

NYS COMPTROLLER -- MUNICIPAL AUDIT REPORTS ADDRESSING WATER LOSS

2009 through Feb. 2014

A compilation of all available audit reports from the NYS Comptroller website (only those addressing water usage are included)

*Records are available from 2009-Present, examination periods extend as far back as 2007

Source: <http://www.osc.state.ny.us/localgov/audits/typeindex.htm>

Name of Town: City of Little Falls

Date of Report: November 29, 2013

Examination Period: January 1, 2011 – July 31, 2012

Source: <http://osc.state.ny.us/localgov/audits/cities/2013/littlefalls.htm>

Key Findings on Leakage or Loss:

- The City is losing 54 percent of the water it distributes, which is substantially higher than the EPA goal of 10 percent. In 2011, the City reported that 719 million gallons of water was treated and 331 million gallons was delivered or used, leaving 388 million gallons of unaccounted-for water. The cost of unaccounted-for water for 2011 is about \$265,000.

Key Recommendations:

- Investigate the causes of excessive water loss and take appropriate action to reduce water loss and costs.

Name of Town: Town of Carmel

Date of Report: September 28, 2012

Examination Period: January 1, 2010 – October 12, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2012/carmel.htm>

Key Findings on Leakage or Loss:

- Town officials do not reconcile the amount of water purchased to the amount of water treated prior to distribution. As a result, they cannot account for a 14 million gallon water loss that was purchased from New York City (NYC) for sewer district #2, from October 2010 to September 2011, with an estimated cost of as much as \$42,000.
- Because Town employees do not periodically read water meters, the Town routinely estimates up to 72 percent of all the water bills sent out. Consequently, Town officials cannot calculate the actual amount of water loss for the entire water system. Estimated usage per the water bills sent to customers appeared to be low when compared to data from the United States Environmental Protection Agency (EPA). This may indicate that the Town is not billing the customers for all of the gallons that they use.
- The Board has not adopted performance measures and has not effectively planned for the acquisition and replacement of vital capital assets and infrastructure for the water districts.

Key Recommendations:

- Periodically reconcile the amount of water purchased with the amount treated and billed, and identify and remedy potential causes of significant discrepancies.
- Consider periodically reading water meters. Periodically review water bills to ensure that all meters are registering usage accurately and that customers are properly billed.
- Develop performance measures to provide a mechanism for overseeing the water operations. Develop long-term capital plans for water districts to include replacement of the water meter.

Name of Town: Town of Colden

Date of Report: November 2011

Examination Period: January 1, 2009 – July 21, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2011/colden.pdf>

Key Findings on Leakage or Loss:

- The Town does not have a system in place to reconcile the total amount of water purchased to the amount of water billed to its customers and used for municipal purposes. The lack of an overall comparison increases the risk that the Town may be paying more than necessary for water or, that water may be lost within the system or misused without being detected by Town officials. Therefore, the Town cannot account for over 17.5 million gallons of water valued at over \$43,000.

Key Recommendations:

- Town officials should document authorized unmetered water use, periodically reconcile the amount of water purchased with the amount billed, and identify and remedy potential causes of significant discrepancies in a timely manner
- Town officials should periodically review billing records to ensure that all customers are properly billed and water meters are registering usage accurately
- Town officials should ensure meter readings are periodically reviewed for reasonableness and meters are periodically inspected for damage or tampering.
- The Board should ensure that late penalties assessed are posted correctly on all delinquent water accounts.
- The Board should ensure that all delinquent water accounts are properly re-levied on the tax roll.

Name of Town: Town of Collins

Date of Report: March 2011

Examination Period: January 1, 2009 – August 25, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2011/collins.pdf>

Key Findings on Leakage or Loss:

- The Town experienced an unaccounted for water loss in Water District #3 totaling over 7 million gallons, or 44 percent, at a cost to produce of approximately \$10,000 for a one year period. There has been no action taken to correct the problem
- The total estimated cost for the unaccounted for water for the sample period is therefore approximately \$10,000 or 25 percent of the total annual amount generated by user fees in this district of approximately \$40,000.

Key Recommendations:

- The Board should investigate causes of excessive water loss and determine appropriate action to take to reduce cost to water district residents.

