website to publish sewer overflow incidents, as well as publishing the names of the cities failing to properly report their combined sewer overflows.

A federal Bill, similar to the Indiana legislation, was proposed in the United States. Called the *Raw Sewage Overflow Community Right-to-Know Act*,[148] it would have required sewage system operators to monitor sewer spills and notify public health authorities and the public when raw sewage overflows occurred.[149] However, the proposed legislation has been dropped.

5.7 Public Education

The purpose of community right-to-know programs is to inform people about the presence of hazardous substances in their communities and workplaces. These practices include those that have already been described in this report such as inventories, public databases, notices and labelling. All of these can be considered public education. However, there are two other aspects of public education that are important to note.

[146] Indiana Administrative Code, Industrial Wastewater Pretreatment Programs and NPDES, Article 5, Section 327 IAC 502.1-1, states that the purpose of this Rule is to "educate the public…as to health implications possible from combined sewer overflow discharge tainted water" and to "enable members of the public to protect themselves from possible exposure to waterborne pathogens".
[147] Tom Neltner, former Executive Director, Improving Kids' Environment, Personal Communication, August 2005
[148] H.R. 1720, 109th Congress, 1st Session, introduced in the House of Representatives, April 20, 2005.
[149] The Working Group on Community Right-to-Know, Fact Sheet, "Our Right-to-Know: Sewage Spills", June 27, 2005.

First, many people are unaware of the environmental information that is currently available or where to find it. In order to help people make use of the data gathered through right-to-know provisions, it is important to provide public education on the availability of these tools. The U.S. EPA, for example, has a single webpage that identifies all statutes with right-to-know provisions.

Another important aspect of public education is making people aware of the risks of hazardous substances and how to reduce their exposures, particularly with smaller sources that are not caught by right-to-know legislation. For example, because of a lack of information offered by governments on household hazards, the Environmental Health Association of Nova Scotia developed the first on-line Guide to Less Toxic Products. This Guide assists people who want to reduce their exposures by evaluating common products such as baby clothing and toys, shoe polish, dishwashing liquid, hair dyes and shaving creams for toxicity.[150] The U.S. National Library of Medicine's "Tox Town" is also designed to educate people about hazardous substances in their neighbourhoods. It has descriptions of toxic chemicals and their impact on human health, as well as links to webpages that illustrate ways to reduce exposures. [151]

Additionally, public education can direct people towards positive environmental choices, such as green cleaners, pesticide companies using biological controls or green auto body shops. For example, the Canadian Centre for Pollution Prevention offers consumers information on the names and locations of green cleaning services across Canada on their website.[152] In the first 5 months of 2005, the "Green Dry Cleaner" webpage received an average of almost 300 hits per month.[153]

There are many initiatives like these; this report cannot explore the total range. However, public education that informs residents about their rights to environmental information and that takes advantage of existing websites to educate the public about hazardous substances can be an important part of a community right-to-know strategy.

[150] http://www.lesstoxicguide.ca/
[151] http://toxtown.nlm.nih.gov
[152] http://www.c2p2online.com/main.php3?section=139&doc_id=295
[153] Chris Wolnick, Canadian Centre for Pollution Prevention, Personal Communication, Aug. 26, 2005.

6. Creating Community Right-to-Know Opportunities

6.1 Benefits in Improving Current Community Right-to-Know Practices

Section 4.2 of this report documents problems that community groups face when they try to obtain environmental information. It is challenging not only to find information, but also to know what is available in Canada, in Ontario and in the City.

Improving access to environmental information can provide those who live and work in the City, as well as employees of the City itself, with the information they need to develop the policies and programs that will protect public health. Better knowledge of the risks present in the community has also been shown to lead directly to improved public safety.

As well, expanding community right-to-know presents an opportunity for the City to improve "the culture of openness" and to involve the community in decision-making, as they have been urged to do by the Ontario Information and Privacy Commission, the independent provincial agency responsible for promoting open government and protecting personal privacy. The Commissioner, Ann Cavoukian, recently wrote to the City of Toronto:

> "Citizens cannot participate meaningfully in the democratic process, and hold politicians and bureaucrats accountable, unless they have access to information held by the government".[154]

Providing more access to information on hazardous substances would:

- contribute to a more comprehensive picture of environmental conditions in the City and potential health problems;
- give the City an enhanced ability to target problems and to assess plans for land use changes and new residential development;
- improve emergency response preparedness by making information on hazardous substances more readily available to first responders and emergency personnel;
- create opportunities for the City to engage in pollution prevention, toxics use reduction and environmental procurement;
- create efficiencies in City staff time spent on public inquiries and on other lengthy processes for the public to acquire information, such as environmental assessments;
- improve labour relations with employees of the City where right-to-know results in less worker exposure to hazardous substances;
- provide the City with tools to target reductions of substances identified as local problems, such as the ten key carcinogens;
- consolidate information and data that now exists in many locations into a central database avoiding redundancy; and,

[154] Information and Privacy Commissioner, *Order MO-1947, City of Toronto*, July 22, 2005.

- provide the City with a good foundation of environmental information on which to plan sustainable development and meet its obligations under the gas tax agreement between the federal government and municipalities.

6.2 City's Legal Authority

This section briefly reviews the City of Toronto's legal authority to address the community right-to-know issues described within this report. The authors caution that the following commentary should not be referred to, nor relied upon, as a formal legal opinion regarding such issues. In the event that the City of Toronto elects to proceed with the right-to-know options outlined in this report, it is recommended that the City's solicitors undertake a more detailed legal analysis to ensure that any new or expanded right-to-know initiatives fall properly within the scope of the City's legal powers.

(a) Overview

The City of Toronto derives its general municipal powers from the *Municipal Act, 2001*, the *City of Toronto Act, 1997* (Nos. 1 and 2), and numerous private acts. As noted below, the current legislative framework is likely to be replaced in its entirety by the proposed new and comprehensive *City of Toronto Act*.

For the purposes of establishing a community right-to-know by-law or program, the most relevant statute at the present time is the *Municipal Act, 2001*, as discussed below.

(b) *Municipal Act, 2001*

Municipal powers are generally derived from provincial statutes such as the *Municipal Act*[155]. Over the last decade, however, the Supreme Court of Canada has rendered judgments that favour a broader application of municipal powers and greater respect for municipalities as the legitimate representatives of their communities (see Appendix 1 of this report for a fuller discussion).

For example, in the leading decision of *Spraytech* v. *Hudson*[156], the Supreme Court of Canada upheld the jurisdiction of a Quebec municipality to pass a by-law restricting the non-essential use of pesticides. The municipality's legal authority to pass the by-law was found in the general welfare provision of the Quebec *Cities and Towns Act*[157]. A similar provision is set out in section 130 of Ontario's *Municipal Act, 2001*, which currently provides as follows:

> 130. A municipality may regulate matters not specifically provided for by this Act or any other Act for purposes related to the health, safety and well-being of the inhabitants of the municipality.

[155] *Municipal Act, 2001*, S.O. 2001, c. 25 [hereinafter *Municipal Act, 2001*].
[156] *114957 Canada Ltée (Spraytech, Société d'arrosage)* v. *Hudson (Town)*, [2001] S.C.J. No. 42 [hereinafter *Hudson*].
[157] *Cities and Towns Act*, R.S.Q., c.C-19 [hereinafter *Cities and Towns Act* or the *C.T.A.*].

