

WATER WORKS

An Investigation into
Water Billing, Metering and Customer Service

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1.0 Executive Summary

1. The Toronto Office of the Ombudsman has received ongoing complaints from residents about excessive bills for sudden, inexplicable water consumption.
2. Typically, these residents had called the City to ask why their water bill was suddenly so high. City staff explained how they might have used more water, for example because of a leak or additional people in the home and how they could have the water meter tested for accuracy. Staff told them that, if the meter was accurate and there was no City equipment or other error, the residents were responsible for the bill. Complainants found their consumption returned to previous levels in the next billing period, regardless of whether the meter was replaced.
3. Complainants said the City's response implicitly suggested they were not telling the truth about their water consumption. They thought the City did not explain how their water use could suddenly increase so much and then return to the previous level. The City refused to adjust the bill unless the meter over-registered when it was tested, and then the adjustment was so small as to be meaningless. Some complainants said they were given no opportunity to appeal.
4. The Ombudsman wrote to the City Manager in July 2011, to ask about the process. In his reply, he said a high water bill can result from a period of increased consumption, an estimated bill that is higher than actual consumption, or a catch-up bill following one or more estimated bills. It can also result from obvious or hidden leaks, a malfunctioning water meter, or water main relining, which can cause a distortion in meter readings when the water main is re-pressurized.
5. The City Manager stated that the Toronto Municipal Code permits the adjustment of water bills only if a meter or City equipment or other error is found, and, in the case of meter inaccuracy, only to the extent that the meter is inaccurate.
6. The Ombudsman issued a notice of intent to investigate in September 2011. Her investigator interviewed Revenue Services and Toronto Water employees; a representative of the City's metering contractor; technical staff in other municipalities; independent engineering experts and complainants. The investigator also reviewed applicable laws, policies and procedures.
7. The Ombudsman concluded that, on the whole, Toronto Water's water metering system functions well. The City issues 1.5 million bills annually and receives fewer than 300 complaints about high consumption or billing.

8. The City's handling of customer service enquiries is not unreasonable, given that the Toronto Municipal Code permits the adjustment of water bills only in cases of meter inaccuracy or other City error.
9. Readings are not always available, making it necessary sometimes to estimate the bill. However, Revenue Services waits until the account has been estimated six times, over a period of two years, before it writes to ask the resident to provide an actual reading. The Ombudsman concluded that Revenue Services should be contacting customers sooner to request an actual reading.
10. There is no indication that complainants would have benefited from further levels of review. The cause of their dissatisfaction is a system that is unable to provide the remedy they seek — an adjustment to their bill.
11. The City's position that the resident must have used the water recorded by the meter causes some callers to believe their information is being rejected.
12. The Ombudsman noted that every public servant has a responsibility to approach every member of the public with a respectful and open mind.
13. Installing automated water meters will potentially reduce the incidence of surprise billings but the system will not be fully operational for four more years. Even then, there will continue to be a small number of cases where bills will be significantly and inexplicably larger than usual.
14. The City cannot conclusively demonstrate that the metered information on which these charges are based is absolutely reliable. Nonetheless, the City requires residents to show the charges are incorrect before the City will adjust their bill. The Ombudsman found that this unfairly impacts residents.
15. The Ombudsman recommended that:
 - Revenue Services develop criteria by which it may identify and address exceptional cases;
 - The City amend the Municipal Code so that Revenue Services has the discretion, based on a set of criteria and on a case-by-case basis, to adjust the account of a customer who has experienced a sudden large increase in water consumption not explained by a meter test or leak check;
 - The Water Meter Program implement a standard by which it notifies customers of consumption spikes and dips;

- Revenue Services determine at the outset of an enquiry whether there has been area water main relining work and inform the customer of those facts;
- Until the automated system is fully operational, Revenue Services write to the customer after three consecutive bills based on estimates to request a reading.

16. The City agreed to implement the Ombudsman's recommendations.

2.0 The Complaint

17. My office has received a steady stream of complaints from residents about bills for sudden water consumption that hugely exceeded the amount typically used at their residence. They contended that Revenue Services and Toronto Water neglected to adequately review their concerns.
18. The degree of increase in consumption experienced by these individuals varied from two to 20 times their typical usage. The complainants contacted the City to enquire about the bill. They were given information that was intended to explain how they might have used additional water, and informed them that they could have the meter tested for accuracy. Complainants were told that, absent meter inaccuracy or City equipment or other error, they were responsible for the consumption registered by their meter. Their consumption returned to previous levels in the next billing period, regardless of whether the meter had been replaced.
19. The complainants raised a number of issues. They stated that the City's response implicitly suggested they were not being truthful about their water consumption; the City did not adequately explain how their water usage could have suddenly increased by the amount recorded and then returned to previous levels; there was no mechanism for appeal; the City refused any bill adjustment unless the meter over-registered when tested; and the adjustment to the bill when the meter was shown to be over-registering was so minimal as to be meaningless.

3.0 Background

20. I wrote to the City Manager on July 14, 2011, to enquire about the process currently in place to deal with these complaints. I was particularly concerned about those cases in which no explanation for the increased consumption was found by either the homeowner or the City and usage levels returned to normal in the ensuing billing period, yet the City would not adjust the high bill.
21. The City Manager replied on August 17, 2011. He stated that a high water bill can result from a period of increased consumption, an estimated bill that is higher than actual consumption, or a catch-up bill following one or more estimated bills. It can also result from obvious or hidden leaks, a malfunctioning water meter, or water main relining¹, which can cause a distortion in meter readings when the water main is re-pressurized.

¹ Relining is a rehabilitation process that extends the operational life of the water main. The inside of the pipe is scraped to remove accumulated material and then a thin coating of cement mortar lining is applied to protect the water main from corrosion.

22. The City responds to complaints about high consumption or high billing through an investigation involving Revenue Services and Toronto Water, to determine how or why consumption increased during the time in question.
23. As part of the investigation, it is open to the homeowner to have the meter removed and tested.
24. Chapter 849 of the City of Toronto Municipal Code (the Code) permits the adjustment of the homeowner's water account only when there is a defective meter, an inaccurate remote read out unit, incorrect dial capacity coding² or an error by the City or City-owned equipment.
25. A total of 1.5 million bills are issued annually and generate fewer than 300 complaints concerning high consumption or high billing. The City Manager said the investigation process typically reveals an obvious or hidden leak, a malfunctioning meter or water main work that affected the meter reading.
26. The City Manager stated that he had also asked for a review of the relevant provisions of the Code to determine whether amendments are warranted to provide additional authority to adjust water bills.

4.0 The Investigation

27. I initiated an investigation on my own motion. It focused on the City's current procedures for responding to the complaints it receives about high water bills. I wanted to determine what proportion of high consumption complaints remained unexplained after the City's investigation and whether the City had responded adequately to these complaints. The investigation also considered the City's authority to adjust utility bills.
28. The notice of intent to investigate was issued on September 30, 2011.
29. My investigator interviewed employees of Revenue Services and Toronto Water, a representative of the City's metering contractor, and complainants. We reviewed applicable legislation, policies and procedures. My investigator spoke with technical staff in other municipalities and consulted engineering experts in water metering.

² Incorrect recording of the configuration of the meter register dial. The dial registers vary on different models of meters. Billing based on an incorrect dial configuration will result in incorrect charges.