Name of Town: Town of Friendship

Date of Report: January 17, 2014

Examination Period: January 1, 2012 – August 12, 2013

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2014/friendship.htm>

Key Findings on Leakage or Loss:

- Neither the Board nor the Department of Public Works Superintendent has taken adequate steps to identify water loss within the Town’s system. Town officials failed to periodically compare the amount of water produced and were not aware of the extent of water loss.
- The Town’s water loss over the period totaled approximately 63% of water produced.
- Water loss was more than 57 million gallons over the six quarters, or an average of 9.5 million gallons per quarter.
- The cost to produce this water for the period totaled approximately \$176,000.

Key Recommendations:

- Implement procedures to determine the causes of water loss and take steps to address the causes as they are identified.
- Periodically reconcile water produced to the amount of water billed and otherwise accounted for to determine if significant losses are occurring.

Name of Town: Town of Java

Date of Report: February 7, 2014

Examination Period: March 1, 2012 – October 17, 2013

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2014/java.htm>

Key Findings on Leakage or Loss:

- Town officials do not have written procedures for reconciling the water produced by the Town’s water system, as indicated by the master meter readings, with the water billed to the Town’s customers. Although the Superintendent prepared the Water Withdrawal Report Form to be submitted to the New York State Department of Environmental Conservation (DEC) on an annual basis, he did not prepare formal reconciliations comparing the amount

of water produced to the total amount metered and estimated amounts for authorized unbilled uses.

- For the audit period, the Town could not account for 53 percent of the water produced. Using the rates paid by the Town customers and the 11.6 million gallons of unaccounted-for water in excess of the standard industry allowance, we estimate that the Town lost \$23,327 in revenue if the unaccounted-for water was due to malfunctioning meters. Conversely, if the unaccounted-for water is due to leaks rather than malfunctioning meters, the Town is incurring excess costs for producing water. We estimate that it costs the Town \$1.06 to produce 1,000 gallons of water. Therefore, it cost the Town \$12,394 to produce the Town's 11.6 million gallons of unaccounted-for water.

Key Recommendations:

- Ensure that the Superintendent develops procedures for periodically reconciling the amount of water produced with the amount billed.
- Develop a plan to locate and repair leaks in the system. Ensure that Town officials review meter readings for reasonableness and periodically inspect meters for damage or tampering. Develop a meter calibration plan and work to develop a meter replacement plan taking into consideration the associated costs.

Name of Town: Town of Lysander

Date of Report: September 28, 2012

Examination Period: January 1, 2010 – October 31, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2012/lysander.htm>

Key Findings on Leakage or Loss:

- Town officials have not performed regular, periodic reconciliations to monitor the amount of water produced in comparison with the amount sold to customers. As a result, the Town had an unaccounted-for water loss percentage that was higher than the Federal Environmental Protection Agency established industry goal of 10 percent.

Key Recommendations:

- Develop procedures to monitor water loss to ensure it is within industry goals, and periodically reconcile the amount of water purchased with the amount billed.

Name of Town: Town of Monroe

Date of Report: February 15, 2013

Examination Period: January 1, 2011 – January 31, 2012

Source: <https://www.osc.state.ny.us/localgov/audits/towns/2013/monroewater.htm>

Key Findings on Leakage or Loss:

- Due to a lack of procedures for reconciling water processed to water billed, comparing water usage to industry standards, and periodically recalibrating water meters for accuracy, the Town could not account for 8,376,160 gallons (25 percent of the water processed) for the period December 15, 2010 to January 27, 2012.

- We estimated that the Town lost \$64,787 in water rents if the loss was due to malfunctioning meters and/or theft; if it was due to leaks, the Town lost at least \$57,000 to purchase 7.6 million gallons of unaccounted-for water.

Key Recommendations:

- Town officials should develop written procedures for determining water accountability that include periodic reconciliation of the water processed to total water consumed.
- Town officials should periodically compare customer water usage to industry standards and recalibrate, test, and replace meters in accordance with the manufacturer's recommendations or the AWWA guidelines. Town officials should investigate and resolve significant variances.
- Town officials should develop written procedures that clearly define the process for tapping permits. The Board should take action to ensure the requirements of the Town Code relating to tapping permits and collection of tapping fees are met.

