



**Highland Creek Treatment Plant  
Neighbourhood Liaison Committee  
(HCTPNLC)**

**Meeting # 19  
Monday, September 14, 2009**

**Highland Creek Treatment Plant Meeting Room  
51 Beechgrove Drive  
7:00 – 8:50 pm**

**FINAL SUMMARY NOTES**

**Attendees:**

Frank Moir  
Allen Elias  
Jim Wakefield  
Barbara McElgunn  
Desmond Vandenberg  
Reg Marshall

**City of Toronto**

Cheryl Dow, Public Consultation Unit  
Anthony Pigaidoulis, Engineer, Highland Creek Treatment Plant

Peter Dawson, Councillor Moeser's Office

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|---|---------|
| 1. Welcome and Introductions                          | 7:00 pm |
| 2. Review of Agenda & Summary Notes                   | 7:10 pm |
| • March 23, 2009                                      |         |
| 3. Plant Updates                                      | 7:15 pm |
| • Odour Control Project                               |         |
| • Review Odour Complaints                             |         |
| • Incinerator Repairs                                 |         |
| • Other capital projects planned and underway         |         |
| • Lifespan of new scrubber technology                 |         |
| • Biosolids Master Plan Update                        |         |
| 4. National Pollutant Release Inventory (NRPI) Update | 8:30 pm |
| 5. Other Business                                     | 8:40 pm |
| 6. Next Meeting Agenda Items, Adjourn                 | 8:50 pm |

## 1. WELCOME AND INTRODUCTIONS

**Cheryl Dow** of the Public Consultation Unit called the meeting to order at 7:00 pm. All participants introduced themselves.

## 2. REVIEW OF AGENDA AND SUMMARY NOTES

**Frank Moir** reviewed the agenda. He requested that Biosolids Master Plan Update be added.

**Cheryl Dow** asked if anyone had any comments on the summary notes from the meeting that took place on March 23, 2009. **Frank Moir** noted an error on page 8, 'Allen Elias' should be 'Frank Moir'.

**Barbara McElgunn** expressed concern about an item on page 4; paragraph 5, which begins "A continuous leakage from these stacks." Particularly she is concerned about the testing that determined that dioxins and furans exceeded the criteria by 180%. She noted that leakages are happening not only when there is a bypass to the stub stacks, but that it is continuous and suggested that if the Ministry isn't responding to this problem perhaps the Liaison committee should fight the Minister directly. **Anthony Pigaidoulis** confirmed that it is a continuous leakage. He will give an update under the incinerator repairs during this meeting. He also has an update on comparisons of dioxins and in furans in Canada versus international standards.

**Jim Wakefield** wondered if this should not be included as an action item that needs to be monitored on a continuous basis but doesn't necessarily require an action. **Cheryl Dow** explained that this wasn't encompassed as an action item but that it could become an update item if the group wants. It would become a regular standing item on the agenda.

*Action Item:* HCTPNLC will make leakages a regular standing item on the agenda.

**Frank Moir** asked if the same kind of thing could apply to the annual report which listed bypasses but not stub stack use. **Anthony Pigaidoulis** explained that he thought it was something that was included because it is tracked. He suggested that they make that an action item to bring that information forward.

*Action Item:* At the next meeting Anthony Pigaidoulis to provide HCTPNLC members with information on stub stack use.

**Frank Moir** asked when the report was produced. **Anthony Pigaidoulis** stated that it was produced in the beginning of the year before the end of the first quarter, in March 2009. There will be another one before the next meeting.

**Frank Moir** confirmed that action items from last meeting would be covered in Anthony Pigaidoulis's update and the minutes were accepted as amended.

### 3. Plant Updates

**A) The Odour Control Project** is underway, at 50% completion of preliminary design. The project encompasses odour control for the entire facility, which also includes construction of a new headworks facility. This is the building where grit is removed from raw sewage and the screening occurs. HCTP's building is close to reaching its lifespan, which is why they are in the process of upgrading to new technology. They have narrowed down the new location and are now working on the technologies that they will be putting inside by investigating new screening technologies and looking at other municipalities' technologies that are currently in use. The proposed location is north of the existing head house. The project also examines how odours will be treated for the entire plant. Currently underway is the selection of technologies phase, once they are at 100% of their preliminary design they will have a better indication of the construction timeline for the process upgrades.