5.0 The Issues

30. The investigation addressed:
 - (i) The customer service and complaint processes employed by Revenue Services and Toronto Water;
 - (ii) The City's billing procedures;
 - (iii) The technical information underpinning the City's reliance on the current metering system; and
 - (iv) The legislative framework of the City's water meter and billing system.

6.0 Water Metering in the City

31. The City of Toronto began installing residential water meters in the early 1900s, to track consumption, detect leaks and generate revenue. There have been periodic expansion and replacement programs since that time. The City has installed 5,000 meters annually over the last 25 to 30 years.
32. At present, there are close to 500,000 metered accounts in Toronto. Many of the meters currently in operation are beyond their 20-year intended service life. Some are more than 60 years old. Approximately 50,000 properties are not metered and are billed on a flat rate basis.
33. The City currently charges \$2.48 for a cubic meter (m³) of water. It has advised that typical water consumption is .3 m³ (66 gallons) per person per day, or 36 m³ per 120-day billing period. Typically, a two-person household would therefore be charged approximately \$180.00 in each four-month billing period.

7.0 Governing Legislation

34. The City's water rates and billing powers are set out in Chapter 849 of the Code.
35. It provides that consumers in Toronto shall pay the fees and charges associated with the provision of water. It states that the customer is liable for all water provided to the property, including water that may be lost or not consumed.
36. Section 849-28 of the Code gives the City the authority to make an adjustment to a water account where a meter is defective, a remote read out unit is inaccurately recording the amount of water consumed, the meter's dial capacity coding is incorrect or the water account is incorrect as a result of an error on the part of the City or its equipment.

37. The adjustment is calculated based on the actual amount of water consumed at a property, if that can be determined, or otherwise an estimate of the amount of water consumed at the property.
38. Section 849-31 provides that the City may issue utility bills based on actual water consumption at a property as determined by meter or remote read out readings, or based on an estimated reading, calculated in accordance with the daily average water consumption at the property during a similar period of time.

8.0 Water Billing Procedures

39. Revenue Services administers the billing and collection of utility and water accounts.
40. It bills metered residential customers every four months.³ The precise number of days in the billing period can vary slightly.
41. Approximately 28,000 bills are sent out each week. These bills are based on actual readings where available.
42. Meter readings are transmitted to the City in a number of ways.
43. Seventy-five percent are taken by meter readers, from the remote read device or the inside meter. When readings are not obtained because the remote read device is not operating and entry to the premises is not possible, a reading card is left for the resident. The reading is taken by the resident and may be called in, entered on-line or mailed.
44. Residents of the former City of North York, who represent approximately 25 percent of the total, receive reading cards only and are responsible for taking and submitting their readings as noted above. This practice was in place prior to municipal amalgamation and has been continued.
45. If no reading is obtained, an estimate based on the historical average consumption is used. According to Revenue Services, approximately twenty percent of bills are typically based on estimates.
46. Five to ten percent of the estimates are due to staff shortages. Revenue Services advised that when this occurs, it tries to re-assign the available meter readers so that only routes on which there have been two and preferably three actual readings in the previous billing periods are estimated.

³ Flat rate residential customers are billed every six months.

47. The Code states that an estimate should be based on a similar period. When calculating an estimate, Revenue Services advised that it reviews the customer's entire account history, identifies a similar period and excludes obvious spikes or dips in consumption.
48. Accounts may be estimated repeatedly. If the bill is based on an estimate, this is noted on the statement. If there have been multiple consecutive estimates, this is also noted on the statement.
49. Revenue Services advised that customers do not always respond to estimate notifications when they appear on the bill. At the sixth consecutive estimated bill, it therefore writes separately to the customer advising that recent billings may not reflect actual usage and requesting the individual contact the City with an actual reading.
50. Meter reading information is received by the City in the week prior to the customer's billing date. In approximately 21,000 of the 28,000 accounts billed, the reading information is 'normal' and bills are sent.
51. About 7,000 of the actual readings show a dip or spike in consumption – more than 33% higher or 50% lower than the previous reading, respectively⁴. These readings are flagged in an exception report for investigation.
52. Billing staff review information on the customer's account to see if there is anything that explains the change, such as the resident spending winters in Florida, or history that shows a comparable increase over that particular period in past years.
53. Approximately 1,500 readings will remain unverified after this review. Revenue Services issues a service order in each of these cases, to have the meter and its reading checked. In some cases, the service order is not completed because no contact can be made with the homeowner.
54. Of the 1,500, about 100-150 readings will not be verified and the bill will go out unexplained.
55. The Manager, Utility Billing and Parking Ticket Operations advised that, of the 28,000 bills sent, Revenue Services might receive 15-20 calls from customers questioning their bill. He stated that 75% of those enquiries are resolved on the call, leaving approximately five per week that are unresolved/unanswered, or in which the caller "did not like the explanation."

⁴ Revenue Services reported that increases in consumption will be of greater concern to customers so the threshold is set lower.

56. Water bills are due 21 days after the billing date. An early payment discount is applied if payment is received by the due date. If the bill remains unpaid 58 days after the due date, it will be transferred to the property tax bill.
57. The City provides water rebates and property tax deferrals to low-income seniors and low-income persons with a disability who consume less than 400 m³ of water per year.

9.0 Customer Service Standards and Practices

9.1 Revenue Services

58. Enquiries and complaints about water bills are directed to Revenue Services.
59. Customers may submit their enquiry by telephone, in person, by email or in writing. They receive the same assistance and information regardless of their mode of contact.
60. Most enquiries are received by telephone and are handled by Customer Service Representatives (CSRs) in the Customer Service Call Centre.
61. The Call Centre has a complement of 37 full-time and six part-time CSRs. The Supervisor of the Customer Service Call Centre (Supervisor, CSCC) advised that it can be difficult to maintain a full complement, as experienced CSRs are regularly recruited for positions elsewhere.
62. The CSRs respond to these enquiries from the premise that the water meters are accurate and the homeowner is responsible for any water consumed.
63. The Supervisor, CSCC stated that, when a customer calls about a possible error in their unusually high water bill, the CSR will first have the caller check the meter to ensure that the reading on which the bill was based was correct. If the reading is confirmed, the CSR will ask whether occupancy or activity at the home has changed in a way that would increase water consumption. If this does not explain the consumption, the caller is informed that the increase may be the result of a leak on the premises. The caller is given information about where a potential leak may be, and how to test for it.
64. The customer is also told, generally as a last resort, that they may have the meter tested by the City to determine if it is registering accurately. If it is found to be over-registering, their bill will be adjusted to reflect the overpayment. They are informed that there is a charge for the test if the meter is found to be accurate or under-registering. If they wish to proceed

with the meter test, the call is transferred to Toronto Water to schedule an appointment.

