



**STAFF REPORT
ACTION REQUIRED**

Establishing a Uniformed Criterion for Defining High Volume Water Accounts Across the City of Toronto

Date:	May 22, 2007
To:	Government Management
From:	Treasurer
Wards:	All Wards
Reference Number:	P:\2007\Internal Services\rev\gm07019rev (AFS #3334)

SUMMARY

This report recommends uniform criterion for defining what constitutes a high volume water account for billing purposes (i.e. determining which water accounts should be billed on a monthly basis versus a tri-annual basis). The analysis shows that the re-categorization of the high volume customer base, using the recommended annual water consumption threshold level of greater than 6000 cubic metres, will incrementally accelerate the collection of water revenue on a monthly basis; and, will improve the overall cashflow management of the revenue stream for the Water and Wastewater Program.

RECOMMENDATIONS

The Treasurer recommends that:

1. commencing September 1, 2007, authority be granted to the Director of Revenue Services to regularly review and update the classification of water accounts such that:
 - a) a water account will be deemed a “high volume” water account and billed on a monthly basis where:
 - (i) the water consumption in a calendar year for the account is greater than 6,000 cubic metres; or

- (ii) the water consumption is estimated by the City for the current calendar year, based on the water consumption for the account for the immediately preceding calendar year, to be greater than 6,000 cubic metres;
 - b) if a water account has previously been classified as “low volume” and the average annual water consumption for the account for two consecutive calendar years is greater than 6,000 cubic metres, the water account shall be re-classified as “high volume”;
 - c) if a water account has previously been classified as “high volume” and the water consumption for the account for the last calendar year is less than 4,500 cubic metres, the account shall be re-classified as “low volume”;
 - d) if a water account has previously been classified as “high volume” and the average annual water consumption for the account for two consecutive calendar years is 4,500 cubic metres or greater but does not exceed 6,000 cubic metres, the account shall be re-classified to “low volume”;
2. that affected by-laws of the former municipalities (The Corporation of the City of Toronto Municipal Code, Chapter 340; The Corporation of the City of Etobicoke, Chapter 257; Scarborough Public Utilities Commission of the City of Scarborough, Bylaw Number 30; City of North York, By-Law Number 32789; The Corporation of the Borough of York, By-Law Number 1259-71; The Corporation of the Borough of East York, By-Law 11-90) be amended accordingly to reflect the foregoing; and,
3. the appropriate City officials be authorized to take the necessary action to give effect thereto.

Financial Impact

Adopting a consumption-based criteria of “greater than 6,000 cubic metres” of water usage per year, for the purpose of defining what constitutes a high volume water account for billing purposes, will redistribute the amount of water consumption read and billed on a monthly versus a tri-annual basis. Approximately \$11.9 million (based on 2006 consumption data) will shift from being read and billed on a tri-annual basis (as a low volume account) to a monthly basis (as a high volume account), generating additional monthly cash-flow of approximately \$990,000 per month or \$248,000 per week, thus allowing the City to earn additional investment income. The City of Toronto will not experience change in the total annual water revenue from the redistribution of cash-flows.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

ISSUE BACKGROUND

Water accounts are categorized, for billing purposes, into one of three main groups: high volume metered accounts, low volume metered accounts and flat rate (non-metered) accounts. All high volume water accounts are read and billed monthly; whereas low volume metered accounts are read and billed every four months (i.e. three times per year). Flat rate accounts are billed twice a year with the exception of 1,500 accounts in the former city of Etobicoke which are billed three times per year. Table 1, below, summarizes the current number of water accounts, total water revenue(s) and billing frequency associated with each category.

Table 1: Summary of Water Accounts, Billing Frequency, and Respective Revenues

	Low Volume * (Metered)	Low Volume (Flat Rate)	High Volume (Metered)	Total
# of Accounts	389,000	75,000	14,050	478,050
% of Total Accounts	81%	16%	3%	100%
Annual Revenue	\$ 219,300,000	\$ 39,000,000	\$ 290,700,000	\$ 549,000,000
% of Total Water Revenue	40%	7%	53%	100%
Billing Frequency	Every 4 Months	Twice a Year – former Toronto. Three times per year – former Etobicoke	Monthly	-

At present, the classification of water accounts as high volume accounts is based on the past practices and criteria inherited from the former municipalities. While some of the former municipalities defined high volume accounts based on the service size of the meter installed on the property (i.e. a 1.5” service size meter equated to a high volume customer), others used the property’s tax classification (i.e. all commercial and industrial properties were considered high volume and billed on a monthly basis), and others still used a criteria based on the actual volume of water consumed.

High volume accounts, as currently defined by the individual by-laws of the former municipalities, total 14,050 and represent approximately 3% of the total number of water accounts across the City. However, this same group of high volume customers generates about 53% (or \$290.7 million) of the annual water revenue. Table 2, below, identifies the criteria currently used by the Revenue Services Division to determine what constitutes a high volume account and the number of such accounts by former municipality.