**Allen Elias** asked if there is any situation where if the timeline is too slow the present set-up could reach its limit? Is there danger if things don't get completed in a certain amount of time? **Anthony Pigaidoulis** explained that there is no danger, but that it does need to occur as soon as possible. The project began two years ago and they are on schedule. **Allen Elias** asked about the timeline of when they expect to begin construction of the new facility. **Anthony Pigaidoulis** responded that the timeline would be an estimate, but it is approximately 3 to 4 years before a new facility would actually be constructed. The construction could take 1.5 to 2 years. He explained that it is a large project because it involves redirecting trunk sewers that come into the plant.

**Reg Marshall** asked if Anthony could enlighten the group of the new technologies for screening the wastewater. **Anthony Pigaidoulis** explained that there were a couple of different types of screening technologies, the type they use now is a conventional vertical bar screen, hydraulic powered system. New screening technologies have improved capture rates such as:

- The new technologies they are considering for HCTP are a back rake system, where the rake comes from the behind the screen to lift and remove anything that gets lodged in the screen. This system would allow for full penetration through the bars and is effective at keeping the solids from getting lodged in the screen. They have piloted similar screens at the Humber Treatment Plant.

- Another technology is the perforated plate, it acts like a sieve and has small holes on a revolving plate. The plate is constantly moving to trap debris and as it moves a brush removes the screening materials .
- Multiple rakes are another technology plant staff are considering. This technology is on a rotating band that has multiple rakes which protrude to penetrate into the screen and pull out the material from the front of the vertical bars.
- The main change to the head house in the preliminary design is the rearranging of the main unit processes of grit removal then screening. The new process will do the screening first, then grit removal after. The grit technology will be a vortex grit tank which will be located underground. The grit pumps will also be located underground.

**Frank Moir** asked about screening the scum. **Anthony Pigaidoulis** explained there isn't a large concern for scum/grease as it happens rarely, but the new systems will be designed to handle it. **Reg Marshall** wondered if the bar screens will be working twice as hard. **Anthony Pigaidoulis** explained that the fine screens don't remove grit since it is not large enough to get caught up in the screens. This is the main change for the head house. **Frank Moir** asked about the underground beds that they will put the biofilter in. **Anthony Pigaidoulis** explained that biofilters come a few different ways, and the ones that the consultant is recommended is the underground covered type..

**Jim Wakefield** asked whether they are considering global possibilities/options and whether the final selection will be cutting edge. **Anthony Pigaidoulis** confirmed that engineers from Toronto Water are encouraged to go to international conferences like the Water Environment Technology conference where they are exposed to the newest screening technologies. In addition the design team does visits to other similar facilities to see and speak to staff about the performance of other types of screening technology.

**Jim Wakefield** asked about the budget for the project. **Anthony Pigaidoulis** could not confirm this, but gave an estimate of around \$40 million dollars based on another municipalities similar facility. He emphasized that this is the first building/process in the treatment plant, and very important building, because how you pre-treat determines the longevity of the downstream equipment. **Jim Wakefield** asked whether this budget would be spread out over time? **Anthony Pigaidoulis** confirmed this and explained that they are in the design phase, and that this capital estimate is only for construction.

**Desmond Vandenberg** asked about impacts to the community during the reroute and transition period. **Anthony Pigaidoulis** said that he would have to talk to the design engineers about their staging and stated that he would update the group leading up to that type of work. Any impacts to the community during staging will be brought to the attention of the NLC group. **Desmond Vandenberg** asked if the design engineers made any comments about how it

could impact the neighbourhood. **Anthony Pigaidoulis** said that this discussion on the staging was still to be determined during the detailed design stage.

**Jim Wakefield** made reference to the Horgan Water Treatment Plant expansion project construction being a headache in reference to traffic flows and trucks coming in and out. **Cheryl Dow** said that comments and concerns are monitored.

