



AGENDA
Water and Wastewater Financing Board

July 11., 2013
10:00 am
Room 31, Legislative Plaza
301 Sixth Avenue North
(6th Avenue between Charlotte Avenue and Union Street)
Nashville, Tennessee

Call to Order

Approval of Minutes

March 14, 2013

Cases:

City of Cowan	Franklin County
http://www.comptroller.tn.gov/Repository/MA/Financial/1646-2012-cowan-afr-cpa21-12-28-12.pdf	
Town of Englewood	McMinn County
http://www.comptroller.tn.gov/Repository/MA/Financial/1671-2012-englewood-afr-cpa191-2-16-13.pdf	
Town of Huntsville	Scott County
http://www.comptroller.tn.gov/Repository/MA/Financial/1722-2012-huntsville-afr-cpa517-12-28-12.pdf	
Town of Jasper	Marion County
http://www.comptroller.tn.gov/Repository/MA/Financial/1727-2012-jasper-afr-cpa126-12-28-12.pdf	
Town of Kimball	Marion County
http://www.comptroller.tn.gov/Repository/MA/Financial/1733-2012-kimball-afr-cpa145-12-17-12.pdf	
Town of Monterey	Putnam County
http://www.comptroller.tn.gov/Repository/MA/Financial/1784-2012-monterey-afr-cpa517-12-28-12.pdf	
Town of Mosheim	Greene County
http://www.comptroller.tn.gov/Repository/MA/Financial/1788-2012-mosheim-afr-cpa344-12-31-12.pdf	
Town of Oliver Springs	Anderson/Morgan/Roane Counties
http://www.comptroller.tn.gov/Repository/MA/Financial/1272-2012-oliversprings-afr-cpa39-4-29-13-rev2.pdf	
City of Ramer	McNairy County
http://www.comptroller.tn.gov/Repository/MA/Financial/1831-2012-ramer-afr-cpa285-4-01-13.pdf	
City of Red Boiling Springs	Macon County
http://www.comptroller.tn.gov/Repository/MA/Financial/1804-2012-redboilingsprings-afr-cpa517-12-28-12.pdf	
Scott County Sewer System	Scott County
http://www.comptroller.tn.gov/repository/CA/2012/ScottAFR.pdf	
Town of Sharon	Weakley County
http://www.comptroller.tn.gov/Repository/MA/Financial/1853-2012-sharon-afr-cpa258-12-27-12.pdf	
City of Sunbright	Morgan County
http://www.comptroller.tn.gov/Repository/MA/Financial/2687-2012-sunbright-afr-cpa634-12-31-12.pdf	
Town of Wartrace	Bedford County
http://www.comptroller.tn.gov/Repository/MA/Financial/1896-2012-wartrace-afr-cpa517-12-30-12.pdf	

Status:

Town of Alexandria	DeKalb County
http://www.comptroller.tn.gov/Repository/MA/Financial/1583-2012-alexandria-afr-cpa517-12-28-12.pdf	
City of Friendship	Crockett County
http://www.comptroller.tn.gov/Repository/MA/Financial/1684-2012-friendship-afr-cpa545-12-31-12.pdf	
City of Grand Junction	Hardeman County
http://www.comptroller.tn.gov/Repository/MA/Financial/1699-2012-grandjunction-afr-cpa89-2-26-13.pdf	
Town of Henning	Lauderdale County
http://www.comptroller.tn.gov/Repository/MA/Financial/1712-2011-henning-afr-cpa118-3-20-12.pdf	
Town of Oneida	Scott County
http://www.comptroller.tn.gov/Repository/MA/Financial/1811-2012-oneida-afr-cpa385-12-31-12.pdf	
Town of Vonore	Blount/Monroe Counties
http://www.comptroller.tn.gov/Repository/MA/Financial/1893-2012-vonore-afr-cpa112-2-19-13.pdf	

Cases – Water loss:

Hiwassee Utilities Commission	Bradley/McMinn County
City of Union City	Obion County
City of Waynesboro	Wayne County
Watauga River Regional Water Authority	Carter County

Status – water loss:

City of Elizabethton	Carter County
City of Lenoir City	Loudon County
City of Mountain City	Johnson County
Town of Spencer	Van Buren County

Compliance:

Cities of Dresden, Etowah, McEwen, Mount Pleasant, Pikeville, and Rockwood
Weakley, McMinn, Humphreys, Maury, Bledsoe, and Roane Counties
Towns of Baileyton, and Moscow
Greene and Fayette County

Miscellaneous:

Cases currently under WWFB jurisdiction
Water loss status
WWFB Sunset Review
Next meeting November 14, 2013

Open Discussion

Visitors to the Legislative Plaza are required to pass through a metal detector and must present photo identification. Individuals with disabilities who wish to participate in this meeting or to review filings should contact the Division of Local Government Audit to discuss any auxiliary aids or services need to facilitate such participation. Such contact may be in person or by writing, telephone or other means, and should be made prior to the scheduled meeting date to allow time to provide such aid or service. Contact the Division of Local Government Audit (Ms. Joyce Welborn) for further information.

505 Deaderick Street, Suite 1500
James K. Polk State Office Building
Nashville, TN 37243-1402
Telephone (615) 401-7864
Fax (615) 741-6216
Joyce.Welborn@cot.tn.gov

MINUTES
of the
WATER AND WASTEWATER FINANCING BOARD MEETING
March 14, 2013
10:05 a.m.

Chairperson Ann Butterworth opened the meeting of the Water and Wastewater Financing Board (WWFB) at Legislative Plaza, Room 31, in Nashville, Tennessee.

Board members present and constituting a quorum:

Ann Butterworth, Chairperson, Comptroller Designee

Tom Moss, Department of Environment and Conservation Designee

Randy Wilkins, Representing Utility Districts

Drexel Heidel, Active Employee of a Water Utility District

Ben Bolton, Representing Manufacturing Interests

Betsy Crossley, Representing Municipalities

Members absent:

Kenny Wiggins, Active Employee of a Municipal Water System

Joe Prochaska, Representing Environmental Interests

Staff present from the Office of the Comptroller of the Treasury:

Joyce Welborn

Rachel Newton

Sheila Reed

Approval of Minutes

Ms. Crossley moved approval of the minutes of January 10, 2013. Mr. Wilkins seconded the motion. A correction was made regarding the City of Moscow to include the word “negative” before change of net assets in the first line. Motion to approve the minutes with the correction was approved unanimously.

Cases – Financial distress

City of Kenton

The City of Kenton had been reported to the Board for having a negative change in net assets for two consecutive years as well as excessive water loss of 46.4%. City officials had stated that the water loss was an “accounting” of the water than an actual loss. Recent months reflected a 20% loss. With the retirement of the long time certified operator, expenses increased because of “borrowed” operators and long neglected repairs and maintenance. Officials believed that with the eliminations of certain expense and better accountability of the water, compliance would be reached. Board members were concerned about the inaccuracies of the AWWA reporting worksheet and the abuse of the sewer system as noted in the case study. The water loss questions referred to the water meter policy and the Board requested a copy of that policy. Mr. Moss voted to accept the actions of the City, request information

regarding the method of enforcement of the sewer use ordinance, a copy of the water meter policy, and the continued work on the AWWA reporting worksheet. Mr. Bolton seconded the motion which carried unanimously.

Town of Henning

The Town of Henning had been reported to the Board having a negative change in net assets in its water and sewer system for two consecutive fiscal years as well as excessive water loss of 50.5%. This is a postponement from the January 2013 meeting. Mayor Michael Bursey addressed the Board to explain the work done by the Town to reduce water loss specifically with line replacement, meter replacement and the update of aging equipment. Water cut off valves had been replaced, several pumps had been replaced, commercial rates had been enacted, grants had been awarded to replace old metal lines and meters, the usage for minimum water bills had been reduced from 3,000 gallons to 2,000 gallons. Ms. Crossley stated that the Town was highly dependent on grant funding and that rates should be such that grants are not as vital. Several suggestions were offered by the Board regarding fire lines at the local industry. Ms. Crossley made a motion to require Town officials to contact MTAS for a rate study, prepare a leak detection study to determine the next step for water loss reduction, adopt a formal set of written policies, continue to replace the old two and six-inch water pipes, develop and implement a mapping program, revise the AWWA reporting worksheet, and develop a plan for future rate increases. A report is to be submitted for presentation to the Board at its July 2013 meeting. Mr. Wilkins seconded the motion, which carried unanimously.

City of Friendship

The City of Friendship had been reported to the Board has having a negative change in net assets in its water system for at least eight consecutive fiscal years. The City increased its water rates for all usage over the 3,000 gallons minimum from \$4.00 to \$5.00 per thousand gallons. Staff recommended the Board require the city to contact MTAS about a rate study, adopt and implement a meter replacement policy, and implement rate increases or expense reduction to be in compliance by June 30, 2015. Mr. Wilkins moved to endorse the recommendations of staff with a report to be made to the Board at its July 2013 meeting. Mr. Bolton seconded the motion and it was unanimously approved.

Town of Hornbeak

The Town of Hornbeak had been reported to the Board having a negative change in net assets in its sewer system for two consecutive fiscal years. Mr. Heidel moved to endorse the actions of the Town regarding the rate increase and allow that increase to be gradually put in effect beginning in July 2013 when the project is complete. These conditions are granted based on the agreement by the Town to be in compliance by June 30, 2016. Mr. Moss seconded the motion which was unanimously approved.

City of Henry

The City of Henry had been reported to the Board having a negative change in net assets in its water and sewer system for two consecutive fiscal years. Mr. Bolton moved to accept the actions of the City and commend them for having the courage to implement the rate increases based on the MTAS rate study.

Those increases are 10% for water and 40% for sewer effective May 1, 2013 and 30% in sewer effective July 1, 2014. Mr. Heidel seconded the motion which carried unanimously.

Status Report – financial distress

Town of Oneida

The information included in the packet was at the request of the Board from the last meeting. The Board reviewed the information and requested additional information about which cuts were being made in order to achieve compliance. A status report will be presented again at the July meeting.

City of Alamo

Information presented by the City of Alamo was done so at the Board's request from the last meeting. However, audited financial statements have been received which reflect compliance and, therefore, dismissal from the jurisdiction of the Board. The Board took no action.

City of Lakeland

The City had submitted information reflecting that the negative change in net assets is slowly being reduced. FY 2009 had a negative change of over \$400,000, while FY 12 had a negative change of \$62,686. The City is on its way to compliance.

Town of Cumberland Gap

Information submitted by the Town was dealing with the discrepancy of the water meters between the Town and Lincoln Memorial University, the supplier of water. The issue had been resolved and the water loss was more accurate than previously reported. Although still high, the accuracy will help with the actual water loss detection.

Compliance Reports

The following are in compliance with both financial distress and water loss: Cheatham County Water and Wastewater Authority, Cities of Copperhill, Savannah, and Madisonville, Towns of Livingston, Alamo, and Rossville

Miscellaneous items -

Town of Whiteville

Staff had been informed that the Town of Whiteville, as a result of public outcry, had changed its rates after the changes had been endorsed by the Water and Wastewater Financing Board. Since the changes had not been approved by the Board, Town officials had been required to appear at this meeting. Officials stated that they did not have sufficient notice and submitted information being shared with the Board. The information stated that the Town had implemented three 7% rate increases effective in February 2013, 2014, and 2015. Those increases were based on a recommendation in a MTAS rate study of 20% effective January 1, 2013, and the current year-to-date financial statements. Mr. Moss

moved to accept the actions of the Town and continue to monitor them. Mr. Bolton seconded the motion. The motion carried unanimously.

Pending Legislation

Ms. Welborn presented the Board with one bill pending with the General Assembly, SB0735/HB0600, which deals with rates outside the city limits being limited to not more than 50% of the rates inside the city limits. Currently the bill is limited to one specific city. The bill is for information only.

Jurisdiction List

Ms. Welborn stated that the Board package included a schedule identifying all systems which were currently under the Board's jurisdiction. A separate sheet was included for the systems dealing only with excessive water loss.

Future Meetings

The next regular meeting was scheduled for July 11, 2013, at 10:00 AM in the Legislative Plaza.

Mr. Bolton moved to adjourn. Motion was seconded by Mr. Moss. Motion carried unanimously. Meeting was adjourned at 11:00 a. m.