65. The Revenue Services Call Centre training manual that is currently being compiled describes the process that CSRs are expected to follow:

Steps to go through with owner if they are calling in with a high bill complaint:

1. *Verify reading with owner – have them double check the meter reading that produced the high bill. It is also a good idea to have owner confirm the serial number of the meter when possible.*
 2. *Review account thoroughly – take a look at previous reading, how they were obtained, were there one or more estimates prior to the reading provided.*
 3. *Explain to owner how to check for leaks – advise of the leak detector located on the meter.*
 4. *Set up service order to verify information given if necessary.*
 5. *Ask owner if there was any work completed on their street during the period of the high bill complaint by City of Toronto workers (e.g. Toronto Water – water main relining, etc.)*
 6. *Advise owner of having meter tested as last resort.*
66. The City provides information on water leaks and leak testing on its website and in its information brochures.
67. Revenue Services' meter reading staff will perform leak checks, as requested, when completing service orders.
68. Revenue Services' Policy for Complaints, Suggestions and Compliments, issued in January 2011, states that residents who believe their problem has not been resolved may ask to speak with one of the four coordinators or the supervisor. The Director of Revenue Services (Director) also speaks with callers on occasion.
69. The policy, which is posted on the City's website, distinguishes between a 'problem', which it will endeavour to resolve informally, and a 'complaint', which it defines as "an expression of dissatisfaction with a Revenue Services Division policy, procedure, or with the quality of service provided, or the actions of a Revenue Services employee."

70. The policy provides that a customer who continues to believe their problem is unresolved may make a formal complaint. This can be done in writing, in person or through the call centre.
71. My investigator was advised, however, that complaints about high water billings have so far not been taken through this formal complaint process. Customers have instead tended to escalate their complaint to the Treasurer, the Chief Financial Officer or the Ombudsman.
72. The Director said that, if none of the investigative steps (the reading verification, the leak test and the meter test) satisfy the homeowner, there is often nothing further that could be done even if the resident was to pursue the matter through the complaint process.

When we have done all of those steps and we have nothing to support an adjustment to the bill, then the answer back to those people would be “there is nothing to substantiate it and that is why we would not adjust your bill.”

73. The Director stated that the response from Revenue Services must be consistent with the powers available under the Code. It can adjust a water account only where there has been shown to be a City equipment or other error. This may include an error by the meter, the remote read-out device, the dial activity coding, or other error by the City or City-owned equipment.
74. The calculation of the adjustment must be based on the degree of error, if it is known. If the amount of water consumed cannot be determined, Revenue Services may adjust based on historical usage patterns. It cannot, however, adjust a bill because the customer believes there has been an error.
75. The Director stated that, relative to the number of accounts, Revenue Services receives very few complaints about high water bills. He said that the bulk are resolved once the customer communicates with a representative and is informed of the factors that may have affected the bill.
76. Revenue Services records the number of calls it receives regarding utility bills, and codes enquiries and complaints according to the subject of the enquiry. The coding categories include “consumption”; “leaks”; “water meter reading problem”; and “meter test”.
77. At the time of my investigation, Revenue Services did not track calls about high water bills. Effective February 17, 2012, the division created a specific “high bill” category in order to record the number of enquiries related to high water bills.

9.2 Toronto Water

78. Toronto Water handles enquiries relating to meter operation.
79. The Supervisor, Water Meters East District, said that Toronto Water receives about two such calls a day. These callers have typically spoken with Revenue Services and will be making further enquiries.
80. The calls are handled by a Support Assistant, who confirms that the caller has spoken with Revenue Services and completed a leak test.
81. The homeowner is generally calling to arrange for a test. The Support Assistant informs them that there is a charge unless the meter is found to be over-registering. An appointment is then made for a technician to go out and switch the meter.
82. He advised my investigator that meters are usually removed “within a week and often more quickly than that.”
83. When the meter is removed, the homeowner is required to sign a form confirming that they requested the test and are aware of the charge. A final reading is taken before the meter is removed and the homeowner signs off on that reading.
84. Toronto Water introduced a complaint policy in October 2010, so that residents may raise concerns about service, actions or lack of action by Toronto Water staff or current service standards. The policy is posted on the City’s website.
85. Formal complaints made under the policy are handled by Toronto Water’s Strategic Business Management Unit (the SBMU).
86. My investigator was informed that Toronto Water has to date received two complaints under the policy from residents with concerns about meter operation and testing.
87. In responding to complaints, the SBMU addresses any issues relating to staff conduct or service standards, asks Toronto Water meter staff to address the issues related to meter operation and testing, and asks Revenue Services to ensure that any issues about billing or the accuracy of the meter reading have been addressed.
88. If the meter has tested as accurate and the reading and billing information have been verified, the customer is advised that “everything is in order” and that no further assistance can be provided.

89. The Manager of the Water Meter Program (Manager, WMP) believes the City's current procedures are adequate and fair.
90. He said that Revenue Services initially provides information to assist in verifying the meter reading and checking for leaks.
91. Toronto Water staff are available to speak with the homeowner about any questions they have concerning meter operation and consumption activities. When they visit the home to exchange the meter, they will discuss the customer's concerns and will also offer to check for leaks in the home. If the customer still believes there is a problem with the meter, they will proceed with the meter test.
92. The Manager, WMP and the General Manager, Toronto Water (General Manager) sometimes speak with homeowners about their concerns. The resident also has access to the complaint process.

10.0 Water Main Relining

93. According to the City Manager, Revenue Services investigates whether the City has done water main work on the line serving the property in question, as this can cause a distortion in water meter readings when the water main is re-pressurized.
94. My investigator was given conflicting information about the "investigation" that the two divisions conduct to determine if water main relining work has occurred, and the manner in which that information is communicated to customers.
95. The Director stated that, if a customer calls to enquire about a high water bill, they are asked if there has been any water main construction in the area.

That is one thing we rule out before we make the determination on whether a water bill will stand. If somebody comes to us complaining about a high bill, we ask the homeowner whether they've had leaks, we ask them to check the meter reading, we can do the meter test. We also routinely will send a request to Toronto Water, asking them to confirm: has there been water main relining activity in this area for the billing period in question?

96. When interviewed by my investigator, the Supervisor, CSCC did not mention water main work or construction as a matter that is raised by the

CSRs. When expressly asked if the CSR would raise this issue with a caller, she stated that they will ask about water main work “if everything else fails.” She said that they will ask the caller if there “has been anything done on the street.” If there has been, “we will ask the water billing people to put in a request to Toronto Water.”

97. When asked about the role of water main work, the first CSR interviewed by my investigator said,

I find I don't get into that one a lot. Not just because it doesn't often happen. I find that sometimes, if I mention it to people, it'll just worry them more. Because let's say it's someone who's out at work all day, and the [water main relining] work could be done during the day... 'Well I was at work; I don't know what's going on when I'm not there.' I find that it worries them, more than anything. Not that I want to hide anything from them, but I don't find that it's often the case that there's construction work done on the street that would affect it.

98. My investigator spoke with three additional CSRs to ask how an enquiry about a high water bill would be handled. All three stated that they would verify the meter reading, explain the leak tests and advise of the meter testing option. None of the individuals interviewed mentioned water main work as an issue that they would raise with callers.
99. The Supervisor, WMP commented that the customer may not remember whether there was water main work when they receive their bill four months later.
100. The Manager, Utility Billing and Parking Ticket Operations, stated that the homes served by a particular water main are not necessarily those immediately adjacent. He advised that he has seen cases where the homes right beside the construction are not served by the water main being relined, while those a kilometre away are. He said it is therefore important to have Toronto Water investigate.
101. The Director stated that, if it is confirmed that work was done on the water main serving the customer, that person's bill will be adjusted based on historical consumption. This is provided for in section 849-28 of the Code.