**Reg Marshall** asked if they will they have to go offsite when they change over? **Anthony Pigaidoulis** responded that some construction would occur offsite to re-divert the sewer. The proposed area is before the last turn going east and then turning south. Some of the work will be there, so there will be some impacts and construction that will happen in that area, but the community will be notified. He explained that generally they do the work at low-flow hours, at 4:00 a.m. or 5:00 a.m.

**Anthony Pigaidoulis** noted that although the head house is a huge part of the odour control project, other parts of the plant will also be looked at for odours. They will cover portions of primary sedimentation tanks, which generate more odours such as the incoming portions of tanks, the outgoing portions of the tanks as these areas have more turbulent flow. **Frank Moir** asked how grit and screenings are transported offsite? **Anthony Pigaidoulis** explained that it is taken to a landfill in transport trucks covered with tarps and in the new facility the trucks will be loaded inside the head house under negative pressure for odour control.

## **B) Review Odour Complaints**

**Anthony Pigaidoulis** explained that there were not that many odour complaints this summer likely due to the cooler weather. There was one complaint during the labour disruption. When there is a complaint staff check to make sure doors are closed and odour control equipment is running. Anthony also noted that they had received another complaint through *Access Toronto*.

**Jim Wakefield** asked if Anthony would be attending the Community Awareness and Emergency Response (CAER) meeting, and whether they input odour complaints into CAER? **Anthony Pigaidoulis** was not sure if he would be able to, but confirmed that complaints were logged with them.

## **C) Incinerator Repairs**

**Anthony Pigaidoulis** updated the group on where they are in the repair process. He noted that a significant amount of time was lost due to the labour disruption, but the repairs to the 'number one furnace' are ongoing. By approximately early to mid December they hope to have the furnace operational. The major repair contract on the 'number two furnace' will begin after the first of the repairs are finished and 'furnace one' is returned to operational. He also reported that they are now at 25% detail design for the major repair and that they anticipate a fall

2010 tender for the construction. That encompasses all the work in the solids disposal building, which houses the incinerator and the dewatering centrifuges, which will be upgraded as well.

#### **D) Lifespan of new scrubber technology**

**Anthony Pigaidoulis** reported that any of the new technologies for scrubbers have an approximate lifespan of 20 years.

#### **E) Other capital projects plan and underway**

- Waste Activated Sludge (WAS) thickening project. **Anthony Pigaidoulis** explained that the currently method of WAS thickening is by use of the primary tanks to co-settle that sludge with the primary sludge. They will be removing that stream and installing new centrifuges to thicken the waste activated sludge which will then be digested and then sent to the incinerators. This project is at 50% detail design.
- Also included within this project are upgrades to HCTP storage tanks. They have four old digesters, which they currently use as liquid storage. The tanks will be retrofit with new roofs and new jet mixers which will ensure that the sludge is constantly re-circulating and mixing so that it can deliver a homogenous feed to the centrifuges. They expect a construction tender in spring of next year for this project.

**Allen Elias** asked what the budget would be for all of these projects? **Anthony Pigaidoulis** replied that the project manager would have these numbers, but that he could bring the number for the capital costs to the next meeting. He noted that they will be making use of existing buildings and they aren't building a new building to house the thickening WAS centrifuges, but stated that the work on the building is extensive. They will have to build a monorail crane inside the building and new ventilation. They are using used machines from the Humber plant and two machines purchased from another municipality, and they are converting one of their own de-watering machines and putting it into service as a thickening machine. They will only be purchasing one new thickening centrifuge. All the de-watering centrifuges will be new, but they did try to save money by using existing equipment, so that it wouldn't be as expensive as building a new building with all new equipment inside.

<p><i>Action Item:</i> At the next meeting Anthony Pigaidoulis to provide HCTPNLC members with information on capital costs of projects.</p>
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**Allen Elias** asked if all these expenses are City expenses or if the Province would share in some of these expenses? **Anthony Pigaidoulis** replied that these are expenses of the Toronto Water division, which is funded on revenues generated by drinking water. **Allen Elias** commented that if the money on the

water bill is used to finance these kinds of cost-intensive projects the water bills would go up. He expressed concern because all of these projects seemed to be happening at the same time. **Anthony Pigaidoulis** explained that these are multiple year projects and so capital spending would be shared over a number of years. **Frank Moir** pointed out that they are finally spending money on this plant that they haven't been spending in a while, but that this doesn't mean they haven't been spending it elsewhere so the costs may not raise substantially.