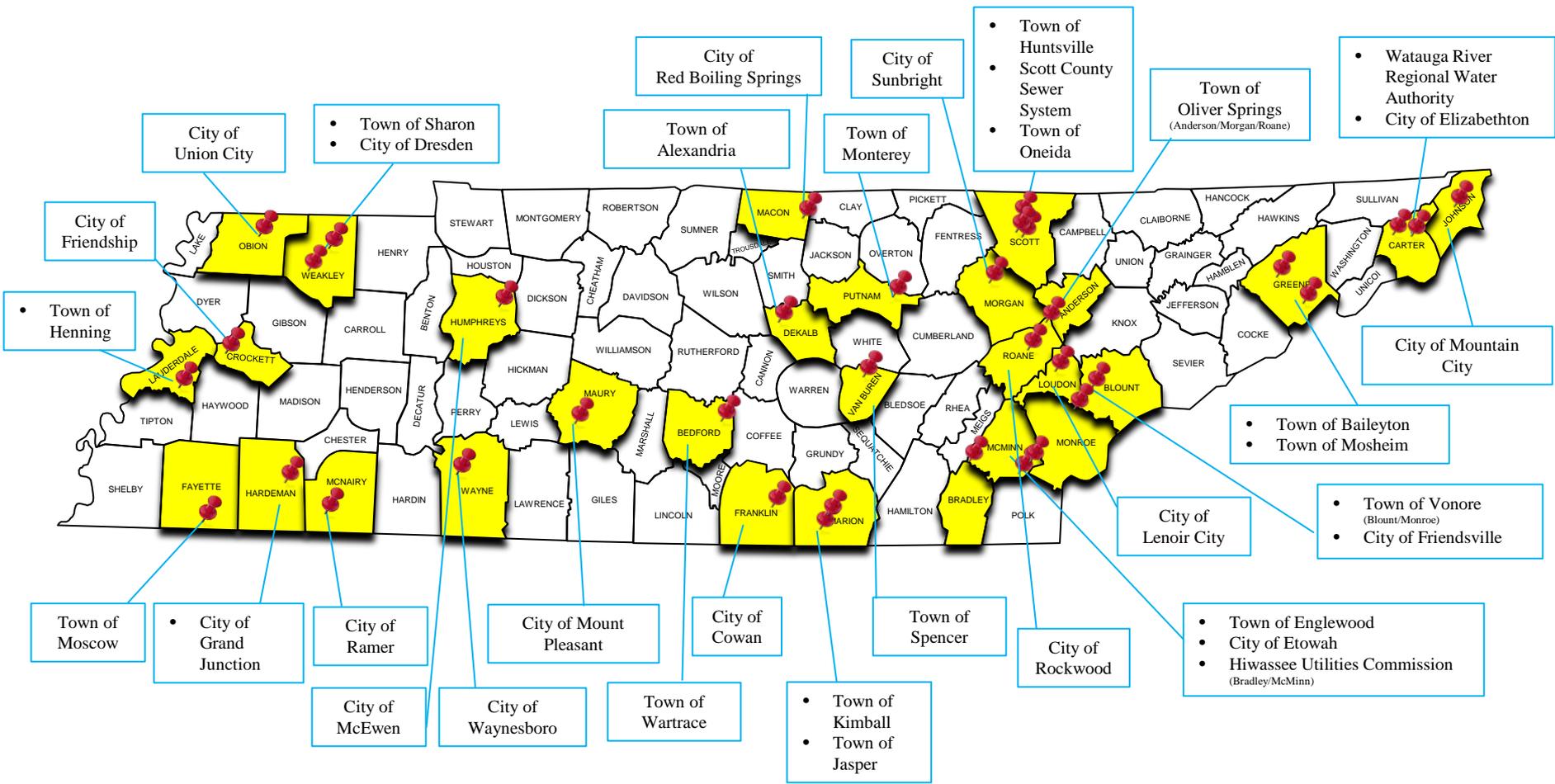
Respectfully submitted,

Ann Butterworth
Chairperson

Joyce Welborn
Board Coordinator

WWFBB

July 11, 2013



WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: City of Cowan, Franklin County
Mayor: Joe Ed Williams
Customers: 970 water and 863 sewer
Water loss: 37.75%

The City of Cowan has been reported to the Board as having two consecutive years with a negative change in net assets in its water and sewer fund as of June 30, 2012. A financial and rate history is attached.

A State Revolving Loan has been approved for \$500,000, with \$100,000 being forgiven. The 20 year loan, at 0.25% is being used to deal with sewer mandates imposed by the Tennessee Department of Environment and Conservation.

Until October 1, 2012, the rates had not been increased since 2008.

In FY 10, a major upgrade was done at the water plant. During FY 11 and FY 12, there were major repair issues at the sewer plant.

Recent and future rate increases already put in place are October 2012, 10%; July 2013, 3%; and July 2014, 3%. These rates should be sufficient to meet the immediate needs of both the water and sewer systems.

Staff recommends the Board endorse the actions of the City of Cowan. The City will remain under the jurisdiction of the Board until an audit is received which reflects compliance.

CITY OF COWAN				
HISTORY FILE				
	Audited	Audited	Audited	Audited
Fiscal Year ended 6/30	2009	2010	2011	2012
W/S Revenues	\$ 469,831	\$ 463,735	\$ 479,125	\$ 501,044
Other revenues	\$ 29,183	\$ 27,837	\$ 20,912	\$ 18,288
Grant revenue		\$ 205,000		
Total Revenues	\$ 499,014	\$ 696,572	\$ 500,037	\$ 519,332
Total Expenses	\$ 483,268	\$ 510,975	\$ 490,131	\$ 496,211
Revene vs. Expenses	\$ 15,746	\$ 185,597	\$ 9,906	\$ 23,121
Interest Expense	\$ 3,527	\$ 16,788	\$ 25,760	\$ 25,333
In lieu of tax				
Loss on sale of assets				
Change in Net Assets	\$ 12,219	\$ 168,809	\$ (15,854)	\$ (2,212)
<u>Supplemental Information</u>				
Principal payment	\$35,000	\$483,099	\$47,191	\$156,693
Depreciation	\$ 113,897	\$ 118,391	\$ 133,825	\$ 138,455
<u>Water Rates</u>				
<u>Inside</u>				
First 2,000 gallons	\$ 12.43	\$ 12.43	\$ 13.05	\$ 13.70
All over	\$ 3.30	\$ 3.30	\$ 3.47	\$ 3.64
<u>Outside</u>				
First 2,000 gallons	\$ 17.27	\$ 17.27	\$ 18.13	\$ 19.04
All over	\$ 3.96	\$ 3.96	\$ 4.62	
<u>Sewer Rates</u>				
First 2,000 gallons	\$ 14.85	\$ 14.85	\$ 15.59	\$ 16.37
All over	\$ 4.40	\$ 4.40	\$ 4.62	\$ 4.85
Water customers	975	975	975	970
Sewer customers	860	860	860	863
Water Loss	23.000%	32.157%	33.571%	37.750%

MAYOR

Joe Ed Williams

COUNCIL

Joyce Brown
Ransom Green
Tom McGee
Adam Nelson

Lee Roy Wilkinson

**WATER/WASTEWATER
SUPERINTENDENT**

Wayne Smith

*City of
Cowan*

P.O. BOX 338
COWAN, TENNESSEE 37318
Office: (931) 967-7318
Fax: (931) 967-7990
recordersherman@comcast.net

CITY RECORDER
Becky Sherman, CMC

CHIEF OF POLICE
Allen Edwards

**STREET/SANITATION
SUPERINTENDENT**
Steve Wilkinson

FIRE CHIEF
Tommy Myers

BUILDING INSPECTOR
Tommy Cohenour

June 13, 2013

Ms. Joyce Welborn
Legislative Auditor
Division of Local Government Audit
Suite 1500, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-1402

JUN 17 2013

Dear Ms. Welborn:

In response to your visit to Cowan City Hall on May 9, 2013 concerning the fact that the Cowan Board of Public Utilities has been referred to the Water and Wastewater Financing Board for two consecutive years of negative change in net assets and excessive water loss, I respectfully submit the following:

1. Summary of efforts being made to bring the Cowan Board of Public Utilities into compliance with water loss and finance regulations.
2. Water loss for fiscal year 2011/2012 recalculated using the AWWA water audit software.
3. Initial Checklist for Addressing Water Loss with answers written in.
4. Fiscal year to date water loss shown on spreadsheet and in former audit format.
5. Financial statements for the Cowan Board of Public Utilities as of May 31, 2013.
6. Copies of seven (7) ordinances establishing water and sewer rates dating back to 1990.

I have attempted to address the issues which we discussed during your visit to show that the City of Cowan is making diligent efforts to bring our utility system into compliance with state regulations. Should you need anything else before your meeting with the Board, please do not hesitate to contact me.

Sincerely,


Joe Ed Williams
Mayor, City of Cowan, Tennessee

Summary of efforts made to bring Cowan Board of Public Utilities into compliance with water loss and finance regulations.

- April 12, 2013—Replaced altitude valve at the East England Street water tank. The existing valve had been out of service for some time and thus we had no way of knowing when the tank was full, except to visually check it to see if it was running over which it did pretty much on a daily basis. Residents in proximity to the tank would call City Hall to tell us that the tank was running over; this problem obviously was a big contributor to our water loss. Since replacing the valve, we should see our “water pumped” number decrease as well as our electric bill, chemical costs, etc. Correction of this problem should reflect a positive effect on both the water loss and the financial aspect of the department.
- Effective October 1, 2012, the city implemented a 10% increase in water and sewer rates in an effort to reduce or eliminate the “negative change in net assets”.
- The city just passed an ordinance implementing a 3% increase in water and sewer rates effective July 1, 2013 and another 3% increase in water and sewer rates to be effective on July 1, 2014.
- As of May 31, 2013, the Board of Public Utilities financial statements show a “positive change in net assets” in the amount of \$37,804.08 with an operating profit of \$50,472.06.
- As of May 31, 2013, the Cowan Board of Public Utilities is showing a water loss of 36.4%, a decrease of 1.35% from the water loss at June 30, 2012. Although not a significant improvement, the decrease shows that efforts are being made. As we continue to monitor and repair leaks and implement a meter change policy, water loss should continue to decrease.
- We have applied for a CDBG grant for water line replacement. If the grant is awarded we will be able to replace a significant portion of our old water lines.
- April 30, 2013, we replaced the meter at the Mountain View Housing complex, which meters water for the 24 apartments in the complex. This meter had not been reading correctly since June 2012 and thus, there existed the possibility that the Franklin County Housing Authority was being undercharged for water usage there.
- In July 2012, a large leak was discovered when a pipe (which apparently had been ongoing for some time) finally blew out. This leak is evidenced in the high number of gallons pumped in July. After this leak was repaired, the number of gallons pumped decreased significantly.

- The Cowan City Council has reviewed a draft meter replacement policy and will consider if for approval at the July city council meeting. Cost of the replacement meters will be budgeted and the policy will be implemented upon passage. Implementation of plan will replace aged meters and should result in more accurate readings and thus more revenue.

- We will continue to work with both MTAS and TAUD to implement additional policies that will address further issues within our system.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.2

[Back to Instructions](#)

[Click to access definition](#)

Water Audit Report for: **Cowan Board of Public Utilities**
 Reporting Year: **2012** | **7/2011 - 6/2012**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	6	80.614	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	n/a		MG/Yr
Water imported:	n/a	0.000	MG/Yr
Water exported:	n/a	0.000	MG/Yr
WATER SUPPLIED:		80.614	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	7	39.745	MG/Yr
Billed unmetered:	n/a	0.000	MG/Yr
Unbilled metered:	n/a	0.000	MG/Yr
Unbilled unmetered:	7	10.441	MG/Yr
Unbilled Unmetered volume entered is greater than the recommended default value			
AUTHORIZED CONSUMPTION:		50.186	MG/Yr

Click here: [?](#)
for help using option buttons below

Pcnt: 1.25% Value: 10.441

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

30.428 MG/Yr

Apparent Losses

Unauthorized consumption: 0.202 MG/Yr
 Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	3	3.456	MG/Yr
Systematic data handling errors:	10	0.001	MG/Yr

Apparent Losses: 3.659

Pcnt: 0.25% Value:

8.00% Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 26.769 MG/Yr

WATER LOSSES: 30.428 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 40.869 MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	7	35.0	miles
Number of active AND inactive service connections:	7	7	1,247	
Connection density:			36	conn./mile main
Average length of customer service line:	7	10	0.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	7	7	60.0	psi

COST DATA

Total annual cost of operating water system:	7	10	\$472,510	\$/Year
Customer retail unit cost (applied to Apparent Losses):	7	9	\$5.59	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	7	10	\$1,601.19	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	50.7%
Non-revenue water as percent by cost of operating system:	16.9%
Annual cost of Apparent Losses:	\$20,452
Annual cost of Real Losses:	\$42,863

Operational Efficiency Indicators

Apparent Losses per service connection per day:	8.04	gallons/connection/day
Real Losses per service connection per day*:	58.81	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.98	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	Not Valid	

*** UARL cannot be calculated as either average pressure, number of connections or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL): 26.77

Infrastructure Leakage Index (ILI) {CARL/UARL}:

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 72 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered

For more information, click here to see the Grading Matrix worksheet

Initial Check list for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc. *Yes*
2. Are you accounting for the water used by the water and/or sewer department? *yes*
3. Do you periodically check or inspect all 2" and larger meters? *Yes*
4. Do you have a recalibration policy and procedure in place? *No*
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons? *Not currently, but should have policy approved in July 2013.*
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered? *Not a formal process. Removal of meter / theft charge can be filed.*
7. Do you have a leak detection program currently in place? *No. Yes*
8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff? *Yes*
9. Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage? *Yes Yes Yes*
10. Is your system "zoned" to isolate water loss? *Not completely zoned.*
11. Do you search for leaks at night when there is little traffic or small household usage? *No.*
12. Do you or can you control pressure surges? *No.*
13. Do you have or have access to leak detection equipment? *No*
14. What is your policy for notifying customers they have a leak? *Door hangers / knock & talk / phone calls.*
15. Do you have a public relations program to encourage citizens to report leaks? *Not formal*
16. Do you have a policy to prosecute water theft or meter tampering/damage? *Yes*
17. What is the monetary value of the lost water?
18. Is the cost to repair the leak justified based on the amount of water being lost? *We consider any leak as needing to be repaired. We repair all leaks - based on size - major leaks first - smaller leaks secondarily.*

Suggestion: The Division of Water Supply requires a specific person(s) be assigned to the cross connection program. It may be beneficial to assign the same person to account for water loss.