Name of Town: Town of Newburgh

Date of Report: January 2009

Examination Period: January 1, 2007 – May 31, 2008

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2009/newburgh.pdf>

Key Findings on Leakage or Loss:

- We found that the Town does not have a system in place to reconcile the total amount of water purchased and processed to the amount of water billed to its customers and used for municipal purposes.

Key Recommendations:

- District officials should reconcile the amount of water purchased and processed by their water treatment plant with the amount billed to its customers. Any unbilled amounts should be analyzed and investigated. The causes for such unbilled variances should be documented and appropriate corrective action taken.
- Town officials should establish internal controls to help ensure the accuracy of information about water purchased and processed, billed, and unaccounted for.

Name of Town: Town of Newfield

Date of Report: April 2013

Examination Period: January 1, 2011 – June 11, 2012

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2013/newfield.pdf>

Key Findings on Leakage or Loss:

- Town officials are not properly monitoring their water operations. Town officials do not reconcile the amount of water withdrawn from Town wells to the amount of water treated and distributed, do not have performance measures, and do not effectively plan for the acquisition and replacement of vital water district capital assets.

- The Town's unaccounted-for water of 39 percent was substantially more than the Environmental Protection Agency industry standard, costing the Town approximately \$19,000 each year. In addition, water bills were calculated inaccurately.

Key Recommendations:

- Town officials should properly reconcile the amount of water processed with the amount billed and identify and remedy potential causes of significant discrepancies in a timely manner.
- The Board should ensure that all water usage is billed correctly.

Name of Town: Town of Pomfret

Date of Report: July 2010

Examination Period: January 1, 2008 – January 25, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2010/pomfret.pdf>

Key Findings on Leakage or Loss:

- The Town does not have a system in place to reconcile the total amount of water purchased to the amount of water billed to its customers and used for municipal purposes.
- The Town cannot account for over 11 million gallons of water valued at over \$34,000.

Key Recommendations:

- Town officials should reconcile the amount of water purchased with the amount billed to its customers. Any unbilled amounts should be analyzed and investigated. The causes for such unbilled variances should be documented and appropriate corrective action taken.
- Town officials should review, on at least a sample basis, billings from other entities for water purchased to ensure they are in agreement with contracted rates.

Name of Town: Town of Richmond

Date of Report: November 9, 2012

Examination Period: January 1, 2009 – April 12, 2012

Source: <http://www.osc.state.ny.us/localgov/audits/towns/2012/richmond.htm>

Key Findings on Leakage or Loss:

- The Town does not have procedures to reconcile the total amount of water purchased to the amount of water billed. Town officials did not maintain records of gallons unbilled but used for valid municipal purposes to track the amount of unaccounted-for water used by the Town.
- As a result, during the three-year period reviewed, water losses in excess of the 10 percent allowed by the EPA were approximately 52.7 million gallons. Using the average annual water rate paid to the City, we estimate the cost associated with this water loss is approximately \$75,000.

Key Recommendations:

- Properly reconcile the amount of water purchased with the amount of water billed and used for municipal purposes and investigate and resolve significant variances. Develop a plan to find and repair leaks in the system.

Name of Town: Village of Clyde

Date of Report: August 2013

Examination Period: June 1, 2011 – January 11, 2013

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2013/clyde.pdf>

Key Findings on Leakage or Loss:

- The Village's unaccounted-for water, of approximately 30 percent for 2011-12, was significantly higher than the industry standard

Key Recommendations:

- The Board should ensure that water production and use reconciliations are performed timely, periodically review these reconciliations, investigate any significant deviations above the industry standard, and institute appropriate mitigating controls to prevent excessive amounts of unmetered water in the future.

Name of Town: Village of Elba

Date of Report: July 20, 2012

Examination Period: June 1, 2010 – February 29, 2012

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2012/elba.htm>

Key Findings on Leakage or Loss:

- The Village's water losses for the period June 30, 2010 through December 31, 2011 averaged 49% of the water the Village produced. Water production costs more than \$18,000 annually.
- Village officials were not aware of the extent of the Village's water loss because they did not compare how much water is produced with how much water is billed to customers.

Key Recommendations:

- Village officials should determine and correct the causes of the Village's significant water loss, including repairing or replacing malfunctioning meters.
- Village officials should periodically reconcile water produced to the amount of water billed.