11.0 A Look at Individual Cases

102. The following is a sample of the complaints brought to my office.

Ms. S

103. Ms. S complained that she received two high bills, one in December 2010 and one in April 2011, for \$934.00 and \$550.00 respectively. They represented consumption of 98,000 and 56,000 gallons. Her past bills were typically about \$200.00 for 20,000 gallons per billing period.
104. She contacted the City through her Councillor and followed the City's suggestions. She verified her meter reading. She did an overnight leak test, taking care not to use water during the night. Ms. S stated that the meter showed that 400 gallons had been consumed during the night.
105. She then requested that her meter be tested. She asked the City technician who removed her meter to look at the fixtures in the home to see if he could see any sign of a leak. He found none.
106. The meter test showed that the meter was over-registering very slightly. She received a refund of \$35.88. Her consumption went back to a 'normal' level in the next billing period.
107. Ms. M said she does not believe the City raised the question of water main relining work. She recalls raising the issue herself, as there had been water main replacement on her street twice in the preceding four years. She was told that this work had not affected her water service.
108. She said she spoke with the former mayor of East York, who informed her that he had received complaints of this nature while he was mayor. He attributed the problem to old equipment and aging infrastructure. He told her that East York would have adjusted her account under such circumstances.
109. Ms. S states that, while readings may rarely be wrong, the City should be prepared to acknowledge cases where the customer can demonstrate that the consumption information is at odds with previous readings, the result of the overnight test and a verified leak inspection.

The lack of [a] right to appeal and then the fact that the City can merge my taxes and my utility bill leaves me standing with no rights at all... Dealing with this issue is simply a frustration. It feels as though

the consumer will simply be beaten down until they comply, with no recourse, no possibility of appeal. It is truly unfair.

Mr. L

110. Mr. L received a bill in April 2011 for \$740.00 for the consumption of 74,700 gallons during the period November 15, 2010 to March 30, 2011. His previous bills, based on actual reads, ranged from \$160.00 to \$270.00 for the consumption of 19,000 to 28,000 gallons.
111. His consumption returned to previous levels in the next billing period.
112. Mr. L contacted the City and was told that he must have a leak. He had the premises checked by a plumber. No leaks were found.
113. He did not recall the City asking him about water main relining work. He stated that he raised the issue of construction himself, however, as there has been “non-stop road and sidewalk work in the area for the last two years.” He said he was told this would not have affected his consumption. Toronto Water was not asked to check for water main relining work in the area.
114. Mr. L stated that the metered premises is a hair salon. If his water consumption had increased as registered, he said there would have been a corresponding increase in electricity usage.
115. He had his meter tested and was told that it was over-registering. Following an adjustment to his account, he received a credit of \$3.36.
116. His consumption returned to historical levels in the next billing period.
117. He described his six or seven contacts with the City as an “exercise in futility.” He said he was frustrated by the message that “the meters are accurate...if the meter says you used the water, you used it and you have to pay for it.” He found the whole process “very disappointing.”
118. Mr. L stated that his brother-in-law, who works for a municipal water authority, informed him that “with the old meters the number tumblers can over-read but there is no way of proving this. Once the meter is tested, it is found to be fine”.

Ms. D

119. Ms. D complained that she and her partner received a bill for \$3,500.00 from the City in August 2011 for consuming 1529 m³ of water. The bill

represented the period February 17, to June 24, 2011. This was more than ten times their normal consumption level of 1-1.4 m³ per day.

120. During their multiple enquiries with the City, they were informed that the high consumption likely resulted from a leak. They were told about possible leaks in the toilets and taps and informed how to do a leak test.
121. The Director suggested that, because there were seven tenants living in the premises, Ms. D was not in a position to attest to the consumption activities.
122. Ms. D and her partner recalled being told that the City was “not responsible for maintaining your plumbing.” They had their premises checked for leaks. None were found. Their meter was tested and found to be operating within acceptable limits.
123. It was Ms. D’s recollection that the City did not ask about water main relining during the first call. They were asked at some later point whether the City had done work on the water system and said they did not know.
124. Ms. D and her partner have no idea whether the City checked its records to determine this, as the issue was not raised again. They received no further information or communication.
125. City records indicate that Toronto Water has never been asked to investigate whether there was water main work done in their area.

Ms. N

126. Ms. N’s Councillor contacted Revenue Services on her behalf after she received a bill for \$1,071.16 for consuming 493.6 m³ of water in the four-month period from July 19 to November 17, 2010. Ms. N’s historical consumption was approximately 20 m³ per month. She normally paid about \$180.00 each billing period.
127. None of her recent billings were based on estimates.
128. Revenue Services told her Councillor that she should check for leaks, which she did. None were found. She did not have her meter replaced. Her consumption returned to previous levels in the next billing period.
129. Ms. N stated that water main relining work was not mentioned in enquiries with the City until she raised it, since she had had a water main break in her driveway. She said the City informed her that, since this had occurred in March 2010, it could not have affected her consumption during the period in question.

130. Ms. N said she was frustrated that there was no means to appeal or negotiate the City's position.

Mr. F

131. Mr. F complained that he received a \$3,800.00 bill in September 2010 for the period April 30 to August 31, 2010. This is 20 times his typical consumption level of .6 - .7 m³ per day, for which he paid approximately \$190.00 each billing period.
132. When he called the City, he was told that he likely had a leak and that he should test for one. The CSR explained how to do this. She also informed him that he had the option of having the meter tested, which he elected to do.
133. Mr. F had a plumber check the premises for leaks. None were found.
134. His meter tested within acceptable limits.
135. The readings have returned to previous levels.
136. Mr. F advised that the City did not raise the question of water main work or City construction work during his enquiries.
137. He stated that it took three to four weeks for the City to communicate with him after he asked that it investigate the operation of the meter.

Mr. R

138. Mr. R received a \$1,532.61 bill in March 2011, for consumption of 151,565 gallons of water between November 15, 2010 and March 30, 2011. He normally consumed about one-seventh of this amount and paid approximately \$200.00 per billing period.
139. Revenue Services explained that it had noted the actual reading provided in November 2010 was high. The billing department initiated its reading verification process prior to billing. A service order was issued to check the consumption but the reading was not verified.
140. Revenue Services then based Mr. R's November 2010 bill on an estimate, instead of following its usual practice of billing at the high reading in order to alert the homeowner of the higher than normal consumption. Mr. R accordingly did not become aware of the increased consumption until the subsequent bill in March 2011.

141. Mr. R contacted the City. He said that the first CSR with whom he spoke was helpful. In addition to the information about leaks, she asked him if there had been any heavy construction in his area.
142. Mr. R said construction that included heavy drilling had been done on his house during the period between actual readings. The CSR suggested that this might have affected his reading. However, he was told by two other CSRs during subsequent enquiries that this would not have affected his consumption.
143. Mr. R called Neptune Technology Group to enquire about the question of drilling. He said he was told that it is "highly unlikely" that construction drilling would affect the meter, but that "if we had data on that, it would not be shared with the public."
144. In September 2011, he received a letter from the Director of Revenue Services advising that, because the verification process had not been completed and he did not receive the 'alert', his bill would be adjusted based on his historical average consumption.
145. Mr. R said he found the entire experience frustrating and overwhelming, particularly when he was told that most people pay their disputed bills even when they disagree, once they are told that the amount will be added to their tax bill if payment is not made.

