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THE UNIVERSITY of TENNESSEE
MUNICIPAL TECHNICAL ADVISORY SERVICE

In cooperation with the Tennessee Municipal League

TECHNICAL bulletin

January 19, 2011

NON-METERED WATER USAGE

Alan Major, Finance and Accounting Consultant

Water loss in municipal water systems is not new and is in fact a common problem faced by most Tennessee cities that operate a water utility. Cities, as a general rule, purchase or treat more water than they sell to customers through metered billing. The difference between the purchased/treated amount and the amount billed to customers is water loss or more accurately described as non-metered water usage. Recent changes in state law have mandated that all city-owned water systems must measure this difference and account for water usage by categories, pre-determined by the Comptroller of the Treasury, Division of Municipal Audit (Municipal Audit). Additionally, this non-metered usage must be reported in the municipality's external audit in the *Schedule of Unaccounted for Water* format proscribed by Municipal Audit.

Non-metered water usage is not the same thing as water loss. Some valid city functions use water that is not metered (street cleaning, fire fighting, etc.). It is only after considering these valid non-metered water uses that a city can arrive at the accurate water loss.

The unaccounted for water that is computed according to Municipal Audit guidelines and reported in the annual external audit will be used by the Water and Wastewater Finance Board (WWFB) in the future as they are received. The WWFB has set a limit on the acceptable water loss, or percentage of water loss versus purchased and treated at 35 percent. City water systems with an unaccounted for water loss percentage greater than 35 percent will have to develop a plan approved by the WWFB that would reduce their water loss to an acceptable level below 35 percent. MTAS understands that the WWFB has first set a reasonable limit and will gradually tighten or reduce the acceptable water loss in the future.

The format provided by Municipal Audit must be used for any audit received by Municipal Audit before Jan. 1, 2013. See the Alternative Water Loss Methodology below for later audits. Municipal finance staff can find that schedule on the comptroller's Web site at: http://www.comptroller1.state.tn.us/wwfb/PDF/waterlossschedule.pdf.

The following definitions provided by the state must be used in reporting information on the *Schedule of Unaccounted for Water:*

Item B — Water pumped: This is the amount of water that has been treated at your utility treatment facility and has been pumped to the distribution system.

Item C — Water purchased: This is the amount of water purchased from your supplier. If you have more than one supplier, add the numbers together.

Item F — Water sold: This is the amount of water sold (billed or unbilled) to all your customers via a water meter.

Item G — Water metered (in house usage): This is the amount of water that is used by the utility at the water plant, wastewater plant, lift stations, lavatory, lab, etc. (backwashing filters, testing, etc.). This water should be metered for accurate accountability. This is **not** the water used at city facilities, ball parks, etc. Those amounts are to be metered and billed to the respective user (General fund, Parks, etc.) and accounted for in the water sold category.

Item H — Fire department: This is the amount of water reported to the utility as being used by any fire departments for fire fighting. A representative from the fire department (chief) must document, estimate, and attest in writing the amount of water used by the fire department.

Item I — Flushing: This is the amount of water that is used to flush the system through fire hydrants, blow off valves, etc. The amount should be accurately measured.

Item J — Tank cleaning/filling: This is the amount of water that is used to fill tanks after required cleaning. This also is water added to lines that are new to the system. This water should be measured by some method — either by meter or a calculation based on the size of the tank or line.

Item K — Street cleaning: This is the water used in street cleaning. The water is from a sized tanker truck or measured with a meter.

Item L — Bulk sales: Many systems sell water for filling pools, irrigation by farmers, etc. The water in this category is generally measured by the size of the tank being filled.

Item M — Water bill adjustments: This number can be either positive or negative. This category is for all adjustments made to the customer bill in accordance with procedures established by the governing body.

Remember all water should be measured by some method. A responsible person from each area or category of non-metered water usage should document and attest in writing as to the accuracy of the information. Also, Municipal Audit requires that every line on the *Schedule of Unaccounted for Water* either have a numerical amount listed and documented or a zero to accurately show amounts for each category.

ALTERNATIVE WATER LOSS METHODOLOGY

The WWFB has adopted the American Water Works Association (AWWA) water loss methodology that may be used in any audited financial statements received **after** Jan. 1, 2013. The current method provided by Municipal Audit must be used until then.

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