Name of Town: Village of Ellicottville

Date of Report: December 2011

Examination Period: June 1, 2009 – May 20, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2011/ellicottville.pdf>

Key Findings on Leakage or Loss:

- The Village is experiencing excessive water loss: 84 percent, or approximately 104 million gallons of the water produced is unaccounted for and/or unbilled.
- Village officials were not aware of the extent of the Village's water loss because they lack procedures for monitoring how much water is produced versus how much water is billed to customers

Key Recommendations:

- Village officials should establish procedures for performing a periodic reconciliation of water produced to the amount billed.
- Village officials should establish procedures for investigating the causes of the Village's significant water loss.

Name of Town: Village of Fleischmanns

Date of Report: September 6, 2013

Examination Period: June 1, 2011 – March 13, 2013

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2013/fleischmanns.htm>

Key Findings on Leakage or Loss:

- The Board did not adequately manage the water fund's financial operations.
- The Board consistently over-estimated expenditures and revenues, which initially resulted in an excessive fund balance, but has since caused fund balance to significantly decrease over the past two years.
- Although capital expenditures were made to repair infrastructure and decrease water loss, no long-term capital plan has been put into place to address financial needs and further capital improvements.

Key Recommendations:

- Adopt balanced budgets with realistic estimates for anticipated needs and that are based on historical spending.
- Establish a long-term capital plan for the water fund to address current and future infrastructure needs, including setting aside money in reserves as needed.

Name of Town: Village of Holly

Date of Report: June 2010

Examination Period: January 1, 2008 – March 2, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2010/holley.pdf>

Key Findings on Leakage or Loss:

- Village officials have not established appropriate procedures to properly account for water and ensure that billings are accurate and complete. As a result, the Village suffered revenue losses totaling \$282,000 that have impacted the water fund.

Key Recommendations:

- Village officials should properly reconcile the amount of water purchased and produced with the amount billed and identify and remedy potential causes of significant discrepancies in a timely manner.
- Village officials should ensure that meters are periodically tested and that defective meters are repaired or replaced in a timely manner.
- Village officials should ensure that meters are read properly and that readings are accurately recorded.

Name of Town: Village of Lyons

Date of Report: August 2011

Examination Period: June 1, 2008 – January 25, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2011/lyons.pdf>

Key Findings on Leakage or Loss:

- Since January 2007, the Village has experienced water loss ranging from 28 to 47 percent, considerably more than the EPA goal of a maximum 10 percent.

Key Recommendations:

- Village officials should continue to reconcile the amount of water purchased and produced with the amount billed and identify and remedy potential causes of significant discrepancies in a timely manner.

Name of Town: Village of Orchard Park

Date of Report: February 24, 2012

Examination Period: January 1, 2008 – November 3, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2012/orchardpark.htm>

Key Findings on Leakage or Loss:

- During the four-year period reviewed, water losses totaled more than 105 million gallons. Using an average of \$2.23 per thousand gallons paid to the ECWA, we estimate the cost associated with this water loss is approximately \$235,000.
- It is also possible that a portion of the unaccounted-for water is due to inaccurate meters or customers not being properly billed. As such, the Village may be missing an opportunity to collect additional water user charges. For perspective, at a rate of \$5.00 per thousand gallons billed to customers, 105 million gallons of water represents \$526,000 in potential revenue.

Key Recommendations:

- Identify and correct potential causes for unaccounted-for water in a timely manner.
- Periodically inspect meters for damage or tampering and establish procedures to ensure any illegal hookups are detected and appropriately addressed in a timely manner.

Name of Town: Village of Sherman

Date of Report: July 2011

Examination Period: June 1 2009 – December 22, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2011/sherman.pdf>

Key Findings on Leakage or Loss:

- For the 2007-08 and 2008-09 fiscal years, we computed water losses of 65 percent and 58 percent, respectively. For the three quarters ending April 2010, July 2010 and October 2010 we computed an average water loss of 50 percent.

Key Recommendations:

- Village officials should periodically reconcile the amount of water produced with the amount billed. The causes for such unbilled variances should be investigated and appropriate corrective action taken.