4a

Schedule of Unaccounted for Water for FY 11/12--Cowan Board of Public Utilities

A	Water Treated and Purchased:		
B	Water Pumped (potable)	65,293,000	
C	Water Purchased	-	
D	Total Water Treated and Purchased (Sum Lines B and C)		65,293,000
E	Accounted for Water:		
F	Water Sold	34,984,000	
G	Meter for Consumption	-	
H	Fire Department Usage	165,000	
I	Flushing	2,100,000	
J	Tank Cleaning / Filling	6,234,000	
K	Street Cleaning	-	
L	Bulk Sales	-	
M	Water Bill Adjustments	-	
N	Total Accounted for Water (Sum Lines F thru M)	43,483,000	41,528,000
O	Unaccounted for Water (Line D minus Line N)		23,765,000
P	Percent Unaccounted for Water (Line O divided by Line D time 100)		36.40%
Q	Other (explain)		

Explain Other: Leaks: 1,955,000

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2012/2013 Unaccounted for water (in millions of gallons of water)

	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Totals	Convert to millions
Total Water Produced	6,466	6,160	5,830	5,838	5,824	6,629	6,338	5,088	5,906	5,418	5,796	-	65,293	65,293,000
Total Water Purchased	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounted For Water														
Water Sold or Metered	3,321	3,475	3,738	2,967	3,390	3,046	2,727	3,180	2,925	2,937	3,278	-	34,984	34,984,000
Water Plant	0.225	0.225	0.225	0.250	0.275	0.300	0.250	0.225	0.275	0.250	0.250	-	2,750	2,750,000
Flushing or Blow Off	0.200	0.150	0.200	0.200	0.175	0.250	0.200	0.200	0.225	0.175	0.125	-	2,100	2,100,000
Fire Usage (in actual gallons)	0.010	0.010	0.010	0.015	0.020	0.010	0.020	0.020	0.020	0.020	0.010	-	0.165	165,000
Sewer Plant	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	-	2,750	2,750,000
Public Usage of Leaks	0.210	0.150	0.100	0.310	0.175	0.300	0.100	0.110	0.175	0.150	0.175	-	1,955	1,955,000
Backwash	0.091	0.084	0.071	0.061	0.068	0.025	0.100	0.037	0.016	0.124	0.057	-	0.734	734,000
Total Accounted for Water	4,097	4,194	4,494	3,743	4,178	3,881	3,547	3,912	3,711	3,756	3,970	-	41,528	41,528,000
Difference (Total unaccounted for water)	2,369	1,966	1,336	2,095	1,646	2,748	2,791	1,176	2,195	1,662	1,826	-	23,765	23,765,000
Percentage water loss	36.64%	31.92%	22.92%	35.89%	28.26%	41.45%	44.04%	23.11%	37.17%	30.68%	31.50%	-	36.40%	36.40%

5a

Cowan Board of Public Utilities

P. O. Box 338
Cowan, TN 37318

Balance Sheet

As of May 2013

6/13/2013
9:33:08 AM

Assets		
Cash		
Petty Cash	\$50.00	
Change Fund	\$100.00	
Total Cash		\$150.00
Checking		
FCUB-GF3003613	\$185,630.39	
FCUB Payroll 3003621	\$13.81	
Total Checking		\$185,644.20
Savings		
FCUB CD #8051138 to 8058687	\$308,402.80	
FCUB CD #8058679	\$125,258.78	
FCUB MM#3004223	\$52,814.12	
Total Savings		\$486,475.70
Accounts Receivable		
AR--Water Bills	\$57,673.49	
AR--Other	\$70.43	
Total Accounts Receivable		\$57,743.92
Other Assets		
Utility Plant in Service	\$6,090,129.44	
Accumulated Depreciation	(\$2,785,354.34)	
Due from City General	\$780.80	
Inventory	\$21,744.74	
Prepaid Insurance	\$7,826.00	
Fixed Assets	\$7,082.95	
Construction in Progress	\$5,900.00	
Total Other Assets		\$3,348,109.59
Total Assets		<u>\$4,078,123.41</u>
Liabilities		
General		
Accounts Payable	\$3,485.50	
Sales Tax Payable	\$1,718.34	
Customer Deposits	\$18,598.54	
Inter-Fund Payables		
Due To General Fund	\$2,228.58	
Due To Sanitation	\$43,140.00	
Payroll Deductions		
AFLAC	\$7.60	
Other Liabilities		
Accrued Interest 1990	\$415.46	
Series 2008 Bond Issue	\$324,866.56	
Series 2009 Bond Issue	\$114,634.06	
Total Liabilities		\$509,094.64
Equity		
Prior Years Fund Balance		(\$2,210.97)
Fund Balance		\$555,589.07
Inv. in cap. assets, net		\$2,955,421.39
Fund Balance		\$37,804.08
Reserve for Inventory		\$22,425.20
Total Equity		<u>\$3,569,028.77</u>
Total Liability & Equity		<u>\$4,078,123.41</u>

Cowan Board of Public Utilities

P. O. Box 338
Cowan, TN 37318

561

Profit & Loss Statement

July 2012 through May 2013

6/13/2013
8:53:19 AM

Income		
Sales		
Unmetered Water Sales	\$375.00	
Sewer Sales	\$234,188.42	
Water Sales	\$236,076.71	
Water/Sewer Taps Sales	\$500.00	
Total Sales		\$471,140.13
Fees & Penalties		
Non-payment Fees	\$4,225.00	
Cut On Fees	\$4,280.00	
Penalties	\$10,153.21	
Adjustments to AR	\$57.70	
Other Income		
Miscellaneous Revenue	\$895.90	
Bad Debts Collected	\$464.37	
Fire Hydrant Rent	\$11,000.00	
Total Income		\$502,216.31
Expenses		
Depreciation Expense		
Sewer Depreciation	\$38,638.38	
Water Depreciation	\$87,705.86	
Total Depreciation Expense		\$126,344.24
General & Administrative		
Audit Fee	\$4,850.00	
Collection/ Bad Debt Expense	\$51.32	
Bank Service Charge	\$220.00	
Billing	\$2,702.27	
Insurance - Employee Benefits	\$25,138.41	
Miscellaneous Expense	\$7,019.45	
Insurance -- All Other	\$10,632.00	
Office Salary	\$23,615.83	
Office Supplies	\$1,023.61	
Overtime	\$10,261.69	
Payroll Tax Expense	\$12,239.57	
Training/Travel Expense	\$5,265.46	
Cleaning Supplies	\$205.32	
Miscellaneous Supplies	\$1,762.53	
Memberships and Dues	\$1,109.29	
Total General & Administrative		\$106,096.75
Sewer Plant Expense		
Sewer Plant Electricity	\$25,262.77	
Sewer Line Maintenance	\$406.75	
Sewer Lab & Testing	\$8,442.06	
Sewer Lift Station	\$165.88	
Sewer Operator Licenses	\$90.00	
Sewer Salaries	\$50,354.13	
Sewer Shop & Maintenance	\$4,319.34	
Sewer Treatment/Disposal	\$16.40	
Sewer Plant Chemicals	\$4,118.50	
State Maintenance Fee--STP	\$1,730.00	
Total Sewer Plant Expense		\$94,905.83
Water Dept Expense		
Chemicals--Water Plant	\$10,531.79	
Equipment Oper./Maint.	\$6,517.22	
Water Operator License	\$90.00	
Power & Pumping - Electric	\$18,145.25	

Cowan Board of Public Utilities

5b-2

Profit & Loss Statement

July 2012 through May 2013

6/13/2013
8:53:19 AM

Water Salaries	\$74,029.78	
Water Shop & Maintenance	\$3,053.94	
Water Lab & Testing	\$5,128.34	
Water Trans./Distr.	\$880.49	
State Maintenance Fee-WTP	\$1,357.20	
Total Water Dept Expense		\$119,734.01
Utilities		
Electricity-City Hall	\$1,825.21	
Telephone	\$2,838.21	
Total Utilities		\$4,663.42
Total Expenses		\$451,744.25
Operating Profit		\$50,472.06
Other Income		
Interest Income	\$2,840.27	
Total Other Income		\$2,840.27
Other Expenses		
Bond Series 2008-Interest Exp.	\$12,361.44	
Bond Series 2009- Interest Exp	\$3,146.81	
Total Other Expenses		\$15,508.25
Net Profit / (Loss)		\$37,804.08

6a

ORDINANCE NO. 13-03-01

AN ORDINANCE TO AMEND ORDINANCE NUMBER 12-07-01 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Councilmen of the City of Cowan, Tennessee, that the sections listed below are changed as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$15.52 effective July 1, 2013 and subsequently raised to 15.99 effective July 1, 2014. *3% increase*
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$18.55 effective July 1, 2013 and subsequently raised to 19.10 effective July 1, 2014. *3% increase*
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$21.57 effective July 1, 2013 and subsequently raised to \$22.22 effective July 1, 2014.
- Section 5. That each additional 1,000 gallons of water used by a customer inside the city limits shall be charged at a rate of \$4.12 (\$.0412 per 100 gallons) effective July 1, 2013 and subsequently raised to \$4.24 (\$.0424 per 100 gallons) effective July 1, 2014.
- Section 6. That each additional 1,000 gallons of water used by a customer outside the city limits shall be charged at a rate of \$4.95 (\$.0495 per 100 gallons) effective July 1, 2013 and subsequently raised to \$5.10 (\$.0510 per 100 gallons) effective July 1, 2014.
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$5.50 (\$.0550 per 100 gallons) for sewer service effective July 1, 2013 and subsequently raised to \$5.67 (\$.0567 per 100 gallons) effective July 1, 2014.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are, hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on July 1, 2013 following the passage of the third reading of this ordinance, the welfare of the City of Cowan, Tennessee, requiring it.

By: *[Signature]*
Mayor

Passed First Reading: *March 12, 2013*
Passed Second Reading: *April 9, 2013*
Passed Third Reading: *April 25, 2013*

Attest: *[Signature]*
City Recorder

10% increase @ b

ORDINANCE NO. 12-07-01

AN ORDINANCE TO AMEND ORDINANCE NUMBER 11-07-02 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, that the sections listed below are changed as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$15.07.
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$18.01.
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$20.94.
- Section 5. That each additional 1,000 gallons of water used by a customer inside the city limits shall be charged at a rate of \$4.00 (\$.040 per 100 gallons).
- Section 6. That each additional 1,000 gallons of water used by a customer outside the city limits shall be charged at a rate of \$4.81 (\$.0481 per 100 gallons).
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$5.34 (\$.0534 per 100 gallons) for sewer service.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are, hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the first billing cycle following the passage of the third reading of this ordinance, the welfare of the City of Cowan, Tennessee, requiring it.

By: [Signature]
Mayor

Passed First Reading: July 10, 2012
Passed Second Reading: August 14, 2012
Passed Third Reading: September 11, 2012

Attest: [Signature]
City Recorder

this increase was effective on October 1, 2012.

5% increase
(6c)

AN ORDINANCE TO AMEND ORDINANCE NUMBER 10-08-01 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, that the sections listed below are changed as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$13.70.
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$16.37.
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$19.04.
- Section 5. That each additional 1,000 gallons of water used by a customer inside the city limits shall be charged at a rate of \$3.64 (\$.364 per 100 gallons).
- Section 6. That each additional 1,000 gallons of water used by a customer outside the city limits shall be charged at a rate of \$4.37 (\$.437 per 100 gallons).
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$4.85 (\$.485 per 100 gallons) for sewer service.
- Section 9. That a \$175.00 fee, (\$125.00 as a refundable deposit and \$50.00 as a nonrefundable cut on fee), shall be charged to any customer who is a renter when application for water / sewer service is made.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are, hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the first billing cycle following the passage of the third reading of this ordinance, the welfare of the City of Cowan, Tennessee, requiring it.

By: *Jose D. Williams*
Mayor

Passed First Reading: July 12, 2011
Passed Second Reading August 9, 2011
Passed Third Reading: September 13, 2011

Attest: *Betsy Sherman*
City Recorder

ORDINANCE NO. 10-08-01

5% increase
6d

AN ORDINANCE TO AMEND ORDINANCE NUMBER 08-07-01 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, that the sections listed below are changed as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$13.05.
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$15.59.
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$18.13.
- Section 5. That each additional 1,000 gallons of water used by a customer inside the city limits shall be charged at a rate of \$3.47 (\$.347 per 100 gallons).
- Section 6. That each additional 1,000 gallons of water used by a customer outside the city limits shall be charged at a rate of \$4.16 (\$.416 per 100 gallons).
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$4.62 (\$.462 per 100 gallons) for sewer service.
- Section 9. That a \$150.00 fee, (\$100.00 as a refundable deposit and \$50.00 as a nonrefundable cut on fee), shall be charged to any customer who is a renter when the water / sewer service is being cut on.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are, hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the first billing cycle following the passage of the third reading of this ordinance, the welfare of the City of Cowan, Tennessee, requiring it.

By: 
Mayor

Passed First Reading: 7/13/10
 Passed Second Reading: 8/10/10
 Passed Third Reading: 9/15/10

Attest: 
City Recorder

10% increase
6e

AN ORDINANCE TO AMEND ORDINANCE NUMBER 01-11-01 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, that the sections listed below are changed as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$12.43.
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$14.85.
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$17.27.
- Section 5. That each additional 1,000 gallons of water used by a customer inside the city limits shall be charged at a rate of \$3.30 (\$.33 per 100 gallons).
- Section 6. That each additional 1,000 gallons of water used by a customer outside the city limits shall be charged at a rate of \$3.96 (\$.396 per 100 gallons).
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$4.40 (\$.44 per 100 gallons) for sewer service.
- Section 9. That a \$100.00 fee, (\$50.00 as a refundable deposit and \$50.00 as a nonrefundable cut on fee), shall be charged to any customer who is a renter when the water / sewer service is being cut on.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are, hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the first billing cycle following the passage of the third reading of this ordinance, the welfare of the City of Cowan, Tennessee, requiring it.

By: [Signature]
Mayor

Passed First Reading: July 8, 2008
Passed Second Reading: August 12, 2008
Passed Third Reading: September 9, 2008

Attest: [Signature]
City Recorder

10% increase
(6) f-1

ORDINANCE NO. 01-11-01

AN ORDINANCE TO AMEND ORDINANCE NUMBER 92-5 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, as follows:

- Section 1. That the base charge for water inside Cowan City Limits shall be set at \$11.30.
- Section 2. That the base charge for sewer service inside the Cowan City Limits be set at \$13.50
- Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$15.70.
- Section 4. That the base charges herein above outlined shall apply to the first 2,000 gallons of water or less.
- Section 5. That each additional 1,000 gallons used by a customer inside the city limits shall be charged at a rate of \$3.00 for water.
- Section 6. That each additional 1,000 gallons used by a customer outside the city limits shall be charged at a rate of \$3.60 for water.
- Section 7. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$4.00 for sewer services.
- Section 8. That a \$50.00 fee shall be charged to any customer who is a homeowner when the water/sewer service is being cut on.
- Section 9. That a \$100.00 fee shall be charged to any customer who is a renter when the water / sewer service is being cut on.
- Section 10. That a 12.50 fee shall be charged for established customers requesting water to be turned on for cleaning purposes.
- Section 10. That each additional one thousand gallons or portion thereof used for cleaning purposes be charged at the base rate per thousand gallons for water and sewer.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are hereby amended and/or repealed.