Ms. M

146. Ms. M received a \$1,292.38 bill in March 2011, for consumption of 131,000 gallons between November 17, 2010 and February 25, 2011. This was based on an actual reading as were all her bills. Her typical consumption over the past several years had been 18,000 - 25,000 gallons per billing period, for which she paid between \$180.00 and \$250.00.
147. She explained that she was living alone in the home during the time at issue, as her spouse was in hospital. She was hardly at home, so water consumption in the residence would likely have dropped from previous levels.
148. Ms. M contacted the City to question the accuracy of the charge. She recalled the CSR asking if her consumption activities might have been different during that period and being told how to check for leaks.
149. She said she was asked whether she had filled her pool or used the sprinkler more than usual between November and February.
150. Ms. M does not have a pool and would not have been using it or a sprinkler in the winter anyway. She also informed the City that she uses

her outside water tap infrequently even in summer and has always made it a practice to turn off the inside connection to the tap when it is not in use.

151. Ms. M had a plumber check for leaks in the home. None were found.
152. She said her plumber told her that he had been informed by the instructor during a meter installation course by Neptune Technology Group that the number tumblers on old residential water meters can 'slip.'
153. The CSR told Ms. M she could have the meter tested and informed her of the charge for the test if it was shown to be accurate.
154. Her meter was tested and found to be operating within acceptable accuracy limits.
155. Her consumption readings returned to normal after the one high bill.
156. Ms. M stated that the CSR did not raise the matter of water main relining. She recalled that she asked about water main work during a subsequent enquiry because there had been work done on the water system along a nearby thoroughfare that had affected her water pressure. She was told by the CSR that this would not have been a factor in her reading.
157. Ms. M filed a formal complaint with Toronto Water. It reviewed her concerns in keeping with the complaint policy and informed her that it had found no evidence of fault or error with the meter. There was therefore no reason to adjust the bill.
158. Ms. M believes the City failed to adequately review her complaint. She contends that the consumption information on which the City relied is so grossly inconsistent with her historical consumption, the facilities in the home and her particular circumstances during the billing period, that it should not be allowed to stand.

12.0 Meter Operation

159. The residential water meters used in Toronto are positive displacement meters. They require the fluid being measured to mechanically displace components in the meter in order for any flow to occur. They use a nutating disc measurement system, which is the most commonly used system for measuring water consumption.
160. The meters operate by repeatedly filling and emptying a compartment of known volume. The water enters one side of the meter, strikes a rotating or 'nutating' disc and empties out on the other side of the meter. It tracks the number of times the disc chamber traps and empties fluid, thereby

giving a direct indication of the volume of liquid that has passed through the meter.

161. The disc moves a magnet which drives the register. Gears in the register convert the motion of the measuring chamber to the proper usage increment so that it can be displayed on the sweep hand and the odometer.
162. Many registers also have a leak detector; older meters may not have this feature. The leak detector shows very small flows that would otherwise be undetectable.
163. The Manager, WMP described the meter's operation as a simple one that uses a highly accurate volumetric measure. He stated that the register is activated by the nutating of the disc, which happens only when water passes through it.
164. He said that the disc cannot turn unless water is going through it.

It is kind of like a fail safe operation...There is no way you're going to make that turn by itself....It's such a basic operation. And if something was wrong here, it would affect millions of others.
165. He said that wear and deposits in the measuring chamber can cause the nutating disc to slow down, but there is no mechanism by which it can speed up. "If something were to interfere with that, it would under-register, if anything."
166. The Supervisor, Water Meter Program, (Supervisor, WMP) stated that an old meter may accumulate deposits in the measuring chamber. If the build-up is sufficient to reduce the size of the chamber, it will prevent it from holding the proper amount of water.
167. The Manager, WMP advised that a significant build-up of calcium in the chamber is unlikely as it is made of plastic. He stated that calcification is common in metal pipes, but with plastic "it's not going to happen."
168. He stated that the register is sealed and completely separate from the measuring chamber. Moisture and/or deposits from the measuring chamber cannot enter or affect the register.
169. The Supervisor, WMP said that he was at one time responsible for meter testing. He estimated that, of perhaps 200 meters tested a year, approximately 5% over-registered, by amounts of less than 1%.

170. The Manager, Utility Billing and Parking Ticket Operations, said he understood from dealing with these enquiries that Toronto Water has seen cases in which the number tumblers on very old meters catch, so that two or three tumblers advance together rather than each rotating separately.
171. The General Manager said this problem can occur on very old remote reading devices, but not on water meters.
172. The Manager and the Supervisor both stated that they were unaware of a problem with number tumblers 'catching' or 'slipping' on water meters.
173. The Supervisor, WMP advised that the meters are designed so that the tumblers advance only in response to nutating of the disc, which occurs only when water is passing through the meter.
174. The Supervisor, WMP stated that, if there was a problem with the tumblers, it would occur on every rotation of the meter and would be apparent in a meter test.
175. The Manager, WMP said that an astute meter tester would notice if the meter was not operating properly.

13.0 Meter Testing

176. The Manager, WMP informed my investigator that meters are transported to the testing site within a day of removal and are generally tested within "a couple of days...The longest it would take would be about a week." He advised that a delay of two or three weeks would not affect the test results.
177. The Manager, WMP stated that it is unlikely the measuring chamber would have dried out before the test was done, but that a dry chamber would not affect the test result in any event.
178. Toronto Water performs the meter test according to the American Water Works Association (AWWA) test standards. These standards require that the meter be tested at three flow rates -- low, intermediate and high -- since the accuracy rate varies at different flow rates. Most residential water is consumed at an intermediate flow rate. A combined weighted average is calculated that takes these factors into account.
179. The AWWA standards allow for an error rate of +/- 1.5%. The meter will therefore be deemed inaccurate only if it under or over-registers by more than 1.5%.
180. Statistics provided by Toronto Water show that, between January 2007 and October 17, 2011, Toronto Water tested 890 meters. In 94% of these cases, the meter was found to be accurate within the allowed range or

under-registering. Six percent (53) over-registered by an average of 2.34%, or .84% beyond the acceptable limit.

181. Customers are not charged for the un-metered water consumed if the meter is shown to have under-registered. Where the meter is over-registering, the customer is credited an amount equal to the difference between the amount billed and the amount that would have been billed had the meter been recording accurately, based on the result of the meter test.
182. The credit adjustment covers a period of not more than 24 months, unless the homeowner can verify that the City was notified of concerns about over-registration at an earlier date.
183. A customer whose meter had registered 120,000 gallons of water over 24 months, but whose meter was found to be over-registering by 1.5%, would have actually consumed 118, 200 gallons and would be entitled to a credit of approximately \$18.00 for the 24 month period.
184. The charge for the meter test increased from \$60.00 to \$150.00 on January 1, 2012. This fee is not charged if the meter is found to be over-registering beyond the acceptable limit of 1.5%.
185. The Manager, WMP stated that the real cost of performing a meter test is about \$350.00, which includes the time required to arrange the home visit; travel to the residence; check the operation of the meter; check the premises for leaks if requested; discuss the particulars of the test with the homeowner to ensure that they understand that most meters are found to register within the acceptable range; have the homeowner complete the form; remove the meter and install a new one; deliver the meter to the testing site; and perform the test.
186. The customer is free to have the meter tested by an accredited independent facility, which in some cases has occurred. The Supervisor, WMP said he has been informed by homeowners and testing facilities that the outside test results mirror those of the City.