**Jim Wakefield** asked about whether there had been any feasibility studies about producing energy off of water technology. **Anthony Pigaidoulis** replied that they had looked at converging technologies as a part of their Master Plan. The aim right now at HCTP is to use as much biogas as possible from digestion for onsite processes in order to offset some of the natural gas costs.

**Jim Wakefield** commented that perhaps the excess energy could be used as revenue for operation costs. **Anthony Pigaidoulis** replied that they don't know at this point whether they have excess yet. **Jim Wakefield** asked whether there is a process in place right now that's working. **Anthony Pigaidoulis** explained that they do use the biogas in their boilers currently. This is used to produce heat which is then used in the digesters. **Jim Wakefield** wondered about installing turbines. **Anthony Pigaidoulis** explained that the next logical use of biogas would be in the incinerators to offset the natural gas costs. The current incinerators are multiple-hearth technology which need a constant feed of natural gas or heat to initiate the burning process, not like a fluidized bed technology where heat is retained and there is no need to add supplemental fuel.

**Barbara McElgunn** noted that there are a lot of advantages to that process, and wondered if there is there any interest in replacing the multi-hearth system with the fluidized bed system? **Anthony Pigaidoulis** replied that there was and that the Master Plan is currently finishing up its review process, which currently recommends going ahead with the fluidized bed system. He noted that this doesn't remove the need to fix the current units. **Barbara McElgunn** asked if there is room to build a third furnace. **Anthony Pigaidoulis** replied that there was and that the building was constructed with a third bay for this purpose. These repairs are only intended to last long enough to get HCTP to the point where they can install a new furnace.

**Frank Moir** asked whether they were predicting increases in flows. **Anthony Pigaidoulis** replied that every four years they do a facility forecast repair including flow-forecasting. Generally they are in the fair-moderate range, and they don't anticipate high flow increases due to the density of Scarborough already. **Barbara McElgunn** asked what percentage of capacity is available right now. **Anthony Pigaidoulis** explained that the average daily flow is 181 megalitres per day and the rated capacity of the plant is 219 megalitres so the plant is at approximately 83%. One of the future projects is plant expansion to provide redundant capacity. For instance, there are three process trains, a fourth train would allow for repairs without getting close to maximum flow. Plant

expansion is in the capital budget for future years, but this is still five to seven years away.

## **F) In-Stack Criteria Standards**

**Anthony Pigaidoulis** addressed an action item from the last HCTPNLC meeting to provide an update on how the in-stack criteria standards in Canada compare to other standards. He explained that Canada-wide standards were adopted in 2005 by the Ministry of the Environment, which means they have to test the in-stack mass of dioxins per unit volume. He provided examples that showed that the limits in Canada are some of the most stringent standards internationally. These standards came into force in 2001 and were adopted in 2005 regardless of the size of the incinerator. Any new constructions after 2001 had to meet these requirements, and existing facilities had to meet these requirements by 2006.

**Reg Marshall** expressed concern about a red plume he had seen near the plant and asked whether dioxins would be in the ash. **Anthony Pigaidoulis** responded by explaining that when the plume looks darker or more opaque it is often a result of the background. The dioxins and in furans are in all the emissions, and they are below the limits. **Barbara McElgunn** noted that in fact they did exceed the criteria. **Anthony Pigaidoulis** clarified that they exceeded the criteria from the stub stacks or the two lower stacks on top of the building. The issue is that there is leakage there, what should be going through the scrubber system and coming out the main stack is leaking out of the lower stack. The minor repair contract is anticipated to eliminate the majority of that the leakage, and then they will retest later this year for compliance. The next stage under the next repair contract proposes to eliminate stub-stack leakage by having a cap. That would mean that when you have a positive draft, the new stub stack technology would only open to relieve pressure inside the furnace.