Of. 2

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the January 2002 billing, the welfare of the City of Cowan, Tennessee, requiring it.

CITY OF COWAN

By: Raymond J. Truhn
Mayor

Attest:

Becky Sheiman
City Recorder

Passed First Reading: 11/13/01

Passed Second Reading: 12/11/01

Passed Third Reading: 1/8/02

7g-1

ORDINANCE NO. 905

AN ORDINANCE TO AMEND ORDINANCE NUMBERS 30, 70, 94, 112, 88-3 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE

WHEREAS, it appears that it is in the best interest of the citizens of the City of Cowan, Tennessee, that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE, BE IT ORDAINED, by the Board of Mayor and Alderman of the City of Cowan, Tennessee, as follows:

Section 1. That the base charge for water inside Cowan City Limits shall be set at \$7.50.

Section 2. That the base charge for sewer service inside the Cowan City Limits shall be set at \$12.25.

Section 3. That the base charge for water provided outside the Cowan City Limits shall be set at \$10.39.

Section 4. That the base charges hereinabove outlined shall apply to the first 2,000 gallons of water or less.

Section 5. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$1.95 for water.

Section 6. That each additional 1,000 gallons used by a customer shall be charged at a rate of \$3.60 for sewer services.

Section 7. That a \$10.00 fee shall be charged to any customer who has their water and/or sewer service cut off due to non-payment.

BE IT FURTHER ORDAINED that all Ordinances or parts of Ordinances in conflict herewith be, and the same are hereby amended and/or repealed.

IT IS FURTHER ORDAINED, that this Ordinance takes effect on the July billing, the welfare of City of Cowan, Tennessee, requiring it.

CITY OF COWAN

By: Bobby Paul
Mayor

STEWART & BLOUNT
ATTORNEYS AT LAW
HESTER, TN

①g-2

ATTEST:

Yvonne Kubit
Recorder

Passed First Reading _____.

Passed Second Reading 2-19-91.

Passed Third Reading 3-12-91.

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Englewood, Monroe County
Mayor: Tony Hawn
Customers: 1,431 water and 603 sewer
Water loss: Not provided

The Town of Englewood has been reported to the Board as having three consecutive years with a negative change in net assets as of June 30, 2012. A financial and rate history is attached.

The audit did not include complete water loss information. That information is to be submitted as soon as possible.

Approximately 30% of the water sold by the Town is purchased from the City of Etowah. The remaining 70% is treated at the Town's water plant. The plant is capable of producing 100% of the water it sells. Previous administration signed the purchase contract with the City of Etowah that is difficult to re-negotiate.

The rates charged to the customers outside the Town limits are 100% higher than those inside the limits. According to Town officials, they have been that way since the early 1990's, but are unsure of the actual reason for the difference. Approximately one-third of the customer base is outside the Town limits, but they account for 70% of the water sold.

The meter replacement program is based on a meter reaching 2,000,000 gallons. Age of the meter is not considered. Leak adjustments are allowed only once every five years.

As with most sewer systems, there is a substantial I & I problem. The issues are being addressed but very slowly.

Effective May 1, 2013, rates were increased by 20%. Although not reflected in the audit, town officials said that rates have increased annually 1.5% since 2004.

Staff recommends the Board endorse the actions of the Town. The Town will remain under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF ENGLEWOOD			
HISTORY FILE			
	Audited	Audited	Audited
FYE 6/30	2010	2011	2012
Water/sewer revenue	\$ 598,571	\$ 617,226	\$ 621,925
Other revenues	\$ 33,305	\$ 28,296	\$ 27,698
Total Oper Rev.	\$ 631,876	\$ 645,522	\$ 649,623
Total Oper Exp.	\$ 730,085	\$ 738,562	\$ 731,439
Operating Income	\$ (98,209)	\$ (93,040)	\$ (81,816)
Interest Expense	\$ 29,667	\$ 25,566	\$ 27,693
Change in Net assets	\$ (127,876)	\$ (118,606)	\$ (109,509)
<u>Additioan info</u>			
Principal payment	\$ 121,723	\$ 32,875	\$ 33,746
Depreciation	\$ 161,677	\$ 166,281	\$ 168,467
<u>Water rates</u>			
<u>Inside rates</u>			
3/4" meter	\$ 9.24	\$ 9.51	\$ 9.51
2" meter	\$ 29.38	\$ 30.36	\$ 30.36
4" meter	\$ 99.36	\$ 102.91	\$ 102.91
all over 2,500 gallons	\$ 4.26	\$ 4.42	\$ 4.42
<u>Outside rates</u>			
3/4" meter	\$ 18.48	\$ 19.02	\$ 19.02
2" meter	\$ 58.76	\$ 60.72	\$ 60.72
4" meter	\$ 198.72	\$ 205.82	\$ 205.82
all over 2,500 gallons	\$ 8.52	\$ 8.84	\$ 8.84
Sewer rate	140%	140%	140%
Water customers	1,397	1,416	1,431
Sewer customers	581	589	603
Water loss	31%	25%	
Validity score			not given
Non revenue water as %			not given

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Huntsville, Scott County
Mayor: George Potter
Customers: 300 sewer

The Town of Huntsville has been experiencing a negative change in net assets in its sewer system for two consecutive fiscal years according to the information contained in audited financial statements. As reflected on the attached financial and rate history, the negative change would have been six consecutive years without the receipt of grant funds in FY 10.

Sewer rates appear to have not changed from 2001 until April 2013 when a 28% increase was enacted. In 2012, a non-resident fee was put in place requiring those outside the city limits to pay 50% more for service.

The Huntsville Utility District charges \$1.75 per customer per month to bill and collect for the Town.

Currently, the maintenance costs at the plant are high because, in part, the replacement filters cost \$360,000 every seven years. The system is in the process of being modified to a conventional treatment method. The change will eliminate the expensive filters and several ecological problems currently ongoing.

The system has a problem with infiltration and inflow that can't be located. The school and businesses are on a residential rate.

The \$250 tap fee should be adjusted upward in order to cover the costs of installation, but since the area is experiencing no growth, it will not affect the current revenues.

Part of the main highway in Huntsville, has sewer from the City on one side and sewer from Scott County Sewer System on the other. Both the systems should look at combining – if for no other reason – to eliminate the need for a second sewer plant, as well as the related operation, maintenance and depreciation expense.

Based on the changes noted in the attached letter from the Town, steps have been taken to generate additional revenue, but it is hard to determine if those changes will be sufficient. Staff had projected that a rate increase of approximately 99% will be needed.

Staff recommends the Board endorse the actions of the Town thus far. If grant funds are received during FY 13 or FY 14, the Town will be in likely be in compliance. However, the law is still not being met which requires the rates and

fees be sufficient. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

**TOWN OF HUNTSVILLE
HISTORY FILE**

	Audited	Audited	Audited	Audited	Audited	Audited	
Fiscal Year 6/30	2007	2008	2009	2010	2011	2012	
Sewer revenues	\$ 197,557	\$ 205,211	\$ 197,491	\$ 186,926	\$ 190,077	\$ 174,766	
Other revenues	\$ 6,842	\$ 4,811	\$ 6,635	\$ 7,299	\$ 791	\$ 612	
Capital Contributions		\$ -	\$ 63,534	\$ 251,080			
Total Revenues	\$ 204,399	\$ 210,022	\$ 267,660	\$ 445,305	\$ 190,868	\$ 175,378	
Total Expenses	\$ 285,892	\$ 282,736	\$ 299,434	\$ 265,220	\$ 292,720	\$ 288,898	
Operating Income	\$ (81,493)	\$ (72,714)	\$ (31,774)	\$ 180,085	\$ (101,852)	\$ (113,520)	
Interest Expense	\$ 21,600	\$ 20,461	\$ 18,329	\$ 12,367	\$ 13,173	\$ 16,703	
Change in Net Assets	\$ (103,093)	\$ (93,175)	\$ (50,103)	\$ 167,718	\$ (115,025)	\$ (130,223)	
<u>Addit'l info</u>							
Principal payment	\$ 24,884	\$ 24,489	\$ 59,238	\$ 32,425	\$ 26,906	\$ 23,426	
Depreciation	\$ 122,615	\$ 122,615	\$ 123,100	\$ 133,389	\$ 133,389	\$ 133,329	
<u>Sewer rates</u>							4/1/2013
First 2,000 gallons	\$ 16.58	\$ 16.58	\$ 16.58	\$ 16.58	\$ 16.58	\$ 16.58	\$21.24
All over	\$ 8.30	\$ 8.30	\$ 8.30	\$ 8.30	\$ 8.30	\$ 8.30	\$ 9.30
Customers	293	295	296	296	299	300	



Town of Huntsville

3053 Baker Hwy.
P. O. Box 150
Huntsville, TN 37756

Phone: (423) 663-3471
Fax: (423) 663-9701

June 11, 2013

Ms. Joyce Welborn
Legislative Auditor
Water & Wastewater Financing Board
Suite 1500, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-1402

Re: Huntsville Wastewater Treatment Plant

Dear Ms. Welborn:

The Town of Huntsville acknowledges a scheduled hearing for July 11, 2013 in Nashville. The Town of Huntsville has taken several measures to stabilize the financial situation of the wastewater treatment plant. The measures include the following:

In 2012 nonresident rates went from \$16.58 to \$24.90 per an ordinance passed in 2001, which had never been enacted.

On March 28, 2013 the Town passed an ordinance raising the rate of resident users from \$16.58 to \$21.24 just over a 21% increase. Excess of 2000 gallon use went from \$.0083 to \$.0093 per gallon.

On May 23, 2013 the Town increased tap fees from \$250 to \$500 for residential taps and commercial taps increased from \$500 to \$750.

Mayor Potter and Scott County Mayor, Jeff Tibbals attended a meeting with the Huntsville Utility District and requested that they take over their respective wastewater treatment plants and allow their revenues to offset any losses, which would also give the water company more of an incentive to assure everyone on sewer was paying for it and an interest to strictly enforce disconnects for nonpayment. No action was taken at that time. However, it remains an option the Town of Huntsville intends to pursue.

The Town is a recipient of an ARC Grant of \$206,952 and a CDBG of \$500,000 for renovations at the existing plant. The bid opening for the project took place on June 4, 2013. However, all bids exceeded the projected costs by an excess of \$200,000. The engineer is currently working with the Geo Tech engineers to see what can be done to lower the project costs. Of the six bids submitted we expect a couple to not re-submit a new bid; however, if a successful bid does come in, we hope to begin construction this year.

Once we are able to renovate the plant it will handle a larger flow and improve the environmental issues with the over flow situations the plant has experienced over the past year. We cannot project operating costs at this time, since it will not be a completely new plant and we will be utilizing some of the existing equipment. There is speculation that the electricity costs will decrease to some degree, but we haven't

June 11, 2013

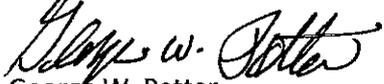
Page 2

been able to determine the increase in costs of chemicals and whether or not there will be savings in the cost of operations.

We are hopeful the Water & Wastewater Board will allow us more time to see the plant improvements completed and operational for a couple of years. The additional time is needed to see financial reports that include the changes we have made in an effort to improve the financial condition of the Huntsville Wastewater Treatment Plant.

If you need additional information please contact me at 423-663-3471.

Sincerely,

A handwritten signature in black ink, appearing to read "George W. Potter". The signature is written in a cursive style with a large initial "G".

George W. Potter

Mayor

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Jasper, Marion County
Mayor: Paul Wayne Evans
Customers: 1,270 sewer

The Town of Jasper has been reported to the Board as having two consecutive years with a negative change in net assets in its sewer fund as of June 30, 2012. A financial and rate history is attached.

There is an ongoing infiltration and inflow problem that relates to manholes. Although the Town is working toward a solution, it is a slow continuing process.

A major customer, a new truck stop, will be added in August.2013. In order to provide service to the customer, a line had to be installed. The \$1.3 million dollar project was funded by Community Development Block Grant (\$500,000), Marion County (\$300,000), the truck stop (\$250,000), and the owners selling the property (\$250,000). There are several county buildings between the new truck stop and the current city system and negotiations with the county are ongoing to connect those buildings to the sewer system. There are also talks with the State to connect the two rest area/welcome centers. When asked if the sewer system could handle the additional flow, officials stated that the current plant was at approximately 54% capacity, so there should be no problem.

A rate increase of approximately 16% has been included in the budget for FY 14. The first vote on that increase and budget was July 8th.

Staff recommends the Board endorse the actions of the Town of Jasper in regard to the 16% rate increase. If the Town Council fails to pass the rate increase, staff recommends Town officials attend the next meeting of the WWFB with an alternative plan. The Town will remain under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF JASPER					
SEWER HISTORY FILE					
	Audited	Audited	Audited	Audited	Audited
Fiscal Year 6/30	2008	2009	2010	2011	2012
Sewer revenues	\$ 510,777	\$ 462,265	\$ 473,295	\$ 471,063	\$ 508,060
Other revenues	\$ 42,255	\$ 41,878	\$ 49,913	\$ 45,809	\$ 43,531
Total Revenues	\$ 553,032	\$ 504,143	\$ 523,208	\$ 516,872	\$ 551,591
Total Expenses	\$ 402,821	\$ 611,495	\$ 536,071	\$ 513,753	\$ 549,191
Operating Income	\$ 150,211	\$ (107,352)	\$ (12,863)	\$ 3,119	\$ 2,400
Interest Expense	\$ 21,180	\$ 10,168	\$ 5,569	\$ 5,585	\$ 5,215
Change in Net Assets	\$ 129,031	\$ (117,520)	\$ (18,432)	\$ (2,466)	\$ (2,815)
<u>Supplemental Information</u>					
Principal payment	\$ 30,261	\$ 33,762	\$ 33,761	\$ 34,282	\$ 37,364
Depreciation		\$ 99,197	\$ 99,117	\$ 106,711	\$ 120,725
<u>Sewer Rates</u>					
<u>Inside rates</u>					
First 1,000 gallons	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
All over	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
<u>Outside rates</u>					
minimum bill	\$ 16.00	\$ 16.00	\$ 16.00	\$ 16.00	\$ 16.00
per 1,000 gallons	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
Sewer customers		934	1,250	1,260	1,270

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Kimball, Marion County
Mayor: David Jackson
Customers: 73 sewer

The Town of Kimball has been reported to the Board as having two consecutive years with a negative change in net assets in its sewer collection fund as of June 30, 2012. A financial and rate history is attached.