Using the authority derived from this section of the Act, the City of Toronto passed its own pesticide by-law[158]. This by-law was challenged by a trade association of pesticide manufacturers, Croplife Canada, and appealed to the Court of Appeal in Ontario in the case *Croplife Canada* v. *Toronto (City).*[159]

In May 2005, the Court of Appeal ultimately ruled that the by-law was valid, and that the City of Toronto had acted within its powers as established under the *Municipal Act, 2001*. Although the *Municipal Act, 2001,* contains no sphere of jurisdiction, nor specific power, which explicitly authorizes the municipality to pass pesticide by-laws,[160] the court concluded that "...municipal powers, including general welfare powers, are to be interpreted broadly and generously within their context and statutory limits, to achieve the legitimate interests of the municipality and its inhabitants".[161] Subsequently, on November 17, 2005, the Supreme Court of Canada announced that it would not hear Croplife's appeal of the Court of Appeal decision, effectively ending Croplife's legal challenge to the City of Toronto's pesticide by-law.

The *Hudson* and *Croplife* decisions suggest that when construing an impugned municipal by-law, the courts should consider whether the by-law is within municipal jurisdiction, whether the by-law creates an "impossibility of dual compliance" with provincial or federal legislation, and whether the by-law frustrates the purpose of Parliament or the provincial legislature.[162]

Furthermore, the *Hudson* and *Croplife* decisions suggest that general welfare provisions in provincial legislation may be an important source of jurisdiction for municipalities over local matters of health and the environment. They also support a broad interpretation of the powers of municipalities in pursuing activities that are anticipated to protect the health, safety and well-being of its citizens.

Applying these principles in the context of community right-to-know, it would appear that there is no specific "community right-to-know" by-law powers in Part III of the *Municipal Act, 2001*.[163] However, because this matter is "not specifically provided for" by the Act or any other Act, the City of Toronto could rely upon the broad permissive language of section 130 of the Act to enact a right-to-know by-law that is aimed at protecting the "health, safety and well-being" of Toronto residents. The mere fact that other access to information regimes (or regulatory disclosure requirements such as NPRI) exist at the provincial and federal levels would not necessarily invalidate a municipal right-to-know by-law, provided that the requirements of the by-law do not frustate, or cause operative conflict with, these other enactments.

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[158] City of Toronto By-Law No. 456-2003.
[159] *Croplife Canada* v. *Toronto (City)*, [2005] O.J. No. 1896 [hereinafter *Croplife*].
[160] *Ibid.*, at para. 14.
[161] *Ibid.* at para. 37.
[162] See Appendix 1 for a full discussion of these considerations.
[163] It should be noted that the licencing and registration powers under the *Municipal Act, 2001* empower municipalities to establish "business registries", and to require registering businesses to submit "information" specified to be of "municipal interest": see section 157. However, these powers do not appear to be aimed at protecting environmental or public health, and do not appear to confer specific authority to enact a broad community right-to-know by-law.

In summary, it appears that the City of Toronto has sufficient legal authority under the *Municipal Act, 2001* to enact and enforce a right-to-know by-law, subject to the usual legal constraints on such powers, which are more fully described in Appendix 1 of this report.

(c) The New *City of Toronto Act*?

In November 2005, the Joint Ontario-City of Toronto Task Force released its final report on the need for a "modernized" *City of Toronto Act* that, if enacted, will replace the current legislative framework described above.[164]

Among other things, the Task Force recommended giving the City "broad and permissive" powers to pass by-laws with respect to the "environmental well-being of the City", "safety and well-being of persons", and "protection of persons and property". The Task Force further recommended that the City's "broad governmental powers should include the authority to regulate and prohibit", such as "requiring certain persons to adhere to certain requirements concerning various matters" and "imposing conditions as a requirement of obtaining, continuing to hold or renewing a licence, permit, approval or registration".[165] The Task Force concluded that the City of Toronto requires these expansive powers in order to "address existing and future community needs", including "safeguarding the health, protection and well-being of persons and property" and "acting as a steward of the natural environment and the City's public assets".[166]

Subsequently, on December 14, 2005, the new *City of Toronto Act, 2005*[167] was introduced to the Legislature. Its purposes are listed in section 2 of the *Act*, and include among other things, providing the City with the ability to determine what is in the public interest, to ensure that the City is accountable to the public, and to ensure that the process for making decisions is transparent. Section 6 indicates that the powers of the City are to be interpreted broadly, and section 8 sets out certain matters on which the City may pass by-laws. Such matters include the "accountability and transparency of the City", "health, safety and well-being of persons", and "protection of persons and property, including consumer protection". Section 8(3) specifies that these by-laws may "regulate or prohibit", "require persons to do things respecting the matter", and "provide for a system of licenses".

If passed as currently proposed, the new Act should provide the City of Toronto with abundant legal authority (and considerable municipal autonomy) to develop legal, technical and financial tools to achieve community right-to-know objectives. As the detailed content of the new *City of Toronto Act* is developed through the provincial legislative process, it will be necessary for municipal representatives to ensure that the Act entrenches community right-to-know purposes, policies and provisions as part of the overall environmental protection powers.

[164] *Final Staff Report: Building a 21st Century City*, November 2005.
[165] *Ibid..*, page 3.
[166] *Ibid..*, page 11.
[167] Schedule A of Bill 53, *Stronger City of Toronto for a Stronger Ontario Act, 2005*, December 14, 2005.

(d) Conclusions

Ultimately, the issue of whether the City of Toronto should develop and implement a community right-to-know strategy is, in essence, a policy question rather than a legal question. Under the current *Municipal Act, 2001*, the City seems to possess adequate legal authority to pass an appropriately framed right-to-know by-law. Similarly, as the proposed *City of Toronto Act* is developed, there will be ample opportunity to ensure that the new legislation broadly empowers the City in relation to community right-to-know matters.

Accordingly, the fundamental question is not whether the City *can* implement community right-to-know options, as described in this report. Instead, the question is whether the City *should* do so, having regard for the costs and benefits.

6.3 Opportunities for Improving Community Right-to-Know

This section identifies initiatives that the City can consider in the development of a community right-to-know strategy. They are based on the comments of those who were interviewed about problems getting access to information, their suggestions on how to improve community right-to-know, and a review of right-to-know provisions in other government jurisdictions.

These initiatives, described below, have been developed with the goal of meeting three primary objectives:

- to improve access to existing information that the community and the City itself can use to make decisions and take informed actions to reduce exposure to hazardous chemicals;
- to suggest new ways of collecting and making environmental information available that could be used to improve the local environment and protect public health; and,
- to enhance emergency preparedness by giving emergency services personnel and surrounding communities additional information that would lead to improved public safety.

These initiatives are not exclusive of each other. Some may be complementary, and the City could incorporate more than one into an overall community right-to-know strategy.

There are, however, limits to consider in reviewing these approaches. The report does not evaluate or compare them in terms of costs or feasibility. Nor does it offer a formal legal opinion with respect to each option. These elements were beyond the scope defined for this report. Once the City decides on a course of action, it would be appropriate to do a detailed analysis of the initiatives under consideration, including the legal and financial aspects. In particular, this analysis should thoroughly assess the possible legal risks and liability implications (if any), and describe measures to address such concerns as the prevention of negligence in information-gathering, the avoidance of defamatory statements and the potential need for a website disclaimer.