**Table 2: Current Criteria Used to Identify High Volume Accounts
Billed on a Monthly Basis**

Former Municipality	Current Criteria for Defining High Volume Accounts for Billing Purposes	# of High Volume Accounts by Former Municipality
East York	Any account servicing a property classified on the tax roll as commercial or industrial with annual water consumption equal to, or greater	201
Etobicoke	Any account servicing a property with an annual water consumption equal to, or greater than 1,500,000 imperial gallons (6,820 m ³)	1,074
North York	Any account with water meter service size of 1.5” and higher and any small commercial properties with water meter service size of 1.0”	5,112
Scarborough	Any account servicing a property classified on the tax roll as commercial or industrial, regardless of annual consumption or water meter service size	6,298
Toronto	Any account servicing a property with annual water consumption equal to, or greater than 10,000,000 imperial gallons or approximately 45,455 m ³	613
York	Any account servicing a property classified on the tax roll as commercial or industrial, regardless of annual consumption or water meter service size	752
Total		14,050

In recognition of the need to harmonize the criteria used in classifying (for billing purposes) water accounts across the City, this report recommends the implementation of uniformed criterion based on a meter’s consumption pattern in defining high and low volume accounts.

COMMENTS

Revenue Services staff investigated the following three (3) options with respect to the type of criteria that could be used to identify high volume accounts:

- a) Meter service size (i.e. 1.5” and higher meter service size defines a high volume account in former North York);
- b) Property tax assessment classification (i.e. commercial and industrial property class defines a high volume account in former Scarborough and York); and,
- c) Volume of water consumed.

Following an analysis of each option, staff recommend that the designation of water accounts into high versus low volume accounts should be based on the level of water used/consumed. Identifying such accounts using anything other than usage levels is ill

advised inasmuch as it creates artificial distinctions that do not necessarily correspond to consumer activity. For example:

- a) two (2) properties, each having a 1.5 inch water service, could use vastly different amounts of water depending on the activities occurring at the property (i.e. a small neighbourhood coffee shop as opposed to a beverage bottling company). To that end, if a 1.5 inch water service were to identify a high volume account, then the coffee shop would be billed in the same frequency as the bottling plant. From a cost/benefit perspective, the monthly operating expense associated with reading and billing the coffee shop at the same frequency as the bottling plant cannot be justified when taking into account the cost of reading a meter and the revenue generated by each of the two properties;
- b) when two (2) properties with different property tax classifications (e.g. residential, multi-residential, commercial, industrial) share a similar consumption level, there is no reason why they should be read and billed at different frequencies. For example, if the water consumption for a coffee shop and a residential property are similar, it would not be cost effective to read and bill them differently (i.e. read and bill the coffee shop on a monthly basis because it is designated as a “commercial” property on the property assessment roll; and, read and bill the residential dwelling every four (4) months given that it is returned on the assessment roll as “residential”).

The volume of water consumed, as opposed to the meter service size or property tax classification, better justifies and more realistically characterize a water account’s classification as either high or low volume, and thus it’s billing frequency.

Various annual consumption thresholds were considered in determining what level should be used to denote a high volume account for billing purposes. Table 3, below, summarizes the analysis undertaken by staff for four levels of consumption: greater than 1500 cubic metres, greater than 2,500 cubic metres, greater than 4,500 cubic metres, and greater than 6,000 cubic metres.

As Table 3 indicates, using a consumption based criteria to determine which water accounts should be designated as high volume and as such billed monthly, provides the City with an opportunity to better manage its cash-flow and generate additional investment income (re: Row F). Overall the amount of revenue billed each year will not change as a result of adopting a consumption-based criteria; however, there is a shift in terms of how much of the water consumed each year is billed on a monthly versus a tri-annual basis.

The break-even point for defining a high volume water account is the annual consumption threshold of “greater than 2500 cubic metres (^m3)” - this is the point where the extra cost associated with reading the newly defined high volume accounts on a monthly basis (re: Row G) is offset by the additional investment income generated (Row F). Annual threshold levels above the “greater than 6,000 cubic metres” were not

considered since they would not improve monthly cash-flow or investment income due to the fact that the total monthly consumption associated with these higher levels would fall below the consumption levels of the existing high volume accounts. The “greater than 1,500 cubic metres” threshold was not considered a viable criteria for defining a high volume water account for billing purposes, since at that level the operational pressures outweigh any potential investment benefits.