All water is furnished by the City of South Pittsburg. Billing and collecting revenue for the sewer system is also done by South Pittsburg, who retains a percentage portion of the collections.

Town officials stated that the main reason for the financial condition is the excessive infiltration and inflow to the system. Also, during FY 11, a line installed in 1995 had to be replaced. Since a bore could not be done, the road had to be cut causing the repair to cost an additional \$45,000.

As of May 2013, the sewer system is debt free.

Effective July 1, 2012, in an attempt to protect and maintain the customers in the tough economic times, an ordinance was passed which charges each of the six municipal buildings a surcharge of \$800 per month. This will amount to a subsidy of the sewer system of \$57,600 annually.

Tennessee Code Annotated §68-221-1002(a)(3), “establish fiscal self-sufficiency of wastewater facilities.”

Tennessee Code Annotated §68-221-1008(a)(1) and (2):

“(a) (1) A water and wastewater financing board is established in the office of the comptroller of the treasury to determine and ensure the financial integrity of certain water systems and wastewater facilities.

(2) The board is charged with the responsibility of furthering the legislative objective of self-supporting water systems and wastewater facilities in this state and shall be deemed to be acting for the public welfare in carrying out [68-221-1007](#) 68-221-1012.”

Tennessee Code Annotated §68-221-1009(a)(3) under powers and duties of the WWFB states:

(3) Effect the adoption of user rates necessary for the self-sufficient operation of certain water systems and wastewater facilities and to negotiate the consolidation of certain water systems and wastewater facilities pursuant to [68-221-1007](#) 68-221-1012;

Staff recommends the Board suggest that the Town review its ordinance which requires surcharges the municipal buildings. The Town will remain under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF KIMBALL			
HISTORY FILE			
	Audited	Audited	Audited
Fiscal Year 6/30	2010	2011	2012
Sewer revenues	\$ 84,274	\$ 73,663	\$ 78,462
Other revenues	\$ 3,472	\$ 2,125	\$ 1,762
Capital contributions	\$ 366,159		
Transfer match for grant	\$ 125,613		
Total Operating Revenues	\$ 579,518	\$ 75,788	\$ 80,224
Total Operating Expenses	\$ 117,168	\$ 121,506	\$ 80,117
Operating Income	\$ 462,350	\$ (45,718)	\$ 107
Interest Expense			\$ 1,679
In lieu of taxes			
Change in Net Assets	\$ 462,350	\$ (45,718)	\$ (1,572)
<u>Supplemental Information</u>			
Principal payment			\$ 73,323
Depreciation	\$ 36,905	\$ 43,514	\$ 46,536
Sewer rates			
First 3,000 gallons	\$ 10.66	\$ 10.66	\$ 12.24
All over	\$ 3.18	\$ 3.18	\$ 4.08
Sewer customers	72	71	73



TOWN OF KIMBALL

675 Main Street
Kimball, TN 37347
Phone 423-837-7040
Fax 423-837-1039

Mayor David Jackson Vice-Mayor Rex Pesnell Alderman Jerry Don Case Alderman Mark Payne Alderman Johnny Sisk

June 21, 2013

Via: E-Mail joyce.welborn@cot.tn.gov

Ms. Joyce Welborn
Board Coordinator
Tennessee Water and Waste Water Financing Board
James K. Polk State Office Bldg., Suite 1500
505 Deaderick Street
Nashville, TN 37243-1402

Re: Town of Kimball, Tennessee

Dear Ms. Welborn:

This letter is being written in response to your letter of January 30, 2013, and your meeting with me, Kimball CMFO/Recorder Tonia May, and Town Attorney Billy Gouger on May 9, 2013, in reference to financial distress of Kimball's sewer system for the two fiscal years ending June 30, 2012.

As we discussed, the Town has addressed the financial distress by taking the following actions:

- (1) Insuring that sufficient revenues are budgeted to cover necessary expenditures including depreciation in the operation of the system. The Town believes that depreciation expenses, excessive infiltration and inflow problems, and an unanticipated \$45,000.00 expense necessitated by a road cut for a line repair all contributed to the budget shortages for the fiscal years in question.
- (2) Adoption of Ordinance No. 221 to levy a surcharge of \$800.00 per month for each of the Town's six municipal buildings, which became effective July 1, 2012, and serves to generate an additional \$57,600.00 in revenue to the system. A copy of said ordinance is attached for your records.
- (3) Consideration has been given to the recommendation that the Town lower the minimum rate for sewer from the current 3,000 gallons per month to either 2,000 gallons or 1,500 gallons per month as a means of increasing revenue without levying a rate increase. Both this option and a rate adjustment will be considered by the Town in the future if necessary to prevent revenue shortfalls and financial distress in the sewer system.

The Town has reviewed your proposed case study, and it adopts and asserts the following facts in support of its contention that its sewer system is now financially sound and free of financial distress:

- * As of the date of this letter, the Town's sewer system is debt free.
- * Excessive infiltration and inflow (I & I) to the Town's system, combined with unanticipated expenses incurred in the replacement of a sewer line installed in 1995 and an unanticipated \$45,000.00 expense incurred for a road cut required for the line repair during the 2011 fiscal year all contributed to the financial shortfalls in the system for the 2010-2011 and 2011-2012 fiscal years.
- * The Town's adoption of Ordinance No. 221 as outlined above, which was made with the concurrence of the Town's auditor and staff from your office, has served to ease some of the financial burden on the system without jeopardizing the Town's sewer customer base.
- * As you have noted in your case study, water is furnished to Kimball by the City of South Pittsburg, and all billing and revenue collection related to the sewer system is also handled by South Pittsburg, which then retains a percentage portion of its collections for its services provided to Kimball.

The Town expects the audit of its sewer system for the 2012-2013 fiscal year to reflect compliance with sound fiscal management rules and regulations applicable to the operation of the sewer system. Additionally, the Town's unaudited financial records project a positive fund balance in the sewer system for the period ending June 30, 2013, of approximately \$57,000.00.

The Town's Board of Mayor and Aldermen, and especially I as Mayor of the Town, fully understand and appreciate our responsibilities of good financial management of the Town's sewer system, and we are all likewise aware of your responsibilities and those of your Board to insure sound financial management of such systems. If there is anything further that the Town needs to do to assure compliance with the Board's regulations or if you have any questions, please do not hesitate to contact me. On behalf of the Town and its Board of Mayor and Aldermen, I thank you for your assistance and cooperation on these issues.

Sincerely yours,

TOWN OF KIMBALL, TENNESSEE

By: 
David Jackson, Mayor

ORDINANCE NO. 221

AN ORDINANCE TO AMEND ORDINANCE NOS. 41, 50, 89, 131, AND 138 OF THE TOWN OF KIMBALL, TENNESSEE REGARDING A SEWER RATE SURCHARGE APPLICABLE TO THE TOWN OF KIMBALL, TENNESSEE.

WHEREAS, the Board of Mayor and Aldermen has previously enacted Ordinance Nos. 41, 50, 89, 131, and 138 regarding the sewer system, sewer usage, and sewer rates for the Town of Kimball, Tennessee; and

WHEREAS, the Board of Mayor and Aldermen has determined that imposition of a sewer rate surcharge for the Town's municipal buildings is in the best interest of the citizens of the Town of Kimball, Tennessee; and

WHEREAS, by provisions of Section 7 of Ordinance No. 41, the Board of Mayor and Aldermen of the Town of Kimball is authorized to regulate sewer rate schedules and connecting fees; and

WHEREAS, by Ordinance Nos. 50, 89, 131, and 138, the Board of Mayor and Aldermen has amended Section 7 of Ordinance No. 41 pertaining to sewer rates to be applied to the sewer service in the Town of Kimball, Tennessee; and

WHEREAS, the Town of Kimball, Tennessee has adopted the Kimball Municipal Code and all provisions regarding sewer usage rates and connection fees are contained in Title 18 of said Municipal Code, with the sewer rates schedule being set forth in Title 18-107; and

WHEREAS, in order to meet the obligations imposed by the laws of the State of Tennessee, and the obligations incurred for providing sewer service in the Town of Kimball, the Board of Mayor and Aldermen of the Town of Kimball is of the opinion that Ordinance Nos. 41, 50, 89, 131, and 138, along with Title 18-107 of the Kimball Municipal Code, should be amended to establish a sewer rate surcharge for all of the Town's municipal buildings that receive sewer service.

IT IS, THEREFORE, ORDAINED AND ENACTED by the Board of Mayor and Aldermen of the Town of Kimball, Tennessee, that the sewer rate schedule set forth in Ordinance Nos. 41, 50, 89, 131, and 138, and Title 18-107 of the Kimball Municipal Code, be amended as follows in order to add a sewer rate surcharge for all municipal buildings owned by the Town:

In addition to the commercial sewer rate currently being charged to the Town for its municipal buildings as provided in the aforementioned Ordinances and Kimball Municipal Code, the Town shall pay directly to its sewer fund a monthly sewer rate surcharge of

\$800.00 for each of the Town's six (6) municipal buildings and all future municipal buildings, which are connected to and receive sanitary sewer services from the Town's sewer collection system, such surcharge to become effective as of July 1, 2012.

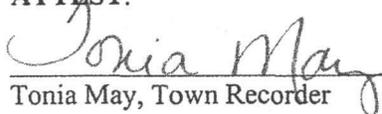
IT IS FURTHER ORDAINED AND ENACTED that the Town's sewer fund shall invoice the Town's general fund for such sewer rate surcharge on a monthly basis.

This Ordinance and the above-established sewer rate surcharge shall become effective after its passage and publication as required by law, the public welfare requiring it.

PASSED AND APPROVED by the Board of Mayor and Aldermen on the 2nd and final reading on the 28th day of June, 2012.


DAVID JACKSON, Mayor

ATTEST:


Tonia May, Town Recorder

APPROVED AS TO FORM:


William L. Gouger, Jr.
Attorney for Town of Kimball

Passed on first reading June 11, 2012

Passed on second reading June 28, 2012

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Monterey, Putnam County
Mayor: Richard Godsey
Customers: 1,830 water; 1,070 sewer
Water loss: 30%

The Town of Monterey has been experiencing a negative change in net assets in its water and sewer system for two consecutive fiscal years according to the information contained in audited financial statements.

The financial and rate history is attached. The last rate increase was effective July 2011.

Town officials don't appear to know why the utility system is in its current financial condition because nothing has changed. However, the Perdue plant has greatly reduced its usage. During the drought, the Town asked the plant to voluntarily reduce its water purchases and the plant decided "if we can do it during a drought, we can do it all the time."

Rural Development recently awarded a \$335,000 loan/\$239,500 grant to extend water lines to seventeen customers. The loan is at rate of 2.75%. The area has extremely bad sulfur water.

Staff suggested a rate increase of 17% effective July 1, 2013. Officials are trying to determine if there are other ways to cut expenses. TAUD and MTAS should be contacted to assist with rate adjustments and operations.

The Town has implemented a 4% rate increase for the fiscal year ending June 30, 2014. No other increases are planned until the FY 16 year.

Staff recommends the Board endorse the actions of the Town thus far, require monthly monitoring of the revenues and expenses to ensure that consecutive years with a negative change in assets does not occur, contact MTAS for a rate study, and continue to review its operating procedures and processes with the assistance of MTAS and TAUD. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF MONTEREY			
HISTORY FILE			
	Audited	Audited	Audited
Fiscal Year 6/30	2010	2011	2012
Water/sewer revenues	\$ 1,536,054	\$ 1,570,736	\$ 1,471,864
Other revenues	\$ 36,016	\$ 31,161	\$ 28,319
Capital contributions			\$ 21,300
Total Operating Revenues	\$ 1,572,070	\$ 1,601,897	\$ 1,521,483
Total Operating Expenses	\$ 1,426,745	\$ 1,565,858	\$ 1,539,558
Operating Income	\$ 145,325	\$ 36,039	\$ (18,075)
Interest Expense	\$ 80,851	\$ 65,306	\$ 89,135
In lieu of taxes	\$ 37,000		
Change in Net Assets	\$ 27,474	\$ (29,267)	\$ (107,210)
<u>Supplemental Information</u>			
Principal payment	\$ 200,621	\$ 196,867	\$ 126,099
Depreciation	\$ 396,684	\$ 400,476	\$ 406,510
<u>Water rates</u>			
<u>Inside</u>			
First 2,000 gallons	\$ 11.87	\$ 11.87	\$ 12.22
All over	\$ 3.43	\$ 3.43	\$ 3.53
<u>Outside</u>			
First 2,000 gallons	\$ 22.50	\$ 22.50	\$ 23.17
All over	\$ 7.95	\$ 7.95	\$ 8.18
Sewer rates are 100% of water			
Water customers	1,821	1,829	1,830
Sewer customers	1,061	1,071	1,070
Water loss	30%	30%	30%



Where Hilltops Kiss The Sky
302 E. Commercial Avenue • P.O. Box 97
Monterey, Tennessee 38574

Mayor
Richard Godsey

(931) 839-2323
(931) 839-3770
FAX
(931) 839-3933

May 30, 2013

JUN 03 2013

Joyce Welborne, Board Coordinator
Water and Wastewater Financing Board
James K. Polk State Office Building
505 Deaderick Street, Suite 1500
Nashville, TN 37243-1402

Dear Ms. Welborne,

Thank you for meeting with us on April 19, 2013. The items we discussed were very helpful in evaluating the operations of the town's Water and Sewer system. We are preparing this letter to address the concerns that the Water and Wastewater Board has with our operating results of the Town's Water and Sewer System. The Board of the Town of Monterey has taken the following steps to improve the operating results:

1. We have reviewed the Town's operating procedures looking for ways to reduce operating costs - we did not find any significant areas to improve as of yet but we will continue to work to identify any components of our system to reduce water loss. This will be an ongoing effort and we will report any significant findings to you accordingly. Included in this effort we will be investigating the costs associated with a comprehensive leak detection program as well as an automated meter reading system. It is estimated that we can appreciate significant cost savings if we are able to implement these programs.
2. We have made a decision to reduce our costs associated with advisory services for our sewer system and believe we can reduce expenditures in this area by approximately \$40,000 annually. We will implement this plan as soon as feasible.
3. At this point in time, we are planning to increase our user rates by approximately four percent, beginning in the 2013-2014 fiscal year. An additional increase should not be required until FY 2016, at which time the Town will review our change in net assets after implementation of our cost saving measures to determine if an additional increase is necessary. We will continue to monitor our revenue and expenditures projections to ensure that this rate increase will adequately offset future expenses.