**Frank Moir** asked where the emissions fall. **Barbara McElgunn** wondered how far away dioxins were distributed. She suggested that this should induce urgency around this repair and yet the timeline is long. **Anthony Pigaidoulis** explained that they are moving as fast as they can, and that they are doing work to eliminate the problem. They are removing the portion of the emissions that is leaking. He noted that the project was initially referred to as emergency minor repairs, and that there is urgency. He hopes to have data to share with the group in March. **Barbara McElgunn** noted that there is no safe level of dioxins and in furans.

## **4. National Pollutant Release Inventory (NPRI) Update**

**Anthony Pigaidoulis** reported that on June 1 of every year they submit estimates of different chemical releases from this facility to Environment Canada. The numbers for Highland Creek are available on the NPRI website. This reporting is a way to let people know what facilities are emitting pollutants and in

what volume. There are different ways to measure chemical release. 1) Release to air through the incinerator stack and through vapours that come off the tank; 2) release to water through outfall by the treated effluent that they produce, and; 3) through offsite disposal, this would be the ash from the lagoons, the majority of which is inorganic and goes to a landfill.

*Editor's Note: The NPRI website address is: <http://www.ec.gc.ca/inrp-npri/>*

**Anthony Pigaidoulis** noted that there were significant changes in levels of soluble mercury that are not explained in depth on the NPRI website. These are sources that weren't identified previously, and now that they've been identified and it shows up as a significant increase in the HCTP emissions. For instance major increases ranging from 70% to 1000% are the releases to air, which are attributed to the leakage of the stub stacks. This is the first year which they tested the stub stack emissions and they were included in the NPRI estimates. These are not only fugitive emissions, but also the bypass events (such as a power failure or problem with the scrubber) when they have to shut down the scrubber system because the ID fan shuts off. He reported that next year these numbers are expected to be reduced due to the repair of the leakage, but also because of reduced frequency of bypass events.

**Reg Marshall** asked whether these would be set back to once they repair the stub stacks. **Anthony Pigaidoulis** said that they hope that these would go back to the 2007 numbers or close.

**Reg Marshall** asked if there are any sewage systems where heavy metals can be saved from the sludge. **Anthony Pigaidoulis** said that he was unaware of any treatment processes where metals are reclaimed.

**Allen Elias** asked about whether these are high numbers of kilograms, and wanted clarification on the percentages. He wanted to know what portions are dangerous. **Anthony Pigaidoulis** explained that the NPRI reporting system is not intended to identify what is a dangerous limit is, but rather a total quantity of pollutants for inventory purposes. Toronto Water is not regulated on a yearly quantity. They have to meet limits based on regulations from the Ministry of Environment for each cubic meter of wastewater or emissions discharged at the stack. **Frank Moir** said that on Lake Simcoe there would be limits on phosphorus. **Anthony Pigaidoulis** explained that the concentrations are within the phosphorus limits of the HCTP Certificate of Approval. **Barbara McElgunn** pointed out that some of these metals are not going to biodegrade, that over the years they will build up in soil. One of the things that the Environmental Alliance did was look at the health effects and look at these metals in the soils in the surrounding area. She suggested that it might be worthwhile to do that again sometime given that these levels are increasing, especially the arsenic and the particulates. **Anthony Pigaidoulis** reiterated that the emissions discussed earlier are not increasing, they are just accounting for new emissions; they weren't counting them from all the locations before. They are trying now to remove those locations so they can treat all of the gasses. **Allen Elias** said that

although they are managing the risk, but they are still concerned. **Anthony Pigaidoulis** said that the HCTP has hard limits that they have to meet or they get charged with hard orders that they must fix it and the current changes are mandated.

**Barbara McElgunn** brought up an idea that they should look back at the presentation made in 2007, at the percentage of changes on the point of impingement for different chemicals. The two that they were most interested in after hearing that report were chloroform and trichloroethylene (TCE). **Anthony Pigaidoulis** noted that not all the pollutants were in his graph and that it was not an exhaustive list of all the compounds, it showed only the compounds with the largest impacts. He can get the numbers for chloroform and trichloroethylene, however, he noted that the Sewer Use bylaw put hard limits to those particular compounds. There are now bylaw officers that test their discharges. He didn't note them on the sheet because they were well below discharge limits.