Table 3: Cost Benefit Analysis of Various Annual Consumption Thresholds

		Annual Consumption Threshold Levels (m3) Analyzed			
		Greater than 6,000 ^{m3}	Greater than 4,500 ^{m3}	Greater than 2,500 ^{m3}	Greater than 1,500 ^{m3}
A	Total Annual Consumption of All Meters Included in Each Threshold	224,200,000 ^{m3}	231,900,000 ^{m3}	245,500,000 ^{m3}	255,900,000 ^{m3}
B	Total Annual Consumption of Current High Volume Accounts	215,400,000 ^{m3}	215,400,000 ^{m3}	215,400,000 ^{m3}	215,400,000 ^{m3}
C	Variance in Annual Consumption (Row A – Row B)	8,800,000 ^{m3}	16,500,000 ^{m3}	30,100,000 ^{m3}	40,500,000 ^{m3}
D	Monthly Variance in Consumption (represents how much water consumption will shift from being billed three times per year to monthly) (Row C / 12) Note 1	733,333 ^{m3}	1,375,000 ^{m3}	2,508,333 ^{m3}	3,375,000 ^{m3}
E	Associated Incremental Increase in Monthly Revenue (Row D x \$1.35/m ³ -net water rate)	\$990,000	\$1,856,250	\$3,386,250	\$4,556,250
F	Associated Incremental Increase in Monthly Investment/Interest Income (Row E x 3% / 12)	\$2,475	\$4,641	\$8,466	\$11,391
G	Associated Incremental Increase in Monthly Operating Costs Note 2	(\$4,200)	0	\$8,400	\$10,500
H	Net Increase in Monthly Revenue (Row F – Row G)	\$6,675	\$4,641	\$66	\$891

Note 1: This Row represents how much of the water consumption currently identified as a Low Volume account (based on the current practices inherited from the former municipalities) and billed 3 times per year, will shift to a High Volume designation and will be billed on a monthly basis.

Note 2: A annual threshold level of “greater than 2,500^{m3}” would require an additional two meter readers to handle the net increase in monthly workload mainly in the former city of Toronto (an increase of close to 4,000 accounts). Under the “greater than 6,000^{m3}” level, one meter reading FTE can be re-deployed to deal with other work load pressures such as investigations, final reads when consumers move, etc.

It is recommended that a high volume water account be defined, for billing purposes, as one where the annual water consumption is greater than 6,000 cubic metres or 1,319,982 imperial gallons. Low volume accounts would be those whose consumption is equal to or less than 6,000 cubic metres or 1,319,982 imperial gallons. The “greater than 6,000 cubic metres” threshold level improves monthly cash-flow and investment opportunities while balancing the impact on the City’s meter reading operation. From a customer perspective, adopting a consumption-based criteria avoids the payment of either exceptionally large or exceedingly small water bills.

The “greater than 4,500 cubic metres” threshold provides less of a financial benefit than the 6,000 cubic metres threshold. However, as annual consumption by property/meter may vary from year to year as a result of demographic, economic or weather conditions, the 4,500 cubic metres threshold can be used to allow for, and mitigate the impact of, year-over-year consumption fluctuations. It is recommended that once an account is categorized as high volume, changing the status to low volume would require its average consumption for the preceding twelve months to be less than 4,500 cubic metres. If the annual consumption is below 6,000 cubic metres but above 4,500 cubic metres, the account will not lose its status of high volume and will continue to be billed monthly. If the same high volume account has an annual consumption in the range of between 4,501 cubic metres and 6,000 cubic metres for two consecutive years, it will be eventually re-categorized to a low volume account status. From an operational point of view, such an evaluation will occur at the beginning of each calendar year at which time the qualifying accounts will be re-categorized.

Table 4, below, illustrates the impact of defining high volume accounts based on an annual consumption level of 6,001 cubic metres or more.

Table 4: Projected High & Low Volume Accounts & Associated Revenue based on the Recommended Criteria of 6,001 cubic metres or more

Former Municipality	No. of High Volume Metered Accounts			No. of Low Volume Metered Accounts		
	Based on Current Criteria	Based on Recommended Criteria of greater than 6,000 ^{m3}	Change in # of Accounts	Based on Current Criteria	Based on Recommended Criteria of greater than 6,000 ^{m3}	Change in # of Accounts
East York	201	240	+ 39	22,662	22,623	- 39
Etobicoke	1,074	996	- 78	68,489	68,567	+ 78
North York	5,112	1,809	- 3,303	92,942	96,245	+ 3,303
Scarborough	6,298	1,228	- 5,070	111,565	116,635	+ 5,070
Toronto	613	2,423	+ 1,810	61,559	59,749	- 1,810
York	752	304	- 448	31,733	32,181	+ 448
Total	14,050	7,000	-7,050	388,950	396,000	+ 7,050
Annual Revenue	\$290,700,000	\$302,600,000		\$219,300,000	\$207,400,000	

The move towards a consumption-based criteria set at “greater than 6,000 cubic metres” of water consumption per calendar year to denote a high volume water account has an obvious impact on some customers in certain former municipalities. In particular, the high volume customer base within the former city of Toronto will increase from 479 to 2,378 accounts; while, the former North York area will experience a decrease from 5,800 to 1,824 high volume accounts. However, as Table 3 indicates, the City’s monthly cash-flow will improve resulting in additional investment income.

If Council approves the recommendations presented in this report, staff will commence implementing the necessary operating changes starting the beginning of September 2007. In addition, staff will begin to prepare a communications strategy intended to advise impacted customers of the change in billing frequency.

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SIGNATURE

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