Current Rates:

Water-Inside Town

First 2,000 gallons \$12.22
Over 2,000 gallons \$ 3.53/per 1,000 gal.

Water-Outside Town

First 2,000 gallons \$23.17
Over 2,000 gallons \$ 8.18/per 1,000 gal.

Sewer-Inside Town

First 2,000 gallons \$12.22
Over 2,000 gallons \$ 3.53/per 1,000 gal.

Sewer-Outside Town

First 2,000 gallons \$23.17
Over 2,000 gallons \$ 8.18/per 1,000 gal.

Proposed Rates:

Water-Inside Town

First 2,000 gallons \$12.70
Over 2,000 gallons \$ 3.67/per 1,000 gal

Water-Outside Town

First 2,000 gallons \$24.09
Over 2,000 gallons \$ 8.50/per 1,000 gal

Sewer-Inside Town

First 2,000 gallons \$12.70
Over 2,000 gallons \$ 3.67/per 1,000 gal

Sewer-Outside Town

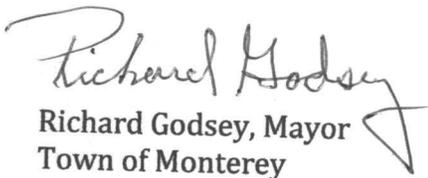
First 2,000 gallons \$24.09
Over 2,000 gallons \$ 8.50/per 1,000 gal

We believe that these changes will alleviate the operating concerns that the Board has with the Town's utility system. We do want to communicate to the Board that we will continue to monitor the progress of our utility system and if additional areas need to be addressed, we will address these in a timely manner.

We have provided a copy of our spreadsheet for your perusal showing our revenue and expense projections. Please do not hesitate to contact me at your convenience if there is any additional information you require.

We look forward to your review of our efforts.

Sincerely,


Richard Godsey, Mayor
Town of Monterey

attachment

FROM

**Town of Monterey
Projections**

	Audited 2012	Projected 2013	Growth rate Projection 2014	Growth rate Projection 2015	Growth rate Projection 2016	Growth rate Projection 2017
Fiscal Year 6/30			0%			
Water/Sewer revenues	\$ 1,471,864	\$ 1,608,543	\$ 1,608,543	\$ 1,608,543	\$ 1,608,543	\$ 1,608,543
Other revenues	\$ 28,319	\$ 21,368	\$ 21,368	\$ 21,368	\$ 21,368	\$ 21,368
Capital contributions	\$ 21,300					
Projected additional revenue		\$ 17,828	\$ 65,910	\$ 65,910	\$ 65,910	\$ 65,910
Total Operating Revenues	\$ 1,521,483	\$ 1,647,739	\$ 1,695,821	\$ 1,695,821	\$ 1,695,821	\$ 1,695,821
			4%			
	\$ 1,539,558	\$ 1,592,000	\$ 1,583,840	\$ 1,615,517	\$ 1,647,827	\$ 1,680,784
Operating Income	\$ (18,075)	\$ 55,739	\$ 111,981	\$ 80,304	\$ 47,993	\$ 15,037
Interest Expense	\$ 89,135	\$ 82,625	\$ 77,903	\$ 71,183	\$ 65,463	\$ 58,239
Change in Net Assets	\$ (107,210)	\$ (26,886)	\$ 34,078	\$ 9,121	\$ (17,470)	\$ (43,202)
<u>Supplemental Information</u>						
Principal payment	\$ 126,099	\$ 133,315	\$ 49,037	\$ 54,757	\$ 55,477	\$ 56,201
Depreciation	\$ 406,510	\$ 406,510	\$ 406,510	\$ 406,510	\$ 406,510	\$ 406,510
Water rates						
First 2,000 gallons	\$ 13.07					
All over	\$ 3.77					
Outside						
First 2,000 gallons	\$24.79					
All over	\$8.75					
Sewer rates are 100% of water						
Water customers	1,830					
Sewer customers	1,070					
Water loss	30%					
Water "Bond and Interest" fund overfunded for 2013 by \$111,595.24						
FY 2014 requires \$15,344.76 to meet P&I requirement not reflected in 2014 expense projection						

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Mosheim, Greene County
Mayor: Billy Myers
Customers: 694 water and 1,265 sewer
Water loss: 36.081%

The Town of Moshiem has been experiencing a negative change in net assets for the last six years in its sewer system according to the information contained in audited financial statements. Excessive water loss has also been reported for two of the last four years.

The Town does not take an application for sewer service. Other than the 694 water customers served by the Town, water is provided by the Town of Greenville and the Old Knoxville Highway Utility District. Both of those entities disconnect sewer for nonpayment of water bills.

A very large company is currently negotiating to attach to the sewer system. However, in order to serve the company, the plant will require upgrades. A small amount of flow is scheduled to begin in the fall of 2013, and the company fully up and running by March 2014. There are some concerns about the amount of untreatable water, which will be charged a different rate from the treatable.

During FY 13, the Town will receive approximately \$350,000 in grant revenue. That amount should be a "band-aid" fix for the negative changes. However, rates and fees need to be addressed by the Town in order to become self-sufficient.

There is also a lawsuit filed by the Town of Bulls Gap which could affect the revenues of the system. Evidently the Town of Bulls Gap is disputing the charges for the collected effluent that is being sent to Mosheim for treatment.

Staff recommends the Board endorse the actions of the Town and continue to monitor them based on comments contained in the letter from the Vice-Mayor. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

**Town of Mosheim
Sewer projections**

			0%	<i>Growth rate Projection</i>	<i>Growth rate Projection</i>	<i>Growth rate Projection</i>	<i>Growth rate Projection</i>
	Audited	Projected					
Fiscal Year June 30	2012	2013		2014	2015	2016	2017
Sewer revenues	\$ 886,884	\$ 886,884		\$ 886,884	\$ 886,884	\$ 886,884	\$ 886,884
Other revenues	\$ 47,921	\$ 47,921		\$ 47,921	\$ 47,921	\$ 47,921	\$ 47,921
			26%	\$ 230,590	\$ 230,590	\$ 230,590	\$ 230,590
Total Operating Revenues	\$ 934,805	\$ 934,805		\$ 1,165,395	\$ 1,165,395	\$ 1,165,395	\$ 1,165,395
Total Operating Expenses	\$ 1,012,616	\$ 1,032,868	2%	\$ 1,053,525	\$ 1,074,596	\$ 1,096,088	\$ 1,118,010
Operating Income	\$ (77,811)	\$ (98,063)		\$ 111,869	\$ 90,799	\$ 69,307	\$ 47,385
Interest Expense	\$ 52,930	\$ 51,397		\$ 50,364	\$ 49,276	\$ 48,135	\$ 46,937
Transfer In	\$ 13,965						
Change in Net Assets	\$ (116,776)	\$ (149,460)		\$ 61,505	\$ 41,523	\$ 21,172	\$ 448
<u>Supplemental Information</u>							
Principal payment	\$ 20,348	\$ 21,347		\$ 22,380	\$ 23,468	\$ 24,609	\$ 25,807
Depreciation	\$ 366,481	\$ 366,481		\$ 366,481	\$ 366,481	\$ 366,481	\$ 366,481
<u>Sewer Rates</u>							
<i>Residential</i>							
0 - 2,000 gallons	\$ 22.28						
2,001 4,000 gallons	\$ 5.57						
over 4,000 gallons	\$ 5.01						
<i>Commercial</i>							
0 - 6,000 gallons	\$ 46.41						
over 6,000 gallons	\$ 5.01						
<i>Industrial/Large Comercial</i>							
0 - 6,000 gallons	\$ 83.55						
6,001 - 180,000 gallons	\$ 5.18						
over 180,000 gallons	\$ 3.80						
Customers	1,265						
Water Loss	36.081%						



JUN 07 2013
Town of MOSHEIM

Mosheim, Tennessee 37818

A proud heritage ... a challenging future.

May 29, 2013

Ms. Joyce Wellborn, Legislative Auditor; Board Coordinator
State of Tennessee Comptroller of the Treasury
Utility Management Review Board/Water and Wastewater Financing Board
Division of Local Government Audit
Suite 1500 James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-1402

Dear Ms. Wellborn,

Thank you for your recent visit with us and your explanation of the requirements we, the Town of Mosheim, are bound by, and for your assistance in guiding us to compliance with the laws and regulations that govern our public water and sewer utilities.

While we are cognizant of the regulations that we are subject to, we face financial challenges that may not easily be resolved in the short term. We will address your concerns for each utility, along with our planned, and in some cases, implemented remedial measures.

WATER FUND

Enclosed is a "water loss checklist" which you asked us to complete and which should address concerns regarding our mitigation strategy for excessive water loss. We will utilize the new AWWA format that will likely yield less favorable results than prior reports, however we anticipate the tool will provide an accurate measurement we can use to bring our loss percentage within an acceptable range.

SEWER FUND

Funding depreciation and concurrently repairing an aging pressured system results in a burdensome rate structure for a primarily residential customer base. Regardless, the Town has taken, is taking, or will take the following measures to reverse the annual reduction in net assets. They are:

1. A rate structure change to protect minimum use fixed income residents, with an appropriate increase to heavier users.
2. A rate structure change to recognize a difference between inside (city limits) and outside charges.
3. Salary shifting to the general fund where employees serve both Town functions.
4. Cultivation of heavy use/profitable industrial customers which are currently and possibly locating within the system service area.
5. Grant funds received in the fiscal year ended June 30, 2013 which will cause an increase in net assets.

6. Agreements with outside water providers to cut off water service if sewer bills become delinquent.
7. Overall rate increases.

The grant funds received this year will reset the clock for us, yet we realize that we need a more sustainable operating plan. We anticipate the location of U.S. Nitrogen (scheduled to come online in March, 2014) within our service area, and other industrial facilities it will attract, along with expanded sewage treatment capacity, will provide some large-volume, dependable and lucrative revenue streams we do not currently have. We are committed to setting rates at levels that will keep us in compliance with regulations, and we believe implementation of the methods/tools enumerated above will afford us more flexibility than a one-dimensional solution.

Sincerely,

Thomas J. Dugg Vice-Mayor

Town of Mosheim
Board of Mayor and Aldermen

Water Loss Check List

1. **Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc?**
Yes, we bill for general government use including our Town Hall & Library
2. **Are you accounting for the water used by the water and/or sewer department?**
Yes, for the Water Dept. we fill our water usage reports for flushing lines, street cleaning, etc. Our sewer pump station doesn't have a meter on it currently, but we will be installing one of those soon.
3. **Do you periodically check or inspect all 2" and larger meters?**
No we do not have a person certified to check the calibration of our 2" master meters. We did have a certified person rebuild our master meters approximately 2 years ago.
4. **Do you have a recalibration policy and procedure in place?**
No, we have not been instructed to have this kind of policy, but we will work on getting one in place.
5. **Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?**
Our meter replacement policy was implemented 2 years ago, it being a 10 year replacement policy. It is based on age of meter. We have replaced approximately 100 meters as of this date.
6. **Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?**
We rely on the public to inform of us about fire hydrant, blow-off usage/leaks. We check residences if possible of tampering with locked meters. If unauthorized consumption is discovered, we lock/pull meter until charges are paid.
7. **Do you have a leak detection program currently in place?**
No not at this time, but we will be implementing one soon
8. **Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?**
Yes, we have a billing adjustment policy that includes no adjustments on water bills, just adjustment of sewer. Yes, these policies are followed by all staff.

9. **Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage?**
Yes, we mail certified letters/forms to every local Fire Department, requiring them to turn in usage off hydrants. We use these forms in our water loss report monthly.
10. **Is your system "zoned" to isolate water loss?**
No, not at this time. We have too many streets that do not have valves to isolate the "zoned" areas.
11. **Do you search for leaks at night when there is little traffic or small household usage?**
No, we have not been doing this at this time.
12. **Do you or can you control pressure surges?**
Yes, we have altitudes valves, and pressure reducer valves on main lines.
13. **Do you have or have access to leak detection equipment?**
Do not have equipment, but we do have access to such equipment.
14. **What is your policy for notifying customers they have a leak?**
The office personnel call the customer, or if they can't be reached by phone we will place a door hanger at the residence.
15. **Do you have a public relations program to encourage citizens to report leaks?**
No programs in place, but citizens are good to call the office to inform of possible leaks.
16. **Do you have a policy to prosecute water theft or meter tampering/damage?**
No
17. **What is the monetary value of the lost water?**
Total gallons lost was 34,383,725 at \$78,869.56
18. **Is the cost to repair the leak justified based on the amount of water being lost?**
No, we always fix the water leaks regardless of cost.

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Oliver Springs, Anderson/Morgan/Roane Counties
Mayor: Chris Helper
Customers: 2,114 water and 1,382 sewer
Validity Score: 69
Non-revenue water: 9.7%

The Town of Oliver Springs has been experiencing a negative change in net assets for the last two years in its water and sewer system according to the information contained in audited financial statements.