Furthermore, it is important to ensure that any right-to-know strategy includes an educational component so that the public, workers, and City staff are aware of their rights of access to environmental information, as well as how and where to retrieve it. This could be achieved through methods such as notices in utility or tax bills, by ads in the media, or through the City's website.

The following initiatives were identified as the most practical and effective opportunities for improving citizens' access to information on toxic substances in Toronto.

The first three approaches – numbers one, two and three -- are directed at gathering new information by strengthening reporting, expanding community right-to-know and promoting toxics use reduction. The next three approaches – numbers four, five and six -- are designed to distribute and make better use of existing information. Approaches seven and eight focus primarily on improving emergency services.

(a) Gathering New Information

#1 - The City of Toronto could institute materials use accounting in its own operations and facilities, and make this information available to the public.

The Opportunity:

The City could take the initiative of instituting materials use accounting for its own facilities. This would require the City to identify the chemicals used, generated on site, transferred and shipped off-site, as well as the chemicals that are released from major facilities such as water and sewage treatment plants. The City could prepare an annual report on its materials use and make this information public. In this way, the City would improve the community's access to information on hazardous substances while setting an example for other sectors. Materials use accounting would provide the City with new knowledge of its own processes that it could use to develop pollution prevention plans and reduce its use of toxic chemicals. Materials use accounting would give the City valuable experience if it wished to adopt a Toxics Use Right-to-Know By-law.

The Advantages:

- The City, as well as its residents, would gain valuable information that is currently not available.
- This information would help the City in preparing and assessing the effectiveness of pollution prevention plans, and likely lead to the substitution and reduction of toxics use by the City in its operations.
- The City could identify opportunities to achieve cost savings.

- This information would assist in emergency planning because it would increase information on hazardous materials in its facilities.
- This information would increase the knowledge of hazardous materials being moved through neighbourhoods because it would provide information on hazardous materials transported into and out of the City's facilities.
- The City would set an example for others by demonstrating how to carry out materials use accounting and its benefits.
- Legislation would not be required.

The Limitations:

- Materials use accounting would apply only to the City's facilities. As a result, this information would be available for just a limited number of facilities within the City.

#2 - The City could enact a Toxics Use Right-to-know By-law.

The Opportunity:

Under its powers under the *Municipal Act, 2001*, or potentially under a new *City of Toronto Act*, the City could pass a toxics use right-to-know by-law. This would require certain toxics users to annually report on the quantities of specified substances that they bring on-site, produce on-site, ship off-site as product, ship off-site as waste, emit to air, discharge to sewers, release to surface waters, treat on-site, dispose on-site, or recycle. This data would be available on a site-specific basis to the public. [See section 5.5, for a more detailed description of this kind of program.]

The details of this option would need community discussion of the following types of questions:

- Which kinds of toxics should users or producers be required to report? This could be determined, for example, by the size of the facility (e.g., number of employees), by the nature of the hazardous materials used at the facility (e.g., facilities using cancer-causing substances), or by facilities determined to be of particular environmental or health concern because of experience in the community. For example, a toxics use right-to-know by-law could be used to obtain data to determine how well a City program is working (e.g., requiring pesticide applicators to report on amounts of pesticides could be used to monitor impact of the City's pesticides by-law).
- At what quantity threshold should reporting be required? This could vary according to the nature of the material.

In addition to requiring the reporting of use, generation, transfer and release data, the toxics use right-to-know by-law could include provisions allowing the Medical Officer of Health to require certain facilities to provide toxics use reduction plans.

The Advantages:

- The City and its residents would have access to information not now available through the NPRI or OnAIR. This would include, for example, quantities of materials used, generated, and shipped off-site in product.
- Instead of having access to release and emissions data from only a limited number of facilities (in 2004 only 271 facilities reported under the NPRI in Toronto), Toronto could adjust the NPRI-reporting requirements to capture more of the facilities important for the City's right-to-know objectives.
- The public would have access to information that would allow them to encourage action to protect or improve health in their communities.
- The City's emergency response teams would have easier access to information about the hazardous substances they may encounter when they respond to an emergency call.
- City planning department employees would have access to information about potential hazards associated with siting certain facilities next to each other or siting residential developments near certain facilities.
- The City and public would have a better understanding of the hazardous substances transported through their neighbourhoods as it would identify and quantify certain toxic substances moved into and out of each reporting facility.
- Toxics users would be motivated to assess ways in which they can reduce their use and generation of toxic substances.
- This should not be a serious additional burden for those industries currently complying with the City's Sewer Use By-law. This by-law requires them to create pollution prevention plans. It is not possible to create a rigorous pollution prevention plan unless one does materials use accounting. This data is very similar to the information that they would be required to report under the toxics use right-to-know by-law.

The Limitations:

- There is likely to be strong opposition from some sectors such as owners of those facilities required to report under the bylaw.
- The City would need to hire additional administrative and enforcement staff. However, it might be possible for the City to recover the cost of the administration of the program through fees. In Eugene, Oregon, for example, all costs associated with running the program are recovered through fees charged to those who must report. The situation is similar in New York City. There should be community discussion to decide on the most appropriate way to structure any such fees.

#3 - The City could recommend the expansion of the federal and provincial Pollutant Release and Transfer Registry programs.

The Opportunity:

As pointed out in Sections 5.1 and 5.2, the federal NPRI and Ontario's OnAIR programs are the most comprehensive and publicly accessible databases providing industry-specific information on releases and transfers of pollutants, but these databases still have substantial limitations. The City could work with the federal and provincial governments to urge them to make changes and additions to the NPRI and OnAIR to fulfill more of the needs of the City and of its residents for information. The prime areas in which the City could work for changes in these programs are:

- Change reporting requirements so more pollutant emitters, including more small and medium sized businesses, are required to submit data;
- Add to the list of substances on which facilities must report;
- Make data available to the public more quickly; and
- Add materials accounting data reporting; i.e., in addition to reporting releases and transfers, require reporting on materials use, production and generation on site, and materials shipped in product.

This is an opportune time for the City to work for changes to the NPRI. Environment Canada is just beginning a review of this ten-year-old program, which will include decisions on the future direction of NPRI. This work will be carried out throughout 2006. By the end of 2006 or early 2007, it should be clear if the types of changes that the City wants are likely to be made. The provincial OnAIR program will also be assessed during this time because the provincial government is striving to harmonize the federal and provincial reporting systems.

In making input to the NPRI review and to OnAIR, the City should not simply approach it from the perspective of a pollutant reporter. Instead, its primary perspective should be as a user of the data and as a representative of the needs of the City's residents.

The Advantages:

- These systems are already in operation. It is often easier and quicker to revise a system than to start from scratch.
- The City is not responsible for setting these systems up and maintaining them, which saves resources for the City.

The Limitations:

- The City does not control these systems and, therefore, may not be able to get them changed to accommodate all the needs of the City.

- The changes to the NPRI program resulting from the current review could actually result in a weakening of the NPRI system. For example, changes have been proposed to the U.S. Toxics Release Inventory that would reduce reporting requirements.