14.0 Unexplained Spikes in Consumption

187. It is Toronto Water's view that there are no unexplained spikes in water consumption.
188. The General Manager, and the Manager and Supervisor, WMP all stated that they are confident high bills reflect actual usage, even if inadvertent, and do not indicate a problem with the metering system.

189. The Manager, WMP said that if there was a problem with the meter, it would be evident from the meter test, and “it would affect millions of others.”
190. He advised that toilet traps and underground irrigation systems are the most common sources of leak. He stated that a leak in a lawn irrigation system can consume a “huge” amount of water and, since the water is flowing underground, “they have no visual.”
- Either there’s something wrong with the underground irrigation system or there’s a leak. The poor homeowner probably didn’t even notice. Or maybe unexpectedly turned the leak off without even knowing.
191. The Manager, WMP said that the amount of water consumed by a leak can vary at different times of the day, because it is affected by water pressure. More is consumed when the pressure is higher, such as at night when the resident may not notice.
192. He stated that, based on tests done by the AWWA, a quarter-inch leak at 60 pounds per square inch will consume 4400 m³ in three months. This amount of water would cost over \$10,000 in Toronto.
193. A 1/16 inch leak would use 280 m³ in three months, at a cost of over \$694.00.
194. The Supervisor, WMP stated that a leak producing a quarter of a gallon per hour will use 652 m³ in four months. He said that this would be enough water to fill two swimming pools a month. If this leak happens to coincide with estimated bills, the cost would be greater.
195. He believes high bills are the result of either a catch-up billing following one or more estimated bills, or a leak in the home.
- It could be a tap that’s leaking, it could be a defective toilet...it could be a seasonal bill. Traditionally in the summer time you’re going to use more water.
196. The Supervisor, WMP said that people may not even be aware that they have a leak. He pointed out that if an inadvertent leak coincides with a period of consecutive estimated bills, the homeowner will have no knowledge of the leak or the reason for the correspondingly higher bill.
197. He said that customers are often unaware that appliances such as water-cooled air conditioners and humidifiers can also be a source of leaks.

198. The Supervisor, WMP stated, however, that “I have in excess of 25 years dealing with water meters and I know for a fact that people often repair/replace toilets and they don’t admit it.”
199. The Supervisor, CSCC said that, based on her experience with customers, some will not admit that they had a leak.

The thing is, people lie...I know they lie to me, but I would rather adjust the one person that lied than not help the ten people that didn’t lie.

200. The Director advised that homeowners will not always acknowledge a leak. He said there have been cases in which City meter staff have been in the homes of customers who deny having a leak, yet there are obvious tell-tale water marks on the toilet bowl or on the floor that indicate a long-term leak.
201. He stated that a customer’s return to previous consumption levels after the high bill appears to support the City’s position that there was a leak that was located and fixed.
202. The Director stated that Revenue Services has, however, encountered cases in which,

We have a big question mark and we can’t explain these things. However, we do not have the flexibility to address the problem. Billings have to be based on consumption as recorded by the meter. This is the only means of measuring consumption....I think there needs to be some method of treating the unexplained case. Or a case where we know it will cause a hardship. At present, we do not have a means to deal with these question marks.

15.0 City’s Legislative Review

203. The City Manager asked staff to review the provisions of Chapter 849 of the Code to determine whether amendments are warranted to provide additional authority to adjust water bills, either in cases where the accuracy of meter readings cannot be conclusively established, or in situations where there are fairness, hardship or other considerations that may arise.
204. The Director informed my investigator that there were a number of discussions about possible amendments to the relevant sections of the Code, but no consensus was reached.

205. The General Manager told my investigator that he does not believe it is appropriate to amend the Code to allow for the adjustment of charges in cases where consumption is disputed.
206. He stated that the Code is intended to accommodate situations in which City equipment or staff error has resulted in an incorrect charge or an inability to calculate actual consumption. The water bills in these cases do not in his view fall within those parameters.
207. The Director said that there are, in his experience, some cases in which an unexpected spike in water charges has created hardship for the customer. He said this is not true of every case in which water charges have increased. The circumstances that led to the unusual water consumption and the homeowner's financial circumstances both play a part in determining whether there is hardship.
208. He made the following observation:

We know that there are any number of personal situations out there. Elderly people with leaky pipes in basements. They don't go down to the basement, they may have a leak down there for weeks or months. And then we hit them with a substantial bill. Is it fair to ask them to pay it knowing that it's going to cause them a financial hardship... We shouldn't have a system that could potentially cause someone to lose their home and be on the street because water leaked on their property... Right now there is no authority, no discretion to address those cases.

209. He believes that some mechanism should be put in place to provide relief in exceptional circumstances.
210. The General Manager stated that, if a water charge does in fact create a financial hardship for the customer, it is open to Revenue Services to take the matter to City Council on a case-by-case basis.
211. The Director said that one approach might be to ask City Council to set up a fund to assist individuals who have been placed in an untenable financial position as a result of unexplained water consumption charges.

16.0 Water Meter Program

212. The City is in the process of replacing all of the existing water meters with automatic read (AMR) meters. These meters are equipped with an electronic reading device that transmits consumption information

automatically, thereby eliminating the need to attend the premises to obtain a reading or rely on customer supplied readings.

213. The electronic meters are expected to address the problem of revenue loss from under-registration of consumption, ensure fair and equitable billing, reduce operational costs, and improve water conservation.
214. The automated meters transmit readings every six hours. Data will be collected and made available to customers on-line. Customers will be able to track their consumption through a secure on-line site. This will allow monitoring and early leak detection.
215. The City is also considering instituting a practice of notifying customers of consumption spikes and dips.
216. Toronto Water began installing automated meters in 2010 for customers that were not metered, and will proceed on a ward-by-ward basis. Approximately 49,000 have been installed in residential locations to date. The program is expected to be fully operational by 2016.

17.0 A Look at Other Municipalities

217. My investigator consulted officials in London, Ontario and New York City, both of which have similar water metering systems and are in the process of installing automated (AMR) meters.

17.1 London

218. Officials from the City of London advised that it is installing automated meters because:
 - (i) nearly 50% of the meters in operation were beyond their intended service life;
 - (ii) there was a 50,000 meter backlog for replacement;
 - (iii) meter accuracy degradation had resulted in a \$1.2 million annual revenue loss from un-metered consumption;
 - (iv) its remote read meters had a low read success rate;
 - (v) customers received prolonged estimated reads, resulting in large “catch-up” bills once an actual read was obtained;
 - (vi) meter reading costs were increasing;

- (vii) meters that would provide accurate and reliable monthly reads would improve customer service and eliminate prolonged estimated reads.
219. The City of London stated that it had not encountered “credible” cases of large, unexplained spikes in consumption. Any such complaints received were found to have resulted from:
- the installation of the new meter, which captured consumption that had been un-registered or under-registered by the old meter;
 - leaks in the home; or
 - cases in which the customer had forgotten about increased consumption from such things as visitors in the home.
220. London charges \$107.90 for meter testing unless it is shown to be over-registering by more than 3%. Its by-law provides that any additional expense of removing and testing the meter may also be charged.
221. London’s water rate by-law does not provide discretion to adjust water consumption charges.
222. Arrears may be added to property taxes.
223. It has not had experience with water main relining work distorting consumption.