Name of Town: Village of Tannersville

Date of Report: March 2013

Examination Period: June 1, 2006 - November 28, 2007

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2009/tannersville.pdf>

Key Findings on Leakage or Loss:

- The Village's amount of unaccounted-for water was significantly greater than industry standards. Village officials could not account for 33,290,717 gallons of water processed but not billed to customers or used for municipal operations during the period October 2006 to September 2007.
- The Village does not have procedures to reconcile the total amount of water processed by its water system with the total amount of water billed to its customers. Also, Village officials did not maintain records of gallons unbilled but used for valid municipal purposes to track the amount of unaccounted-for water used by the Village.

Key Recommendations:

- The Village does not have procedures to reconcile the total amount of water processed by its water system with the total amount of water billed to its customers. Also, Village officials did not maintain records of gallons unbilled but used for valid municipal purposes to track the amount of unaccounted-for water used by the Village.
- The Board should continue its efforts to reduce the percentage of unaccounted-for water to an acceptable level.

Name of Town: Village of Walden

Date of Report: September 2011

Examination Period: June 1, 2009 – December 31, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2011/walden.pdf>

Key Findings on Leakage or Loss:

- Although Village officials periodically calculated the amount of unaccounted for water, the Board has not developed a long-term capital plan to help ensure that reasonable levels of unaccounted for water, once achieved, can be maintained.
- In total, 31 percent and 30 percent of the water processed in 2009 and 2010 could not be accounted for. We estimate the two-year cost for unaccounted for water to be \$454,400.

Key Recommendations:

- The Superintendent should periodically compare unaccounted for water to EPA industry standards, and investigate and resolve significant variances to reduce water loss to acceptable levels.
- The Superintendent should implement a monitoring program to routinely inspect the distribution system to detect leakage.
- The Board should develop a long-term capital plan to manage the water infrastructure and provide for adequate funding of necessary projects.

Name of Town: Village of Wellsburg

Date of Report: June 2011

Examination Period: May 31, 2008 – October 25, 2010

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2011/wellsburg.pdf>

Key Findings on Leakage or Loss:

- The Village’s amount of unaccounted-for water was significantly greater than industry standards, which cost the Village more than \$27,000.
- In addition, the Board lacks control over the billing and collection of water rents because they have not established any policies or procedures or segregated the duties in the Clerk-Treasurer’s office.
- Finally, water billing inaccuracies and irregularities were not detected or corrected. As a result, Village officials cannot be assured that they are collecting all water fund revenue.

Key Recommendations:

- Village officials should determine the cause of the substantial water loss and take corrective action. To reduce unaccounted-for water, the Village officials must ensure that all users are metered, water meters are registering water usage accurately, water meters are read correctly, the meter readings are properly converted by the billing program, and customers are charged appropriately for water usage. In addition, officials should implement a leak detection program.
- Village officials should ensure that meters are periodically tested and that those defective meters are repaired or replaced in a timely manner.

Name of Town: Village of Whitehall

Date of Report: March 2012

Examination Period: June 1, 2008 – May 31, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2012/whitehall.pdf>

Key Findings on Leakage or Loss:

- Village officials did not have effective procedures for accounting for its water. They did not reconcile the amount of water processed and consumed, compare water usage to industry standards, or determine the reasons for unaccounted for water.
- The Village could not account for at least 148 million gallons, or 55 percent of the water it processed in 2010. We estimate the cost to process and distribute the Village's unaccounted for water to be as much as \$97,000 to \$129,000 annually.

Key Recommendations:

- The Village should develop procedures for determining water accountability that include the periodic reconciliation of the water produced to metered and unmetered water.
- The Village should investigate and correct the reasons for unaccounted for water, including inaccurate metering and significant leaks.
- The Village should work towards meeting the industry standard for unaccounted for water.

Name of Town: Village of Williamsville

Date of Report: May 2012

Examination Period: June 1, 2006 – November 1, 2011

Source: <http://www.osc.state.ny.us/localgov/audits/villages/2012/williamsville.pdf>

Key Findings on Leakage or Loss:

- Based on water loss data from January 2010 thru September 2011, the Village's water system has unaccounted for water of approximately 25 percent.
- For the same period the Village has paid approximately \$125,000 for water purchased from the ECWA but not sold to Village residents and businesses.

Key Recommendations:

- Village officials should continue to reconcile the amount of water purchased with the amount billed, determine the cause of the differences, and make appropriate repairs and updates to the system that will reduce costs and enable more efficient operations.