*Action Item:* Anthony Pigaidoulis to provide POI numbers for chloroform and trichloroethylene.

**Barbara McElgunn** commented that the Canadian Environmental Law Association (CELA) did a survey of hotspots for residents living in Toronto (see attachment) Westhill was one of the two areas of Toronto where they felt that residents were getting more pollutants than anywhere else. This is also an area where there are a lot of people living in poverty and they have other strains and stresses on their living environment. This is an area that the province and the city should consider at risk and should go for the best available technology because we can. This is a two year research project that they are doing. She will share this with the group. **Cheryl Dow** will attached this information to the minutes. **Frank Moir** asked if it identifies the source. **Barbara McElgunn** explained that they used NPRI data. The other area was around the Junction. She felt that the report added weight to the push for some potential risk plans.

## 5) Master Plan Updates

**Cheryl Dow** passed around materials related to the Biosolids Master Plan Public Information Session. She noted that there is a website address in the material that people can visit to download copies of the information provided. (*Editor's Note: Biosolids Master Plan website address:*

<http://www.toronto.ca/wes/techservices/involved/wws/biosolids/index.htm>) The materials were based on a series of four public meetings that were recently held.

- Public Information Session PowerPoint: Biosolids Master Plan
- Biosolids Master Plan Public Information Session 4 – Comment Sheet
- Biosolids Master Plan Update Questions and Comments Summary

**Cheryl Dow** explained that in terms of the next steps, they will be producing a biosolids master plan and will be issuing a notice of completion. There is a thirty-day review period.

**Anthony Pigaidoulis** pointed out the slide on page 12 titled 'Highland Creek TP Recommendations'. **Barbara McElgunn** suggested using the comment sheets to support the recommendations.

**Cheryl Dow** pointed out that Nancy's email was on the information sheet in case anyone has any questions. **Barbara McElgunn** asked if there was a recommendation on biosolids. **Cheryl Dow** pointed out that these were on the back of the comment sheet. **Anthony Pigaidoulis** explained that each facility has a recommendation for biosolids management.

**Barbara McElgunn** questioned the wording of 'beneficial-use'. **Anthony Pigaidoulis** explained that the reasoning was that these nutrients were being returned to the soil. **Barbara McElgunn** noted that chemicals coming into the treatment plants are not tested for Bisphenol A that are so high in sewage sludge and that they could be taken up into crops.

## **6. Other Business**

**Cheryl Dow** sent out a description of the group. She got in touch with Don York and asked him to put their meetings into his newsletter. **Barbara McElgunn** suggested she contact the CCRA.

Next Meeting: **Monday, March 29 of 2010 at 7:00 pm.**

### **Future Agenda Items:**

It was agreed that items should remain the same. **Frank Moir** suggested that we make it an Action Item that we give the report out ahead of time. **Cheryl Dow** passed out her business card so that anyone who has ideas before the next meeting can contact her.

*Editor's Note: Cheryl Dow's contact information is as follows:*

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**Frank Moir** adjourned the meeting at 8:45 pm.

# Poorest areas also most polluted, report shows

November 27, 2008

Moira Welsh



Stelco's Hamilton plants are seen in this 2005 file image.

CHARLA JONES/TORONTO STAR FILE PHOTO

Many of Toronto's poorest residents live near industries that spew the highest levels of toxic chemicals and pollutants into the air, a groundbreaking report has found.

Low-income families, many already facing diminished health from stress, bad nutrition, diabetes and poor dental care, are placed at further risk because they breathe air contaminated with pollutants suspected of causing cancer and reproductive disorders, say the authors of the report.

The study, a two-year research project by Toronto-based PollutionWatch, is one of the most comprehensive examinations ever of an issue that has largely gone unnoticed in Canada.