17.2 New York City

224. New York City officials advised that its previous meters were installed in the 1980’s, and had exceeded their 15 to 20 year service life. The meters were under-registering because of their age.
225. Estimated readings in 15% of its cases were considered too high.
226. Officials reported that complaints about consumption spikes were not uncommon, but were rarely substantiated, as they did not stand up to a leak inspection and water meter test.
227. Officials said they had encountered rare cases in which a high reading resulted from a mis-matching of registers and meters.
228. New York City does not have the authority to adjust water bills.
229. It has a leak forgiveness program. It provides that, if the customer receives a very large water bill that has not resulted from a leak in a toilet, sink, tub,

garden hose, etc, and that required the services of a licensed plumber to repair, the program will compare the bill to those from matching time periods and may reduce the charges. This program will be phased out once the AMR system is fully operational.

230. New York City has introduced a Leak Notification Program, which allows customers to be alerted of significant increases by email notification. It does not charge for this service and it reports that, to date, 8,900 customers have registered for this service.
231. New York City charges \$180.00 for meter testing.
232. It does not transfer water bill arrears to property taxes. They will attach a lien for unpaid arrears. Service can be terminated for non-payment of arrears.
233. New York City was unaware of water main work affecting water consumption.
234. The City's Director of Metering and Conservation stated that, in rare cases, the tumblers on the Neptune ARB-V meters were known to skip.
235. The pin box for remote reading on the Neptune ARB-V meters would also sometimes fail, so that the reading on the remote device did not correspond with that on the inside meter register.
236. New York City removed the Neptune ARB-V meter from its approved list in 1996. The Director of Metering and Conservation stated that Neptune agreed to replace approximately 50,000 of those that were in use to avoid litigation, but that this did not mean that the remaining ARB-V meters were flawless.
237. Toronto Water advised that there are at present approximately 109,381 Neptune ARB-V meters in use in Toronto. Most are located in residences. It stated that it is aware of the pin box problem but has not known the tumblers on this meter to skip.
238. Although the meters of most of the complainants profiled in this report were removed and replaced, Toronto Water was able to determine that three of the complainants, Ms. D, Mr. P and Ms. M, appear to have had ARB-V meters at the time they experienced the spike in consumption.

18.0 What the Experts Say

239. My investigator consulted nine technicians and engineers external to the City who had extensive knowledge of the water metering process.

240. They provided the following information:

Service Life

- The service life of residential 5/8 inch positive displacement meters is 15 to 20 years. Water quality and consumption pattern can affect meter life. One stated that Canadians use an average of 15% to 20% more water than Americans and that the meter's service life in Canada should be considered to be 14 or 15 years.

Accuracy

- Meters start to lose accuracy after 20 years, but will generally continue to operate within the +/-1.5% accuracy range under good water quality conditions and normal consumption patterns.
- Where there is inaccuracy, it will be in the form of under-registering. This occurs because fatigue and mechanical wear will change the operating clearances of the rotating parts and affect registration accuracy. There may also be calcification and accumulation of deposits in the measuring chamber that impede flow.
- A high failure rate by a meter is much more likely to be in the homeowner's favour.
- Positive displacement meters do not over-register, at least not significantly, as there must be water passing through the measuring chamber for the meter to register.
- There have been cases of significant over-registration occurring where registers have been improperly matched with meters, meaning the wrong register had been installed on the meter. This would be readily apparent in a meter test.
- Spikes in consumption are not caused by a problem with the meter. In the overwhelming majority of investigations regarding excessive consumption and/or suspect readings, the reasons have either been reading errors or unknown, undetected water use.

Leaks

- Toilets account for 95% of water leaks in the home.
- Leaks, particularly in toilets, can be intermittent. The leak may therefore be only sporadically detectable even with a leak indicator, making it difficult to catch.

- A leak in a toilet may be stopped temporarily by flicking the flush handle, but will resume during subsequent flushes.
- A ¼ inch leak can consume 475 m³ in a four month period.
- A leak in an outside irrigation system can easily consume as much water in a single cycle as an entire month of indoor use.
- A meter that is under-registering can mask or fail to register a leak.

Operational Issues

- One expert said that he was unaware of number tumblers 'catching' in such a way that two or three tumblers advanced together rather than individually.
- Two experts stated that the tumblers are advanced by a gearing system and are designed so as not to disengage and rotate out of sequence.
- One said that it is possible for tumblers to catch, but it "is not a normal problem area."
- Another stated that such a condition could only occur if a component of the meter was damaged, a part was missing or the register was improperly assembled.
- One expert stated that a large shock such as a fall onto a concrete surface could affect the operation of the tumblers.
- Another said that, if the tumblers had 'caught' or 'spun' while the meter was in operation, this would be evident when the meter was tested.
- Another stated that the problem would not be apparent in testing if it was intermittent.

Water Main Relining

- Water main relining can cause small particles and debris to enter residential service lines. Positive displacement meters can be slowed or even stopped by entrained debris. Very small particles can pass through the meter filter.

Testing

- Meter testing according to the AWWA standards is the standard procedure.
- A meter could be tested after a period of three weeks, as long as the tester re-wet the measuring chamber, as required, prior to testing.

19.0 Ombudsman Conclusions

241. On the whole, Toronto Water's metering system functions well.
242. Revenue Services receives few complaints relative to the number of accounts it manages, and resolves the bulk of those received.
243. While the number of complaints remaining unresolved is small, they raise serious issues. My review of the customer service processes followed by Revenue Services and Toronto Water indicates some areas for improvement.

Estimated Bills

244. I understand that actual readings are not always available and, in those cases, it is necessary to estimate the bill.
245. When estimates are required, Revenue Services waits until the resident's account has been estimated six times before it writes to expressly request that an actual reading be provided. This represents a period of two years.
246. The City notes on each bill whether the charge is based on an actual reading or an estimate. However, customers are obviously not responding to the information in that form if estimates can continue for as long as two years.
247. It is unreasonable to rely on estimates for this length of time and then impose what may be an exorbitant bill on a customer.
248. The City should advance the point at which it writes to customers who have received multiple consecutive estimated bills. This would mitigate the impact of catch-up bills and unexpected increases in consumption, whatever their origin.
249. I note too that estimates of entire routes are sometimes required because staff are unavailable to complete their reading route as scheduled. The

City tries to do this on routes where past billings were based on actual readings.

250. If such estimates coincide with a period of higher than normal consumption, the cost to the homeowner will have been exacerbated by actions of the City.

Customer Service

251. The legislation limits what Revenue Services can do in response to enquiries about high water bills.
252. The Code circumscribes the situations in which redress can be provided. The bill can be adjusted only if there was a meter or other City error found, and, in the case of meter inaccuracy, only to the extent that the meter is inaccurate.
253. Given these constraints, Revenue Services' handling of such enquiries is not in my view unreasonable. Customers who call are generally provided with helpful information about verifying the meter reading, checking for leaks and testing the meter.
254. Based on the information provided by Revenue Services, the bulk of enquiries are resolved.

Credibility of Customers

255. I understand it is the City's position that the meters only record actual water usage. Customer service staff respond to enquiries from this premise.
256. When a resident calls about an unusually high water bill, staff will provide information about the possible causes, and this often resolves the enquiry.
257. However, in cases where a cause is not identified, City staff sometimes insist that the water was nevertheless used at the premises.
258. Some customers experience this insistence as an insinuation that they are being deliberately untruthful about their water use.
259. This was certainly the evidence of one City manager.
260. I appreciate that the operation of the meters largely supports the position that the water must have passed through the meter . However, the City also acknowledges that there are cases in which it has not been able to identify the cause of a large and sudden increase in water consumption. This is consistent with the facts of the cases I have reviewed.