The current City Manager has been in place since June 2012.

It appears that the capital assets of systems have not been maintained for many years. The sewer system needs approximately \$1,000,000 to get the system back in good working order. Areas that would have been considered a repair or maintenance item five years ago are now capital concerns. The equalization basin had not been cleaned out in 20 years. Infiltration and inflow is a serious problem for the Town. The Tennessee Department of Environment and Conservation is in the process of developing an agreed order for some of the items.

The water system has had extremely high losses for the past three years (55.6%, 53.4% and 49.6%) based on the old formula. The AWWA numbers reflect compliance, however, since the system is still in the learning process, those numbers may not accurately reflect the problems of the system.

According to the City Manager, many of the problems could be addressed with additional staff and resources. Her projections have determined that a 25.5% increase would be needed.

In July 2012, rates were increased \$1.00 at each level. Prior to July 2012, the last increase was in 2006. In addition to the usage rates, every customer of the system pays a flat fuel surcharge. Customers outside the Town limits also pay a flat water surcharge.

Since the water board and the city council are the same, it is difficult to get a rate increase. A couple of interesting items are: 1) the finance director and the city recorder are both elected, but the City Manager is hired; and, 2) an outside person is contracted (\$300 per year) to prepare bank reconciliations on eight different bank accounts.

It appears that the negative change in net assets at April 30, 2013 is approximately \$12,000.

Staff recommends the Board endorse the actions of the Town regarding the 25.5% increase in rates. If the Town failed to adopt the increase, officials should be required to appear at the next meeting with an alternative plan. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF OLIVER SPRINGS					
HISTORY FILE					
	Audited	Audited	Audited	Audited	
Fiscal Year 6/30	2009	2010	2011	2012	
Water revenues	\$ 1,078,960	\$ 1,050,651	\$ 1,093,360	\$ 1,058,556	
Other revenues	\$ 195,961	\$ 177,082	\$ 182,031	\$ 237,015	
Capital contributions	\$ 76,220	\$ 421,128	\$ 71,167		
Total Revenue	\$ 1,351,141	\$ 1,648,861	\$ 1,346,558	\$ 1,295,571	
Total Expenses	\$ 1,138,268	\$ 1,214,918	\$ 1,308,977	\$ 1,306,489	
Operating Income	\$ 212,873	\$ 433,943	\$ 37,581	\$ (10,918)	
Interest Expense	\$ 50,499	\$ 49,958	\$ 46,150	\$ 37,910	
Change in Net Assets	\$ 162,374	\$ 383,985	\$ (8,569)	\$ (48,828)	
<u>Additional Info</u>					
Principal payment	\$ 203,335	\$ 155,788	\$ 182,149	\$ 176,007	
Depreciation	\$ 262,240	\$ 296,508	\$ 323,170	\$ 326,712	
<u>Water rates</u>					
<u>Residential inside</u>					7/1/2012
First 2,000 gallons	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50	\$ 8.50
all over	\$ 4.10	\$ 4.10	\$ 4.10	\$ 4.10	\$ 5.10
<u>Residential outside</u>					
First 2,000 gallons	\$ 14.00	\$ 14.00	\$ 14.00	\$ 14.00	\$ 15.00
all over	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00
Surcharge	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	
Sewer rates					
<u>Residential inside</u>					
First 2,000 gallons	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 16.00
all over	\$ 6.25	\$ 6.25	\$ 6.25	\$ 6.25	\$ 7.25
<u>Residential outside</u>					
First 2,000 gallons	\$ 28.75	\$ 28.75	\$ 28.75	\$ 28.75	\$ 29.75
all over	\$ 12.31	\$ 12.31	\$ 12.31	\$ 12.31	\$ 13.31
Sewer only customers	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	
Water customers	2,158	2,148	2,147	2,114	
Sewer customers	1,389	1,387	1,397	1,382	
Water loss	55.561%	53.364%	49.560%		
Validity Score				69	
Non revenue water				9.70%	

Chris Hepler
Mayor

Joseph Van Hook
City Recorder/Judge

Tina Treece
City Manager

Ramona Walker
Court Clerk/Finance Officer

Town of Oliver Springs

717 Main Street - P.O. Box 303
Oliver Springs, TN 37840

Ph (865) 435-7722 Fax (865) 435-4881

Aldermen
Gary Stinnett
Maurice Walker
Omer Cox
Terry Craze
Terry Holland
James Brummett

June 24, 2013

Ms. Joyce Welborn
State of Tennessee Comptroller of the Treasury
Utility Management Review Board
James L. Polk Building
505 Deadrick Street, Suite 1500
Nashville, TN 37243

RE: The Town of Oliver Springs Financial planning response

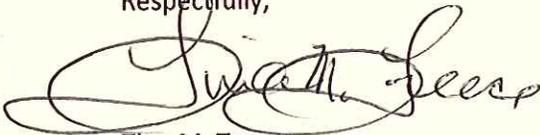
Dear Ms. Welborn,

As per our discussion on May 25th you had asked that the Town respond to you no later than the 25th of June, 2013 as to our current financial standing and plans for our next fiscal year budget. As of today's date we have not passed a new budget for the 2013 – 2014 fiscal year. However, we have scheduled for a special call Water Board meeting on July 2, 2013 to do exactly that. As we stand today, the Water Board is looking to pass a water and sewer budget that includes a rate increase of 25.5% across the board.

This will not only allow for us to make up for our shortfall in revenue, but to also proceed with the Loan for improvements/repairs to our Sewer Plant. I was in hopes that we would have had the Water/Sewer budget passed at this time. Nonetheless, we are making great strides to have this budget passed on the 2nd of July. As soon as I have a final vote on this matter, I will contact you in writing to advise you of the outcome and forward the budget details to your office.

Thank you ever so much for your understanding in this matter.

Respectfully,



Tina M. Treece
City Manager

Cc: file; fax copy sent 6/24/2013;original mailed /24/2013

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: City of Ramer, McNairy County
Mayor: George Armstrong
Customers: 204 water
Validity Score: 67
Non revenue water: 12.7%

The City of Ramer has been experiencing a negative change in net assets in its water system for five consecutive fiscal years according to the information contained in audited financial statements.

The financial and rate history is attached.

The City was first reported to the Board for consecutive losses in the audit ending June 30, 2009. The negative changes in net assets are continuing to increase even through rates were increased in FY10, and FY11. An additional 10% increase was effective July 1, 2013 and another is scheduled for July 1, 2014. Even though rate increases were implemented, the actual revenue amount from water sales did not increase accordingly.

Although a 2% inflation rate was used to calculate the additional revenue that would be needed, expenses have increased an average of 5.2% annually since 2007.

During FY 12, new computer software was purchased and repairs were made to the well creating expenses of approximately \$6,000 that should not be repeated.

During the spring of 2013, the City was forced connect to the Town of Eastview in order to purchase water while the water tank was being renovated. That will make expenses increase slightly during the FY13 fiscal year. The connection was funded by existing funds within the water department.

The City needs to adopt and implement a meter replacement program. According to the Mayor, TDEC has informed the City that there are some problems with the retention tank that must be fixed.

Staff recommends the Board require the Town to adopt and implement a meter replacement program and contact MTAS for a rate study.

Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

CITY OF RAMER							
HISTORY FILE							
	Audited	Audited	Audited	Audited	Audited	Audited	
Fiscal Year 6/30	2007	2008	2009	2010	2011	2012	
Water revenues	\$ 53,406	\$ 57,709	\$ 54,035	\$ 53,512	\$ 54,143	\$ 55,921	
Other revenues	\$ 1,608	\$ 978	\$ 801	\$ 446	\$ 543	\$ 115	
Capital contributions	\$ 13,135						
Total revenues	\$ 68,149	\$ 58,687	\$ 54,836	\$ 53,958	\$ 54,686	\$ 56,036	
Total Expenses	\$ 55,357	\$ 71,392	\$ 63,368	\$ 63,913	\$ 67,714	\$ 72,748	
Operating Income	\$ 12,792	\$ (12,705)	\$ (8,532)	\$ (9,955)	\$ (13,028)	\$ (16,712)	
Interest Expense	\$ 1,623	\$ 381					
Change in Net Assets	\$ 11,169	\$ (13,086)	\$ (8,532)	\$ (9,955)	\$ (13,028)	\$ (16,712)	
<u>Additianl info</u>							
Principal payment	\$ 5,000	\$ 16,000					
Depreciation	\$ 17,913	\$ 17,913	\$ 17,913	\$ 18,396	\$ 18,448	\$ 18,446	
Water Rates							<u>7/1/2012</u> <u>7/1/2013</u>
First 1,000 gallons	\$ 12.50	\$ 12.50	\$ 12.50	\$ 13.50	\$ 14.85	\$ 16.35	\$ 17.99
over 1,000 gallons	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.20	\$ 2.20	\$ 2.42
Customers	255	255	255	255	255	204	
Water Loss	unknown	31.45%	32.73%	30.22%	34.92%		
Validity Score							67
Non revenue water							12.70%

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: City of Red Boiling Springs, Macon County
Mayor: Bobby Etheridge
Customers: 1,715 water; 215 sewer
Water loss: 29%

The City of Red Boiling Springs has been experiencing a negative change in net assets in its water and sewer system for two consecutive fiscal years according to the information contained in audited financial statements.

The financial and rate history is attached.

When asked how the City got in this shape, staff was told that the former employee (who was the certified operator) over the water department didn't search to find the best price for anything. He simply bought what he wanted when he wanted it – not abiding by the purchasing guidance of the City. Since he left in August 2012, City official stated that expenses have decreased. Delinquent accounts have also decreased recently because of the diligence of the office staff.

The meter replacement program only targets those meters that register over one millions gallons.

The City has its own water plant, but purchases a small amount from the City of Lafayette.

City Council is exploring the refunding of Rural Development bonds which carry a rate of 5%. The State Revolving Fund loan for the sewer system (interest rate of 0.79%) Will mature and be paid off in August 2013.

Staff recommends the Board endorse the actions of the City and encourage them to continue to improve the operations and management of the systems. The City also should adopt a more comprehensive meter replacement program. The City will remain under the oversight of the Board until an audit is received which reflects compliance with state law.

CITY OF RED BOILING SPRINGS			
HISTORY FILE			
	Audited	Audited	Audited
Fiscal Year ended 6/30	2010	2011	2012
W/S Revenues	\$ 1,177,569	\$ 1,058,984	\$ 1,029,360
Other revenues	\$ 33,018	\$ 23,844	\$ 23,739
Total Revenues	\$ 1,210,587	\$ 1,082,828	\$ 1,053,099
Total Expenses	\$ 1,253,958	\$ 1,133,678	\$ 1,144,448
Revene vs. Expenses	\$ (43,371)	\$ (50,850)	\$ (91,349)
Interest Expense	\$ 22,288	\$ 26,830	\$ 22,427
Contributions	\$ 328,675		
Change in Net Assets	\$ 263,016	\$ (77,680)	\$ (113,776)
<u>Supplemental Information</u>			
Principal payment	\$153,968	\$146,518	\$153,829
Depreciation	\$ 268,204	\$ 277,547	\$ 269,603
<u>Water Rates</u>			
<u>Inside</u>			
First 2,000 gallons	\$ 7.86	\$ 9.88	\$ 9.88
Over 2,000 gallons	\$ 3.63	\$ 4.17	\$ 4.17
<u>Outside</u>			
First 2,000 gallons	\$ 11.80	\$ 13.57	\$ 13.57
Over 2,000 gallons	\$ 5.44	\$ 6.26	\$ 6.26
Water customers	1,703	1,707	1,715
<u>Sewer Rates</u>			
<u>Inside</u>			
First 2,000 gallons	\$ 10.00	\$ 11.50	\$ 11.50
Over 2,000 gallons	\$ 5.00	\$ 5.75	\$ 5.75
<u>Outside</u>			
First 2,000 gallons	\$ 15.00	\$ 17.25	\$ 17.25
Over 2,000 gallons	\$ 7.50	\$ 8.63	\$ 8.63
Sewer customers	212	215	215
Water Loss	31.000%	30.000%	29.000%



City of Red Boiling Springs

P.O. Box 190 - Dale Street - 615/699-2011
Red Boiling Springs, Tenn. 37150

June 14, 2013

Joyce Wellborn, Board Coordinator
Water and Wastewater Financing Board
James K. Polk State Office Building
505 Deaderick Street, Suite 1500
Nashville, Tennessee 37243-1402

JUN 19 2013

Dear Ms. Wellborn:

Thank you for meeting with us. The items we discussed were very helpful in evaluating the operations of the City's Water and Sewer system. We are preparing this letter to address the concerns that the Water and Wastewater Board has with our operating results of the City's Water and Sewer System. The Council of the City of Red Boiling Springs has taken the following steps to improve the operating results:

1. We have reviewed the City's operating procedures looking for ways to reduce operating costs—we did not find any significant areas to improve. We are going to always strive to reduce our water loss.
2. We have made a decision to increase our user rates 6% this year, with new rates going into effect August 1, 2013, 6% in 2014, and 6% in 2015. The proposed rates are shown on the projections sheet.
3. We have increased certain reconnection fees to more clearly resemble our costs. The new non-refundable connection fees and reconnection fees will be \$50.00 inside the City and \$100.00 outside the City. The new rates go into effect July 1, 2013.
4. We will no longer have any after-hours turn on/off services, reducing the higher operating costs for these services.

We believe that these changes will alleviate the operating concerns that the Board has with the City's utility system. We do want to communicate to the Board that we will continue to monitor the progress of our utility system and if additional areas need to be addressed, we will address these in a timely manner.

We look forward to your review of our efforts.