Released to the *Star* this week, it compares federal data on low-income households and industrial air releases to examine how pollution and poverty intersect in the Great Lakes Basin, home to more than 9 million. Children and the elderly are particularly vulnerable to the potpourri of pollutants released – within the legally allowed limits – in urban areas.

In Toronto, the study found high pollutants in 17 neighbourhoods, from South Riverdale, to West Hill in the east, to York University Heights in the north and Alderwood in the southwest.

In Ontario, where air pollution contributes to almost 9,500 premature deaths each year, the findings will provide a blueprint for change, helping governments shape policies for fighting poverty, planning land use and curbing pollution.

"There is no excuse any more," said co-author Jennifer Foulds. "Pollution reduction has been on the agenda for a long time now ... Now is the time to cut back on the releases of cancer-causing substances and reduce pollution. It is time to make a difference."

Paul Hachey, 52, lives on long-term disability in a rent-geared-to-income apartment near Dundas St. E. and Greenwood Ave. in South Riverdale, a neighbourhood highlighted in the study. He understands poverty, but wants to know more about the air he's breathing.

"It concerns me," Hachey said yesterday. "People are aware of pollution – we talk about it, but most of us can't just move away. We have financial reasons for living here in the first place."

PollutionWatch is a partnership between two watchdog groups, Environmental Defence and the Canadian Environmental Law Association.

Its website offers information on toxic pollutants (such as mercury, lead, dioxins and furans) and air contaminants (pollutants that cause smog and acid rain). Toxic pollutants are linked to cancers and reproductive diseases. Air contaminants are associated with asthma and other respiratory illnesses.

Foulds teamed up with Fe de Leon, a researcher with the Canadian Environmental Law Association, to produce the report. De Leon said the conclusions could give the federal and provincial governments a new focus and increase demand for tougher regulations on pollutants.

"It is about action, about accountability. The people who are vulnerable to those impacts may not be at the table talking to decision makers," De Leon said.

That point strikes a chord with community health workers and poverty activists.

John Stapleton, a social policy expert, says the report gives a voice to the poor. "It is not surprising that it is going on in these communities," Stapleton said.

"These are communities that don't have the strength, both the political and social strength" to keep polluting industries out of their neighbourhoods.

Paul Young, an environmental health promoter at the South Riverdale Community Health Centre, deals with many asthmatic children. He said the report will be helpful to clients who have repeatedly asked for details on pollution in their neighbourhood, a mix of high- and low-income residents.

"What I have heard is frustration from people not knowing, and the frustration of not being able to do anything about it. There is a powerlessness about it," he said.

"It is time that somebody made these connections," said Lynne Raskin, the centre's executive director. "Poor people are subjected to all kinds of health disparities, and this is one of them."

The study uses data on 2005 air emissions from roughly 9,000 companies that reported to the National Pollutant Release Inventory, a federal database that tracks industry releases into air, water and land. The inventory requires disclosure on 367 substances used by companies that have the equivalent of 10 or more full-time employees.

The database doesn't give a full picture, however, because small companies are not required to report their emissions. (Toronto's proposed "community right to know" bylaw, if it passes next month, will require an inventory of all chemicals released by smaller businesses as well.)

In the United States, extensive studies have focused on the link between pollution, poverty and health. The Environmental Protection Agency's Toxics Release Inventory documents nearly twice as many chemicals as Canada's inventory.

The report found a high correlation of pollution and poverty in neighbourhoods extending from Trois-Rivières to Hamilton, as well as in Windsor and Sault Ste. Marie.

While not all low-income communities had high emissions, the study exposed a definite trend toward poverty and pollution going hand-in-hand. Compared to other cities in the Great Lakes Basin, Toronto ranked highest for its combination of high poverty levels with toxic air releases in 2005, followed by Hamilton and Windsor.

When researchers combined the figures for toxic pollutants with air contaminants (particulates that cause respiratory problems), Hamilton ranked first and Toronto dropped to 11th place.

Foulds and De Leon hope the report, to be released publicly today, will force Ottawa to take harder action on chemical management and push the province forward on its toxics reduction strategy.

"We need prevention," said De Leon. "When you talk about children's exposure to chemicals, the reality is you need to prevent the pollution in the first place."