(b) Improving Public Access to Existing Information

#4 - The City could establish a single access point where the public could retrieve Toronto-specific environmental information. This could include not only information generated by the City itself, but also relevant information available from other sources.

The Opportunity:

Through services such as Access Toronto and the proposed 311 telephone services, Toronto provides a single point of access for residents. Not only would a single access point assist the public, it would also make it easier for staff to locate environmental information.

The City already collects environmental information of interest to the community that is distributed internally, made public through committees and sometimes posted on its website. This information is valuable to both residents and employees of the City in identifying hazardous chemicals present in City neighbourhoods and developing strategies for their reduction. City government is the natural place for people to look for information about Toronto. The City has an opportunity to take a leadership role in integrating environmental information relevant to the City and making it accessible to the public, to other levels of government and to its own employees.

If the City were to make information available by phone (through Access Toronto or another service) or through the City's website, it could be designed initially as a simple portal, focussed on one or two areas of known public interest. It could then be developed into a comprehensive service or website that would provide the citizens of Toronto with a high level of environmental information with which to evaluate and improve their communities. It could be implemented in stages, beginning with the most readily available information, and adding new information as it is generated or developed in a database-ready form. The advice of the Director of the U.S. EPA's Envirofacts website, based on his experience, was: engage users; start small and find out what works; and, keep up older dissemination methods.

Environmental information that could be made available through Access Toronto, the City's 311 telephone line or the City's website includes:

- Existing environmental information from Toronto Public Health such as the inventory of historical land use;

- Existing environmental information from the City of Toronto, such as drinking water quality reports, water quality testing, air modelling, PCB storage sites, sewer treatment information and events, and the location of abandoned landfill sites;
- Information on neighbourhoods that would highlight positive green features such as the local natural environment and recreational opportunities, and alternative businesses such as organic pesticide operators, wet cleaners, green body shops and organic markets;
- Existing environmental information held by the provincial Ministry of the Environment about facilities or monitoring conducted in Toronto, such as OnAIR data for Toronto facilities, certificates of approval for City facilities (in the Ministry's current database or posted on the Environmental Registry), and non-compliance reports for City companies;
- Existing information held by Environment Canada on City facilities such as the NPRI, water quality monitoring information (similar to the information on the British Columbia/Yukon federal/provincial site), and Environmental Emergencies Regulation information;
- Links to other sources of environmental information such as PollutionWatch.

The Advantages:

- A telephone line or website could provide City workers and the public easy and quick access to environmental information.
- This information could be used to reduce the use and emissions of toxic substances in the City and to improve public health.
- It clarifies what environmental information is publicly available, and reduces the need for time-consuming *Freedom of Information Act* requests.
- It gathers the information necessary to establish an environmental baseline, which the City can use to develop sound environmental and health policies, to set priorities, to track progress on pollution prevention, and to plan and develop the City in an environmentally sustainable manner.
- The City can provide one-stop shopping for environmental information relevant to the City, and fill in the information gaps left by other levels of government.

The Limitations:

- Environmental information may not be available in an easily accessible format.
- Liability issues may arise if data on websites is incomplete, inaccurate, or out-of-date.
- Contextual information may have to be prepared to accompany the data.

#5 - The City could provide the public with more specific information on sewers and sewage treatment processes, and could notify the public when there are storm sewer overflows or sewage treatment plant bypasses.

The Opportunity:

Combined sewer overflows represent not only bacteriological risks but also potential exposures to toxic household and industrial chemicals disposed of through the City's sewer system. Many people surveyed for this report identified the need for more transparency in Toronto's wastewater management practices, including public website listings of all sewage bypass events and storm sewer overflows. Regular notification of storm sewer overflows and sewage bypass events could be done through immediate postings on the City's website.

Some of those interviewed for this report also indicated that the City should make public the pollution prevention plans required to meet the City's Sewer Use By-law, any agreements the City has with companies that give them special sewer privileges, as well as convictions and non-compliance information for companies that are not meeting the limits set out in the By-law.

The Advantages:

- Informed citizens would support the financing and building of projects that improve sewage treatment facilities and other related City infrastructure.
- People can avoid swimming, fishing or using the water after notification of sewer overflows or bypasses.
- This would contribute to public support for source water protection initiatives directed at Lake Ontario, the source of the City's drinking water supply.

The Limitations:

- The City would have to change the sewer use by-law to make pollution prevention plans public.

#6 - The City could require that the public be warned of exposures to carcinogens, reproductive toxins or other hazardous substances that present a known risk through posted signs or other forms of notification.

The Opportunity:

There are products and services in the City that pose potential health risks of which the public may be unaware. These include services such as tanning parlours where exposure to ultraviolet radiation may increase the risk of skin cancer, tattooing services where inks may contain carcinogens such as lead and arsenic,[168] or dry cleaners where customers may be exposed to

[168] See Prop 65 News and also Michael Smith, "California Judge Rules Tattoo Inks Must Carry Health Warnings", MedPage Today, Los Angeles, Sept. 22, 2005 at http://www.medpagetoday.com

perchloroethylene, which is a probable carcinogen according to the International Agency for Research on Cancer.

The City of Toronto's "Ten Key Carcinogens" report and the Occupational and Environmental Working Group of the Toronto Cancer Prevention Coalition have identified carcinogens as a primary concern. California's Proposition 65 requires that consumers be given warnings when carcinogens and reproductive toxins are present in a product or service. This can be implemented not only at a national or provincial level, but also at a City level. For example, San Francisco on November 1, 2005 passed an ordinance that requires grocery stores and restaurants to post warning signs about mercury in seafood in three languages.[169]

The City could require businesses that pose a known risk to public health to post warnings in their windows or to include warnings in the company's newspaper advertisements, catalogues or Internet sites. The City has a similar posting requirement under the Dine Safe program. Requiring posted warnings is a direct way to inform people of the presence of carcinogens or other hazardous chemicals and to give them the opportunity to make informed choices. The California legislation also demonstrates that such actions create incentives for companies to develop safer products and services.

The Advantages:

- People are warned immediately of the presence of carcinogens or other hazards in a product or service, and can make an informed choice.
- This option could target carcinogens, chemicals that are probably the greatest concern to people.
- Some manufacturers and businesses would likely eliminate or reduce carcinogens from their products or services.
- The City could identify specific health risks and promote their reduction.

The Limitations:

- Affected companies probably would not support the requirement to provide warnings.
- The City may need new legislation in order to have the authority to require warnings.

[169] See Prop 65 News and Press Release, GotMercury.Org, "San Francisco Law Protects Women from Fish Mercury", San Francisco, Ca., Nov.17, 2005, at http://www.scoop.co.nz

(c) Enhancing Emergency Preparedness

#7 - The Medical Officer of Health for the City could obtain lists of hazardous chemicals present in large quantities at facilities in Toronto or chemicals of particular concern, by using existing provisions of the *Occupational Health and Safety Act*.

The Opportunity:

Under the *Occupational Health and Safety Act*, the Medical Officer of Health and the local fire department both have the authority to ask companies for their Material Safety Data Sheets (MSDSs). Any member of the public has the right to ask his or her local medical officer of health for a copy of any or all MSDSs for a workplace within the public health unit.[170] This provision of the Act was originally intended to replace the need for the City's proposed right-to-know by-law in 1986. The purpose was to ensure that information on chemical hazards being used or stored at facilities was publicly available.