261. Toronto Water officials and the experts we consulted have stated that a leak can start and stop without the homeowner being aware.
262. The reports of City metering staff who say they have seen evidence of a leak in the home by no means proves that the customer had and repaired a leak during the period in question.
263. It therefore does not automatically follow that customers are deliberately misleading the City when they say they do not believe they consumed the amount of water registered.
264. I have no doubt that the vast majority of customers genuinely believe that their consumption information is incorrect. Even those who have had a leak may not believe it could possibly explain a twenty-fold increase in their water consumption.
265. Regardless of the situation, every public servant has a responsibility to approach every member of the public with a respectful and open mind.

Water Main Relining

266. There are a number of problems with the present procedures for investigating the potential role of water main relining.
267. The City Manager stated that the City's investigation of water bill enquiries includes a check for water main relining work.
268. The information provided to my investigator, however, indicates that water main relining work is often not raised by the City when a customer enquires about a high water bill.
269. When it is raised, this typically does not occur until after the leak check and meter test have been done, and only if the homeowner calls back.
270. City staff do not appear to have clear understanding of the type of water main work involved.
271. They ask the homeowner to advise if there has been water main work performed in their neighbourhood, when the latter may have an even poorer understanding of the nature of the work in question.
272. Even when the subject has been discussed with the customer, Toronto Water may not be asked to investigate.

273. In two of the case examples, Revenue Services' records showed that Toronto Water was not asked to check for water main work, even after this had been discussed with the customer.
274. In cases where Toronto Water investigated, it was not done when the enquiry was initially received. In some instances it was not done until after my office commenced enquiries on the complainant's behalf.
275. When Toronto Water determines that water main work did not occur, this information is not communicated to the customer.
276. This is not acceptable. The procedure in place is not well understood by the CSRs and is not consistently followed.
277. If the issue is to be investigated, it must be done consistently and effectively.
278. All callers enquiring about a high water bill should be informed at the outset that Toronto Water will be asked to investigate water main activity as a possible cause. Customers should also be informed of the result of that investigation regardless of the outcome.
279. Since the City states that it receives few such enquiries and is already doing this in most cases, this requirement should not be onerous.

Access to Review

280. In my view, the complaints to my office did not result from an absence of appeal mechanisms.
281. With the exception of the water main question, callers were asked the appropriate questions and given available and relevant information. Callers have recourse to more senior staff and a formal complaint process. In some cases, these steps provide a partial remedy.
282. There is no indication that complainants would have benefited from further levels of review. Rather, the cause of their dissatisfaction is a system that cannot provide the remedy sought, regardless of the customer's explanation.

Water Meter Program

283. The installation of electronic water meters will potentially reduce the incidence of surprise billings for increased water use.
284. However, the automated system is not expected to be fully operational for four more years. Even then, there will continue to be customers who do

not have access to the on-line information. Those that do have it will not necessarily seek out the information.

- 285. The Water Meter Program will, in short, not completely level the playing field.
- 286. It is likely that there will continue to be a small number of cases where customers receive bills for volumes of water that are significantly and inexplicably larger than their historical usage.

Systemic Issues

- 287. I appreciate that the system is being upgraded to provide more accurate and timely information. However, it remains imperfect. The City knows this.
- 288. Meters have aged far beyond their intended service life. Some under-register and even stop, causing revenue loss. Some properly constructed meters over-register, even though the design of the meters is supposed to preclude this.
- 289. The amounts charged to flat-rate customers may bear no relationship to the actual amount of water consumed.
- 290. Accounts may be billed on the basis of estimates for long periods of time. Some estimates are occasioned by City action because staff are not available to take readings. These customers do not have the benefit of periodic consumption reports. Once there is an actual reading, there may be a large "catch-up" bill that does not correspond with recent usage.
- 291. The information gathered in my investigation does not entirely support the City's position that the equipment could not have been responsible for these spikes in consumption.
- 292. The City is not in a position to conclusively demonstrate that the metered information on which these charges are based is absolutely reliable, yet it is requiring residents to demonstrate that their charges are incorrect before the City will adjust their bill.
- 293. Ms. M's situation highlights the impact of the current provisions of the Toronto Municipal Code, which do not allow adjustment of this individual's bill.
- 294. Ms. M was credible and consistent throughout her story.
- 295. She is a senior living alone, following the death of her spouse.
- 296. She was at the time of her exorbitant bill largely absent from her home.

297. She is careful about the fixtures in her home and her water use practices.
298. Her water usage has been consistent for years. She provides actual readings.
299. She followed the City's advice in good faith by having a plumber check for leaks. None were found.
300. She had her meter tested. It was found to be accurate.
301. Her consumption returned to previous levels in the next billing period.
302. Despite all of these factors, the City informed Ms. M that it knew she consumed the water and she had to pay a bill that is 10 times her typical charge.
303. The legislation, in my view, adversely impacts residents like Ms. M.

20.0 Ombudsman Recommendations

304. Taking into account the evidence gathered in this investigation, I am making the following recommendations.
 1. That, by June 1, 2012, Revenue Services, in consultation with Toronto Water, develop criteria by which it may identify and address exceptional cases.
 2. That my office receive and review the draft criteria prior to June 1, 2012.
 3. That, by November 1, 2012, the City Manager draft amendments to Chapter 849 of the Toronto Municipal Code to establish the authority by which Revenue Services may have the discretion on a case-by-case basis, based on the criteria, to adjust the water account of a customer who has experienced a sudden large increase not explained by a meter test or leak check.
 4. That, by November 1, 2012, the Water Meter Program implement a standard by which it notifies customers of consumption spikes and dips in a cost effective manner
 5. That, in all enquiries regarding large unexpected water charges, Revenue Services determine at the outset whether there has been area water main relining work, and inform the customer of those facts.

6. That, until the automated system is fully operational, Revenue Services immediately adopt a practice of writing to the customer after three consecutive bills based on estimates to request that s/he provide an actual reading.
7. That, by November 15, 2012, the City Manager report back to my office on the implementation of these recommendations.

21.0 The City's Response

305. Prior to finalizing my report, I notified the City of my tentative conclusions and recommendations and provided the City Manager with an opportunity to make representations. The City raised a number of points that it wished to clarify.
306. Following a meeting at which these matters were reviewed, the City notified my office that my report "accurately and objectively represents the key issues associated with high water bills and we agree with the findings as presented."
307. The City Manager noted that the problems associated with high water bills affect only a very small percentage of the 1.5 million utility bills that the City sends each year. He stated that he remains convinced water meters represent the most equitable and practical means of recording consumption.
308. He acknowledged that the current by-law does not provide a means to address cases where high consumption cannot be explained, particularly where a requirement to pay the bill would be unfair or create a financial hardship.
309. The City Manager agreed to implement my recommendations. He stated that he believes they will "provide additional protections and improved services to water customers, while reinforcing the notion that the City of Toronto and its residents and businesses have a shared responsibility to ensure that water is used wisely and conservatively."

(Original signed)

Fiona Crean
Ombudsman
April 3, 2012