The Medical Officer of Health could use this provision to ask companies in Toronto with hazardous materials of particular concern or particularly large quantities of hazardous substances used or stored at their facilities to report these chemicals or mixtures. The companies could supply the Medical Officer of Health with a list of chemicals for which unexpired MSDSs are required. If companies were reluctant to provide the Medical Officer of Health with a list, the Medical Officer of Health could request the MSDSs themselves.

In order to make such a program effective and reasonable to administer, threshold levels could be established for the hazardous materials that would be reported. This would allow the Medical Officer of Health to collect information on only those chemicals that pose the highest risk. The Medical Officer of Health could also request information on substances that may be hazardous in small quantities, for which a company would be required to keep MSDSs. Regular electronic updates of the information would be necessary.

The Medical Officer of Health could provide this information to emergency services personnel, and make it available to the public on request.

The collection of this information would approximate one aspect of a community right-to-know by-law, like New York City's Community Right-to-know Law. New York's law, which has been in place for many years, requires companies to supply the New York City Department of Environmental Conservation with Material Safety Data Sheets, that are then made available to emergency services, and to the public on request. This strategy would give the City an enhanced emergency response capability, and a better ability to plan urban development and protect neighbouring communities.

[170] Ministry of Labour, Chapter 9: Toxic Substances: A Guide to the Occupational Health and Safety Act available at http://www.gov.on.ca

The Advantages:

- The Medical Officer of Health could acquire a list of hazardous substances for which MSDSs are required, or the MSDSs, without the need for significant new legislation.
- This option accomplishes the purpose of the original draft City of Toronto by-law by giving workers and the community access to information on the presence of hazardous substances.
- Emergency personnel and local fire departments could be provided with this information in advance of any emergency, such as a fire or spill.
- The public could use this information to influence companies to use safer chemicals.
- Some industries such as Responsible Care companies already provide this information to local communities and to the local fire departments.
- Many companies have this information available electronically since until recently they were legally obliged to submit lists of MSDSs to the Ministry of Labour.

The Limitations:

- Companies may have as many as 2,000 or 3,000 MSDSs, including ones for small quantities of chemicals. In this respect, the City of New York may provide a model for establishing the thresholds and quantities for which MSDS information would be required.
- Companies may change the chemicals they are using so emergency services could not rely on MSDS information unless it were updated regularly.
- For this to be effective, the Medical Officer of Health would have to create a database to accommodate this information.
- MSDSs cannot be used for materials accounting, and do not give information on quantities.

#8 - The Medical Officer of Health could request all federally-mandated environmental emergency plans from facilities in Toronto, distribute them to local fire departments and make them available on request to the public.

The Opportunity:

Approximately 25 facilities with hazardous chemicals stored on-site in the City (including the City's own operations) have prepared risk management plans and notified the federal government under the Environmental Emergency Regulations. As a result of these regulations, some facilities have already substituted less hazardous materials for the chemicals they normally use. The federal government has encouraged the companies to share these plans with emergency personnel and local communities.

The Medical Officer of Health can use this opportunity to request the environmental emergency plans from the companies and distribute them to key first responders. This will ensure that all emergency personnel in the City are in possession of the environmental emergency plans. It will distribute these plans more widely and lead to improved public safety. Consideration could be given to whether the Medical Officer of Health could also make the plans available to the members of the public on request. In the United States under the Clean Air Act Amendments, the government makes risk management plans available to the public in local libraries. The City could also use its website to create a link with Environment Canada's Environmental Emergency Regulations site.

The Advantages:

- No legislation is required because these plans have already been prepared to meet federal regulations.
- The Medical Officer of Health should be able to obtain plans by requesting them from the regulated companies in Toronto, since Environment Canada encourages them to share their plans with the community and with emergency personnel.
- Providing this information to fire fighters and other emergency personnel will contribute to emergency preparedness in the City.
- Making this information available to the public on request will put pressure on companies to reduce the volumes of flammable and toxic chemicals on site at their facilities or to substitute less hazardous chemicals for more hazardous chemicals. This substitution reduces the nature and the amounts of hazardous chemicals in the City, and contributes to public and environmental health as well as community safety.
- Responsible Care industries in the City already provide similar information to emergency services personnel, such as Toronto Fire Services, and the local community.
- The Medical Officer of Health can retain discretion over releasing the information to the public, thereby addressing criminal or terrorist concerns.

The Limitations:

- Companies with Environmental Emergency Plans are not legally obliged to share their plans with the public, and may refuse.
- These plans cover only a limited number of high volume extremely hazardous substances.
- This option does not contribute information on small and medium-sized companies in the City.

7. Conclusion

Improving right-to-know can provide the people of Toronto and the City's employees with the information that they need to take informed actions and to reduce the risks that hazardous substances pose to the community. Although a right-to-know strategy on its own will not solve all the city's environmental and health problems, community right-to-know provides the

essential knowledge and understanding to stimulate the actions – by polluters, community residents, workers and City staff -- that will reduce our exposure to toxic substances in the City.

In this report, we have reviewed right-to-know programs throughout North America and Europe, and interviewed people who are knowledgeable and experienced in this field. On the basis of this information, we have outlined eight ways in which community right-to-know could be improved in Toronto. The City now has the opportunity to assess the potential of each of these and to develop a right-to-know strategy.

Appendix 1: City's Legal Authority respecting a Right-to-Know By-law

1. Municipal powers are to be interpreted in a broad and purposive manner[171]

Municipalities are starting to play an increasingly pivotal role in environmental stewardship activities, but have no inherent constitutional authority. They derive their powers from provincial statutes, and have no residual authority beyond that which is granted to them statutorily.[172] As was quoted with favour in *R.* v. *Sharma*[173] at para. 25:

> [Municipalities] may exercise only those powers expressly conferred by statute, those powers necessarily or fairly implied by the expressed power in the statute, and those indispensable powers essential and not merely convenient to the effectuation of the purposes of the corporation.[174]

However, this strict application of legislative limits to municipal powers has gradually shifted to the more liberal, "benevolent construction" approach typified by McLachlin J.'s dissenting reasons in *Shell Canada Products Ltd.* v. *Vancouver (City)*[175], in which she promoted a more deferential view of the role of municipal governments. At para. 19, she articulated the broad and purposive approach in this oft-quoted passage:

> Recent commentary suggests an emerging consensus that courts must respect the responsibility of elected municipal bodies to serve the people who elected them and exercise caution to avoid substituting their views of what is best for the citizens for those of municipal councils. Barring clear demonstration that a municipal decision was beyond its powers, courts should not so hold. In cases where powers are not expressly conferred but may be implied, courts must be prepared to adopt the "benevolent construction"....and confer the powers by reasonable implication. Whatever rules of construction are applied, they must not be used to usurp the legitimate role of municipal bodies as community representatives.[176]

This approach was subsequently adopted by the Supreme Court of Canada in such decisions as *Nanaimo (City)* v. *Rascal Trucking Ltd.*, [2000] 1 S.C.R. 342 at para. 36, *Hudson* at para 23, and *United Taxi Drivers' Fellowship of Southern Alberta* v. *Calgary (City)*, [2004] 1 S.C.R. 485 at para. 6. In the latter case, the Supreme Court of Canada confirmed that:

> The "benevolent" and "strict" construction dichotomy has been set aside, and a broad and purposive approach to the interpretation of municipal powers has been embraced...[177]

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[171] The following section is not formal legal advice. Rather it is summary information based on select court decisions and legal authorities on municipal jurisdiction. Any proposed right to know by-law, of course, would have to be specifically legally reviewed.
[172] Concurring judgement of LeBel, J., in *Hudson, supra* note 154 at para. 49.
[173] *R.* v. *Sharma*, [1993] S.C.J. No. 18 [hereinafter *Sharma*].
[174] S.M. Makuch, *Canadian Municipal and Planning Law* (Toronto: Carswell, 1983) at 115.
[175] *Shell Canada Products Ltd.* v. *Vancouver (City)*, [1994] 1 S.C.R. 231 [hereinafter *Shell*].
[176] *Ibid.*. at para. 19.
[177] *United Taxi Drivers' Fellowship of Southern Alberta* v. *Calgary (City)*, [2004] 1 S.C.R. 485 at para. 6.

Finally, in *Croplife* the court confirmed that, in the context of the new *Municipal Act*, 2001, the Ontario Legislature would have needed to use express language if it had intended to depart from the recent caselaw promoting a broad and generous interpretation of municipal powers.[178] At paragraph 37, the court concluded that:

> [A]bsent an express direction to the contrary in the Municipal Act, 2001, which is not there, the jurisprudence from the Supreme Court is clear that municipal powers, including general welfare powers, are to be interpreted broadly and generously within their context and statutory limits, to achieve the legitimate interests of the municipality and its inhabitants.[179]

2. General welfare provisions in provincial legislation have been used by municipalities to pass by-laws relating to the health, safety and well-being of local inhabitants.

In *Hudson*, the court upheld the validity of a municipal by-law restricting the use of pesticides within city limits, which had been passed pursuant to the provincial authorizing legislation entitled the Quebec *Cities and Towns Act*. The provision at issue was section 410(1) of the *C.T.A.*, which provided that:

> 410. The council may make by-laws:
> (1) To secure peace, order, good government, health and general welfare in the territory of the municipality, provided such by-laws are not contrary to the laws of Canada, or of Québec, nor inconsistent with any special provision of this Act or of the charter;[180]

Section 410(1) of the *C.T.A.* is known as a "general welfare" or "omnibus" provision because it does not enumerate specific, express heads of power, but rather allows the municipality to respond to new challenges using a more open-ended approach. If there had been a provision within the *C.T.A. specifically* governing pesticide use, the courts likely would not have allowed Hudson to expand the scope of this specific provision by supplementing it with the omnibus provision. This rule of interpretation is known as the "rule against circumvention."[181]

The recent Ontario Court of Appeal case *Croplife* dealt with comparable issues in the context of the new Ontario *Municipal Act, 2001*. Pursuant to the authority derived from that legislation, the City of Toronto passed its own Pesticide By-Law No. 456-2003. The Court of Appeal ultimately ruled that the by-law was valid, and that the City of Toronto had acted within its powers as established under the new *Act*. Croplife Canada had sought leave to appeal this Court of Appeal judgement to the Supreme Court of Canada. However, on November 17, 2005, the Supreme Court dismissed Croplife's application for leave to appeal, effectively ending Croplife's legal challenge to the City of Toronto's pesticide by-law.

In *Croplife*, the court found that there is no sphere of jurisdiction, nor specific power, within the new Ontario *Municipal Act, 2001* which explicitly authorizes municipalities to pass pesticide by-laws.[182] The City of Toronto thus had to rely upon section 130 of the *Municipal Act, 2001*,

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[178] *Croplife*, *supra* note 157 at para. 33.
[179] *Ibid.*. at para. 37.
[180] *C.T.A.*, *supra* note 155 at s. 410(1).
[181] *Croplife*, *supra* note 157 at para. 40.
[182] *Ibid.*. at para. 14.

which is a specific power located in Part III, under the Health, Safety and Nuisance sphere of jurisdiction. It reads as follows:

> 130. A municipality may regulate matters not specifically provided for by this Act *or any other Act* for purposes related to the health, safety and well-being of the inhabitants of the municipality.[183] [Emphasis added]

The question arose as to whether or not section 130 could be similarly read as importing the "rule against circumvention." The appellant Croplife Canada argued that section 130 was not a rule against circumvention, but rather a rule disallowing municipalities from passing by-laws in areas which were already the subject of federal or provincial legislation.[184] The court disagreed, and concluded that section 130 was indeed an extended rule against circumvention, such that a municipality could pass a by-law under this section so long as "there is no other specifically related by-law making power elsewhere in the new Act or in any other act"[185] which the proposed by-law attempted to broaden or circumvent.

Another case which is illustrative of the rule against circumvention is *R.* v. *Greenbaum*[186]. In that case, Metro Toronto had passed a by-law restricting the sale of goods on local sidewalks. The municipality sought to rely upon section 314(1) para. 1 of the old *Municipal Act*[187] for its authority, or in the alternative section 102 of that Act. Section 314(1) para. 1 empowered "municipalities to pass by-laws for prohibiting or regulating the obstructing, encumbering, injuring or fouling of highways"[188] but was not broad enough to encompass the measures contained in the by-law.[189] Section 102 was the general welfare power and predecessor to section 130 of the new *Municipal Act, 2001*. The court would not allow the municipality to uphold its by-law under section 102 due to the fact that there were other specific provisions of the old *Municipal Act* which spoke to the subject matter, and "[i]f those specific powers did not give Metro the authority to enact the impugned by-law, then the municipality could not find that authority in the general welfare section".[190] Ultimately, the Supreme Court of Canada ruled that a section of Metro's by-law was *ultra vires*, or outside the jurisdiction, of the municipality.

3. General welfare or omnibus provisions do not provide municipalities with unlimited by-law making authority. Municipal by-laws must still satisfy a number of conditions in order to be upheld.

One such condition is that municipal by-laws be passed pursuant to a "municipal purpose." The court in *Shell* considered in more depth the issue of what constituted a municipal purpose. In that case, the Vancouver City Council passed a number of detailed resolutions with an explicit purpose of influencing "Shell to divest in South Africa by expressing moral outrage against the apartheid regime and to join the alleged international boycott of its subsidiaries and products

[183] *Municipal Act, 2001*, *supra* note 153 at s. 130.
[184] *Croplife*, *supra* note 157 at para. 44.
[185] *Ibid.*. at para. 50.
[186] *R.* v. *Greenbaum*, [1993] 1 S.C.R. 674 [hereinafter *Greenbaum*].
[187] *Municipal Act*, R.S.O. 1990, c. M.45.
[188] *Greenbaum*, *supra* note 184 at para. 31.
[189] *Ibid.*. at para. 33.
[190] *Croplife*, *supra* note 157 at para. 41.

until Shell completely withdraws from South Africa".[191] The level of detail with which the resolutions' purpose was described made it clear to the court that they were neither passed for the purpose of benefiting the city inhabitants, nor were they intended to be implemented within the City's boundaries.[192] The court struck down the resolutions on the basis that they were not passed pursuant to a municipal purpose, and thus were outside of the jurisdiction conferred upon the municipality by the omnibus provision in the Vancouver Charter. In describing what would have met the municipal purpose test, the court cited with favour the following excerpt at para. 98:

> In approaching a problem of construing a municipal enactment a court should endeavour firstly to interpret it so that the powers sought to be exercised are in consonance with the purposes of the corporation. The provision at hand should be construed with reference to the object of the municipality: to render services to a group of persons in a locality with a view to advancing their health, welfare, safety and good government.[193]

In *Hudson*, the Town's pesticide by-law did not contain an express purpose, and so the court was able to 'read-in' a purpose which was consistent with municipal objectives. Namely, based upon the by-laws differentiation between essential and non-essential pesticide uses, the court found that its purpose was to minimize pesticide use in order to respond to potential health risks posed to residents.[194] Thus, the majority of the court found that the by-law fell easily within the scope of the health component of section 410, *C.T.A.*[195] LeBel J., who wrote a concurring decision, adopted a somewhat more stringent approach, as is indicated by the following quote:

> It is not enough that a particular issue has become a pressing concern in the opinion of a local community. This concern must relate to problems that engage the community as a local entity, not a member of the broader polity. It must be closely related to the immediate interests of the community within the territorial limits defined by the legislature in a matter where local governments may usefully intervene.
>
> In the present case, the subject matter of the by-law lies within the ambit of normal local government activities. It concerns the use and protection of the local environment within the community. The regulation targets problems of use of land and property, and addresses neighbourhood concerns that have always been within the realm of local government activity.[196]

Municipal by-laws must also conform with the principles underlying delegated authority which hold, for example, that by-laws "may not be prohibitory and may not discriminate unless the enabling legislation so authorizes".[197] The issue of prohibitions was considered in *Hudson*, and the court concluded that although the by-law utilized prohibitory language, its overall effect was

[191] *Shell*, *supra* note 173 at para. 99.
[192] *Ibid.*. at para. 99-100.
[193] I.M. Rogers, *The Law of Canadian Municipal Corporations*, 2nd ed. looseleaf (Toronto: Carswell, 1971) 64.1 at 387.
[194] *Hudson*, *supra* note 154 at para. 27.
[195] *Ibid.*.
[196] *Ibid.*. at para. 53-54.
[197] *Ibid.*. at para. 55.

not to impose an absolute ban, but rather to target the non-essential use of pesticides.[198] Thus, the by-law was deemed not to be prohibitory.

Many cases involving the delegated power of municipalities have also addressed the issue of discrimination. Discrimination refers to the unequal application of by-laws to those who fall within the scope of the enabling legislation.[199] One of the leading cases on this point was *Montreal (City of)* v. *Arcade Amusements Inc.*,[200] which, in turn, was aptly summarized in an oft-quoted passage of *Sharma*:

> ...[I]n Montréal (City of) v. Arcade Amusements Inc., supra, this Court recognized that discrimination in the municipal law sense was no more permissible between than within classes (at pp. 405-6). Further, the general reasonableness or rationality of the distinction is not at issue: discrimination can only occur where the enabling legislation specifically so provides or where the discrimination is a necessary incident to exercising the power delegated by the province (Montréal (City of) v. Arcade Amusements Inc., supra, at pp. 404-6).[201]

The key question to consider, thus, is whether the discrimination is expressly or impliedly authorized by the provincial enabling legislation.[202] In *Shell*, the majority of the court found that the resolutions in question amounted to unauthorized discrimination, in that they related to the political policy of a foreign state.[203] They thus exceeded the bounds of permissible discrimination which were inherent to the city's powers to conduct business or purchase property.[204]

The court in *Hudson* also found the Town of Hudson's pesticides by-law to be discriminatory, in that it distinguished between pesticide where, when, how, and by whom a particular pesticide may be used. However, in that case the by-law "could not achieve its permissible goal of aiming to improve the health of the Town's inhabitants by banning non-essential pesticide uses" without drawing those distinctions.[205] Thus, the discriminatory aspects of the by-law were seen to be "necessary incidents to the power delegated by the province".[206]

4. "Courts will generally allow simultaneous regulation of a subject matter by municipalities and a province so long as the by-law is within municipal jurisdiction and the two laws do not conflict in such a way so as to result in an 'impossibility of dual compliance' "[207] and the by-law does not frustrate Parliament's legislative purpose.

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[198] *Ibid.*. at para. 24.
[199] *Supra* note 191 at pp. 406.3-406.4.
[200] *Montreal (City of)* v. *Arcade Amusements Inc.*, [1985] S.C.J. No. 16.
[201] *Sharma*, *supra* note 171 at para. 26.
[202] *Shell*, *supra* note 173 at para. 106.
[203] *Ibid.*.
[204] *Ibid.*.
[205] *Hudson*, *supra* note 154 at para. 29.
[206] *Ibid.*.
[207] Jerry DeMarco, "Overview of the Hudson decision", from a presentation to the Federation of Canadian Municipalities Big City Mayors' Caucus, October 21, 2001.

In considering whether a conflict existed between Hudson's by-law and federal or provincial legislation, the court in *Hudson* turned to the conflicts test articulated in *Multiple Access Ltd.* v. *McCutcheon.*[208] In that case, Dickson J., writing for the majority, adopted the 'impossibility of dual compliance' test for establishing a conflict, and held that:

> In principle, there would seem to be no good reasons to speak of paramountcy and preclusion except where there is actual conflict in operation as where one enactment says "yes" and the other says "no"; "the same citizens are being told to do inconsistent things"; compliance with one is defiance of the other.[209]

The court in *Hudson* thus compared the town's pesticide by-law with the federal scheme established by the *Pest Control Products Act* and Pest Control Products Regulations, and found that a conflict did not exist since the federal legislation was permissive, rather than exhaustive.[210]

Furthermore, the court noted that:

> Multiple Access also applies to the inquiry into whether there is a conflict between the by-law and provincial legislation, except for cases (unlike this one) in which the relevant provincial legislation specifies a different test.[211]

Thus, the same 'impossibility of dual compliance test' was applied to the inquiry of whether the by-law conflicted with the provincial *Pesticides Act*. It was found that, although there could have been a contradictory Pest Management Code or regulations enacted under the *Pesticides Act*, none were in existence at the time of the decision and thus no conflict was found to exist.

In *Croplife*, the court once again adopted the impossibility of dual compliance test, and suggested that the provincial legislature would have needed to use clear and express language in section 130 in order to revert to the older, outdated "pith and substance" conflicts test.[212] However, the court also introduced a second test, namely, whether the by-law frustrates the purpose of Parliament or the Ontario legislature, as captured by the federal *P.C.P.A.* and Ontario *Pesticides Act*, respectively.[213]

This additional 'purpose' requirement had been previously alluded to in cases such as *Hudson* and *Multiple Access*, then expressly included in the recent decision *Rothmans, Benson & Hedges Inc.* v. *Saskatchewan*.[214] That case concerned the ability of the Saskatchewan *Tobacco Control Act* to prohibit advertising of tobacco products in areas accessible to minors, in light of the federal *Tobacco Act* which permitted retailers to display tobacco and tobacco-related signs. The court upheld the provincial provision, and found that Parliament's permissive language had not accorded retailers the positive right to display such products.[215]

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[208] *Multiple Access Ltd.* v. *McCutcheon*, [1982] 2 S.C.R. 161 [hereinafter *Multiple Access*].
[209] *Ibid.*. at 191.
[210] *Hudson*, *supra* note 154 at para. 35.
[211] *Ibid.*. at para. 36.
[212] *Croplife*, *supra* note 157 at para. 56.
[213] *Ibid.*. at para. 63.
[214] *Rothmans, Benson & Hedges Inc.* v. *Saskatchewan*, [2005] S.C.J. No. 1 [hereinafter *Rothmans*].
[215] *Ibid.*. at para. 18.

More generally, however, the court in *Rothmans* held that "impossibility of dual compliance is not the sole mark of inconsistency. Provincial legislation that displaces or frustrates Parliament's legislative purpose is also inconsistent for the purposes of the doctrine".[216] In applying this test in *Croplife*, the court found the federal *P.C.P.A.*. to be permissive in nature, and turned to *Hudson* for the authority that the purpose of the *P.C.P.A.* would not be frustrated by a municipal by-law on pesticides.[217]

In summary, in the opinion of the researchers, the City of Toronto has sufficient legal authority to further a right-to-know by-law, subject to these and other usual legal qualifiers.

[216] *Ibid.*. at para. 12.
[217] *Croplife*, *supra* note 157 at para. 67.

*Appendix 2 – List of Interviewees**

City of Toronto
Warren Leonard, Manager, Office of Emergency Management, Emergency Services
Bob Leek, Captain, Toronto Fire Services, Emergency Planning Research & Development Section
Chris Morgan, Technical Services
David MacLeod, Technical Services
Steve McKenna, Technical Services
Glen Walker, Economic Development
Joe D'Abramo, Manager, Policy & Research, Planning Division
Mike Rusu, Technical Services
Mahesh Patel, Healthy Environments

Ontario
Ministry of Labour (Toronto):
Gary Liss, Medical Consultant, Professional & Specialized Services
Audrey Birkbeck, Provincial Specialist, Industrial Health & Safety Program
Dave Leung, Industrial Hygienist, Industrial Health & Safety Program

Ministry of the Environment (Toronto):
Michael Reid, Senior Policy Advisor, Office of Transformation
Duncan Boyd, Supervisor, Great Lakes Unit
Neville Reid, Manager, Emissions, Modelling and Business Intelligence
Jim Lewis, Director, Information Management & Access Branch
Navdeep Dhaliwal, Air Emissions Quality Control
Patrick Cheung, Drinking Water Monitoring Section
Sheldon MacNeil, Environmental Officer, Spills Action Centre
Karen MacNeil, Business Solutions Services

Jim Hanna, Rohm & Haas Canada Inc., Toronto
Paul Scrivener, Toronto Industry Network, Toronto
Norm Huebel, Canadian Chemical Producers' Association, Toronto
Greg Bavington, NRI Industries, Toronto
Marcy Burchfield, Neptis Foundation, Toronto
Marianne Levitsky, Director, Best Practices Branch, Prevention Division, Workplace Safety and Insurance Board, Toronto
David McRobert, Staff Lawyer, Environmental Commissioner's Office, Toronto
Ellen Schwartzel, Senior Policy Advisor, Environmental Commissioner's Office, Toronto
Lynda Lukasik, Policy & Decision Analyst, Environmental Commissioner's Office, Toronto
David Bennett, National Director, Canadian Labour Congress, Ottawa
Paul Atkinson, Workers Compensation Chair, Toronto Professional Fire Fighters Association, Toronto
Walter Baumann, Worker Co-Chair, Health & Safety Committee, Hamilton Emergency Services, Fire Division, Hamilton

Dr. Elaine MacDonald, Staff Scientist, Sierra Legal Defence Fund, Toronto
Mark Mattson, Lake Ontario Waterkeeper, Toronto
Sarah Winterton, Environmental Defence, Toronto
Katrina Miller, Toronto Environmental Alliance, Toronto
Megan Jamieson, Manager, Climate, Air and Energy, ICLEI, Toronto
Mary Jane Middelkoop, Senior Environmental Policy Analyst, Federation of Canadian Municipalities, Ottawa
Nancy Bradshaw, South Riverdale Pilot Right to Know Study author and Community Outreach Coordinator Environmental Health Clinic, Toronto
Beth Savan, University of Toronto Department of Environmental Studies, Toronto
David Powell, Undergraduate Program Counsellor, University of Toronto Centre for Environment, Responsible Care verifier, Toronto
Kevin Ranney, Managing Partner, Jantzi Research Incorporated, Toronto
Mike Robertson, Land Information Ontario, Ministry of Natural Resources, Peterborough

Canada

Andrew Gage, West Coast Environmental Law Association, Vancouver
Mae Burrows, Labour Environmental Alliance Society, Vancouver
Brian Wastle, Vice- President, Responsible Care Canada, Ottawa
Louis LaFerriere, Canadian Chemical Producers' Association, TransCAER program, Ottawa
Asit Hazra, Director, Prevention Office, Environmental Emergency Regulations, Environment Canada, Ottawa
Don Andersen,Water Quality Monitoring Branch, National Water Research Institute, Ottawa
Claude Guay, Fisheries and Oceans National Contaminant Monitoring Database, Ottawa
Edgar Ladouceur, Director of Compliance and Response, Transportation of Dangerous Goods Directorate, Transport Canada, Ottawa

United States

Kate Davies, Core Faculty, Environment and Community, Antioch University, Seattle, Washington
Lin Darlington, Computer Specialist, Office of Environmental Information, U.S. Environmental Protection Agency, Washington, D.C.
Glen Potter, Eugene Fire & EMS Department, City of Eugene, Oregon
Terry Connelly, Director of Government Affairs, Eugene Area Chamber of Commerce, Eugene, Oregon
Charlie Tebbutt, Staff Attorney, Western Environmental Law Center, Eugene, Oregon
Terry Yosie, Vice President, Responsible Care, Washington, D.C.
Tom Neltner, former Executive Director, Indiana Kids' Environment, Indianapolis, Indiana
Bill Mirabile, Environmental Program Specialist, New York State Dept. of Environmental Conservation, Albany, New York
Adam Haight, Legislative Assistant, Ryan Karben, New York State Assembly, Albany, N.Y.
George Sorvalis, Outreach Associate, Working Group on Community Right-to-Know, a project of OMB Watch, Washington, D.C.

*Note: Several key interviews were conducted with government officials who preferred not to have their names used.

Appendix 3 – Project Advisory Team

Carol Mee, Toronto Public Health, Environmental Protection Office

Ronald Macfarlane, Toronto Public Health, Environmental Protection Office

Rich Whate, Toronto Public Health, Environmental Protection Office

Andy King, National Health, Safety and Environment Co-ordinator, United Steelworkers of America

Khapil Khatter, Canadian Association of Physicians for the Environment

Chris Wolnick, Canadian Centre for Pollution Prevention

Kim Peters, City of Toronto, Technical Services

Glenn Walker, City of Toronto, Economic Development

Katrina Miller, Toronto Cancer Prevention Coalition

Sarah Miller, Canadian Environmental Law Association

Michelle Carroll, Toronto Board of Trade