Sincerely,

Bobby Etheridge, Mayor

**Red Boiling Springs
Projections**

	Audited 2012	Projected 2013		Growth rate Projection 2014	Growth rate Projection 2015	Growth rate Projection 2016
Fiscal Year ended 6/30			0%			
W/S Revenues	\$ 1,029,360	\$ 1,029,360		\$ 1,029,360	\$ 1,029,360	\$ 1,029,360
Other revenues	\$ 23,739	\$ 23,739		\$ 23,739	\$ 23,739	\$ 23,739
Projected additional revenue			20%	\$ 205,872	\$ 205,872	\$ 205,872
Total Revenues	\$ 1,053,099	\$ 1,053,099		\$ 1,258,971	\$ 1,258,971	\$ 1,258,971
Total Expenses	\$ 1,144,448	\$ 1,167,367	2%	\$ 1,190,714	\$ 1,214,529	\$ 1,238,819
Revenue vs. Expenses	\$ (91,349)	\$ (114,268)		\$ 68,257	\$ 44,442	\$ 20,152
Interest Expense	\$ 22,427	\$ 30,135		\$ 22,789	\$ 21,030	\$ 20,680
Contributions						
Change in Net Assets	\$ (113,776)	\$ (144,403)		\$ 45,468	\$ 23,412	\$ (528)
Supplemental Information						
Principal payment	\$153,829	\$ 151,573		\$ 34,546	\$ 8,214	\$ 8,564
Depreciation	\$ 269,603	\$ 269,603		\$ 269,603	\$ 269,603	\$ 269,603
Water Rates						
Inside						
First 2,000 gallons	\$ 9.88	\$ 10.42		\$ 10.42	\$ 10.42	\$ 10.42
Over 2,000 gallons	\$ 4.17	\$ 4.80		\$ 5.04	\$ 5.42	\$ 5.72
Outside						
First 2,000 gallons	\$ 13.57	\$ 15.61		\$ 15.61	\$ 15.61	\$ 15.61
Over 2,000 gallons	\$ 6.26	\$ 7.20		\$ 7.63	\$ 8.09	\$ 8.58
Water customers	1,715	1,736				
Sewer Rates						
Inside						
First 2,000 gallons	\$ 11.50	\$ 13.23		\$ 13.23	\$ 13.23	\$ 13.23
Over 2,000 gallons	\$ 5.75	\$ 6.61		\$ 7.01	\$ 7.43	\$ 7.88
Outside						
First 2,000 gallons	\$ 17.25	\$ 19.84		\$ 19.84	\$ 19.84	\$ 19.84
Over 2,000 gallons	\$ 8.63	\$ 9.42		\$ 10.52	\$ 11.15	\$ 11.82
Sewer customers	215	217				
Water Loss	29.0000%					

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Scott County Sewer System
Co. Mayor: Jeff Tibbals
Customers: 275 sewer

The Scott County Sewer System has been experiencing a negative change in net assets in its sewer system for two consecutive fiscal years according to the information contained in audited financial statements. The financial and rate history is attached.

The Huntsville Utility District charges \$1.75 per customer per month to bill and collect for the Town.

Part of the main highway in Huntsville, has sewer from the County on one side and sewer from the Town of Huntsville on the other. Both the systems should look at combining – if for no other reason – to eliminate the second plant and the related operation, maintenance and depreciation expense.

In another section of the county, the County paid \$250,000 to install the sewer system, but the City receives the revenue from the 56 customers involved.

An annual transfer of approximately \$32,000 is made from the General Fund to the Sewer fund. Since the system is supposed to be self-supporting, the transfer was not used in projected increases.

The County does not require connection to the sewer system as allowed in state law.

The Huntsville Mayor has stated that the Town will take the Scott County sewer system, but not the associated debt. Over the next few months, the County will pursue that option.

If the merger with the Town fails, staff recommends the Board require an increase in the rates. Since the projected 99% immediate rate increase is not practical, staff recommends the Board require an annual 30% rate increase for three years or require the attendance of County officials at the next meeting to address the condition of the wastewater system to suggest an alternative plan. The County will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

**SCOTT COUNTY SEWER
HISTORY FILE**

	Audited	Audited	Audited	Audited	Audited	Audited	Audited	Audited
FYE 6/30	2005	2006	2007	2008	2009	2010	2011	2012
Sewer revenues	\$ 80,132	\$ 90,639	\$ 85,913	\$ 127,748	\$ 155,033	\$ 147,729	\$ 160,859	\$ 156,777
Other revenues	\$ 103	\$ 102	\$ 138	\$ 1,473	\$ 4,266	\$ 41		\$ 250
Transfers in	\$ 41,059	\$ 28,930	\$ 48,770	\$ 60,223	\$ 50,838	\$ 226,032	\$ 32,625	\$ 32,160
Grants				\$ 861,115	\$ 34,775	\$ 346,996		
Total Oper Rev.	\$ 121,294	\$ 119,671	\$ 134,821	\$ 1,050,559	\$ 244,912	\$ 720,798	\$ 193,484	\$ 189,187
Total Oper Exp.	\$ 162,219	\$ 229,087	\$ 165,380	\$ 170,368	\$ 212,192	\$ 226,134	\$ 252,211	\$ 261,469
Operating Income	\$ (40,925)	\$ (109,416)	\$ (30,559)	\$ 880,191	\$ 32,720	\$ 494,664	\$ (58,727)	\$ (72,282)
Interest Expense	\$ 19,045	\$ 18,916	\$ 18,770	\$ 26,626	\$ 28,997	\$ 28,607	\$ 28,026	\$ 27,439
Change in Net assets	\$ (59,970)	\$ (128,332)	\$ (49,329)	\$ 853,565	\$ 3,723	\$ 466,057	\$ (86,753)	\$ (99,721)
<u>Additioan info</u>								
Principal payment	\$ 10,000	\$ 10,000	\$ 10,000	\$ 12,078	\$ 12,881	\$ 18,028	\$ 18,120	\$ 18,241
Depreciation	\$ 58,216	\$ 58,216	\$ 58,220	\$ 58,220	\$ 83,757	\$ 87,992	\$ 91,885	\$ 92,513
Sewer rates								
0 - 2,000 gallons								\$ 21.24
2,001 - 10,000 gallons								\$ 9.30
10,001 - 40,000 gallons								\$ 6.88
All over								\$ 4.95
Sewer customers								275

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Sharon, Weakley County
Mayor: Monroe Ary
Customers: 544 water; 497 sewer
Water Loss: 47.1%

The Town of Sharon has been experiencing a negative change in net assets in its water and sewer system for two consecutive fiscal years according to the information contained in audited financial statements.

The financial and rate history is attached. The Town is debt free.

A few years ago, Dollar General came to Town and it was decided that the Town would install the water and sewer service at the expense of the Town. A little later, an existing business decided they wanted the same deal at the expense of the Town. This created a financial expense that was not recovered quickly.

Rates for the utility have not changed in five years. However, effective July 1, 2013, the minimum bill will be increased \$3.60. The remaining rates are remaining the same.

Staff suggested that the rate levels slowly be eliminated as the need to increase rates arises. Also, it was suggested that the minimum usage allowance be reduced to 1,000 gallons.

Although the Town has most of its policies in writing, there are a few that are still needed. For example, a customer requested a \$0.89 adjustment to a bill for watering flowers. Written policies allow office staff to consistently enforce the mandates of the Town council.

Sharon is home to one of the oldest water tanks in the state – a 50,000 gallon “witches hat” from the early 1900’s. A \$500,000 Community Development Block Grant has been awarded to tear down the tank and replace it with a 1000,000 gallon tank that will be 31 feet taller and equalize the water pressure with the other tank. The required match money and additional funding is in the bank so funds will not have to be borrowed for the project.

It appears that the Town is moving in a positive direction regarding revenues. With the implementation of the July 1, 2013 rate increase, compliance should be coming by FY 14. Staff recommends the Board endorse the actions of the Town, but strongly suggest that all policies be adopted by the Town council and put in writing. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF SHARON				
HISTORY FILE				
	Audited	Audited	Audited	Audited
Fiscal Year ended 6/30	2009	2010	2011	2012
W/S Revenues	\$ 193,081	\$ 192,172	\$ 192,751	\$ 195,799
Other revenues	\$ 8,927	\$ 8,920	\$ 10,748	\$ 10,238
Contributed Capital	\$ 65,515	\$ 12,265		
Total Revenues	\$ 267,523	\$ 213,357	\$ 203,499	\$ 206,037
Total Expenses	\$ 221,912	\$ 208,582	\$ 266,655	\$ 210,974
Revene vs. Expenses	\$ 45,611	\$ 4,775	\$ (63,156)	\$ (4,937)
Interest Expense				
In lieu of tax	\$ 20,074		\$ 9,938	\$ 9,847
Loss on sale of assets		\$ 340		
Change in Net Assets	\$ 25,537	\$ 4,435	\$ (73,094)	\$ (14,784)
<u>Supplemental Information</u>				
Principal payment				
Depreciation	\$ 70,420	\$ 69,742	\$ 67,051	\$ 53,362
<u>Water Rates</u>				
First 2,000 gallons	\$ 10.08	\$ 10.08	\$ 10.08	\$ 10.08
2,001 - 3,000 gallons	\$ 2.55	\$ 2.55	\$ 2.55	\$ 2.55
3,001 - 20,000 gallons	\$ 1.74	\$ 1.74	\$ 1.74	\$ 1.74
All over	\$ 1.39	\$ 1.39	\$ 1.39	\$ 1.39
<u>Sewer Rates</u>				
First 2,000 gallons	\$ 14.38	\$ 14.38	\$ 14.38	\$ 14.38
Over 2,000 gallons	\$ 1.74	\$ 1.74	\$ 1.74	\$ 1.74
Water customers	537	529	539	544
Sewer customers	489	484	493	497
Water Loss	37.600%	32.100%	47.400%	47.100%

Monroe Ary
MAYOR
Donna Stricklin
RECORDER

CITY OF SHARON

P.O BOX 235
SHARON, TN 38255
PHONE (731) 456-2122
FAX (731) 456-3045

ALDERMEN
Stewart Broussard
Wanda Hamlin
Jimmy Harris
Jason Plunk

June 20, 2013

JUN 25 2013

Joyce Welborn
Board Coordinator
Water and Wastewater Financing Board
James K. Polk State Office Building, Suite 1500
505 Deaderick Street
Nashville, TN 37243-1402

Dear Joyce:

The City of Sharon is aware of the negative change in net assets in our water and sewer system.

The Mayor and Board of Aldermen have approved a rate increase in the monthly sewer charge in the amount of \$3.60, effective July 1, 2013. The City will remain aware and be active in regards to revenues remaining positive. If revenues are not sufficient, the board is prepared to reduce the minimum usage to 1,000 gallons instead of the current 2,000 gallons.

The water loss was corrected in April 2012.

If further assistance is needed, please contact me at (731) 456-2122.

Sincerely,



Donna Stricklin
City Recorder, CMC, CMFO

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WASv4.2

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Water Audit Report for: **Town of Sharon**

Reporting Year: **2012** / 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	<input type="text" value="7"/>	<input type="text" value="53.399"/>	Million gallons (US)/yr. (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="7"/>	<input type="text" value="0.534"/>	under-registered MG/Yr
Water imported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water exported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
WATER SUPPLIED:		<input type="text" value="53.933"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="9"/>	<input type="text" value="26.484"/>	MG/Yr
Billed unmetered:	<input type="text" value="10"/>	<input type="text" value="0.011"/>	MG/Yr
Unbilled metered:	<input type="text" value="10"/>	<input type="text" value="0.020"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="9"/>	<input type="text" value="1.280"/>	MG/Yr

Click here: for help using option buttons below

Pcnt: Value:

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="text" value="7"/>	<input type="text" value="1.395"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="9"/>	<input type="text" value="0.132"/>	MG/Yr

Pcnt: Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Apparent Losses:

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/Yr

WATER LOSSES: MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="7"/>	<input type="text" value="11.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="9"/>	<input type="text" value="642"/>	
Connection density:		<input type="text" value="58"/>	conn./mile main
Average length of customer service line:	<input type="text" value="10"/>	<input type="text" value="0.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="7"/>	<input type="text" value="62.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="9"/>	<input type="text" value="\$147,682"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="9"/>	<input type="text" value="\$7.39"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="9"/>	<input type="text" value="\$377.51"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input text"="" type="text" value="\$12,281"/>
Annual cost of Real Losses:	<input type="text" value="\$9,240"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="7.09"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="104.45"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.68"/>	gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL):

*** UARL cannot be calculated as either average pressure, number of connections or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL):

Infrastructure Leakage Index (ILI) [CARL/UARL]:

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 81 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources**
- 2: Master meter error adjustment**
- 3: Unauthorized consumption**

For more information, click here to see the Grading Matrix worksheet

Initial Check list for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc.
2. Are you accounting for the water used by the water and/or sewer department?
3. Do you periodically check or inspect all 2" and larger meters?
4. Do you have a recalibration policy and procedure in place?
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?
7. Do you have a leak detection program currently in place?
8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?
9. Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage?
10. Is your system "zoned" to isolate water loss?
11. Do you search for leaks at night when there is little traffic or small household usage?
12. Do you or can you control pressure surges?
13. Do you have or have access to leak detection equipment?
14. What is your policy for notifying customers they have a leak?
15. Do you have a public relations program to encourage citizens to report leaks?
16. Do you have a policy to prosecute water theft or meter tampering/damage?
17. What is the monetary value of the lost water?
18. Is the cost to repair the leak justified based on the amount of water being lost?

Suggestion: The Division of Water Supply requires a specific person(s) be assigned to the cross connection program. It may be beneficial to assign the same person to account for water loss.

Answers to check list for addressing Water Loss

1. We do not bill individual departments; we just count the monthly consumption as usage.
2. The meter is read at the end of each month.
3. We check our 2 inch meters at least once a month.
4. We don't have a policy but Labtronix calibrates our testing equipment annually.
5. We are changing 50 meters a year based on the meters age, service and gallons.
6. We have our police department to watch the vacant homes and the fire hydrants for any activity or tampering. If you are caught getting water, you will be billed for the water and locks are put on the meters or hydrants.
7. We do not have a leak detection program but have talked to leak detection services.
8. We do have a written policy for billing adjustments. We allow credit on a leak if the leak is over one month and a half average usage. All staff follows the policy.
9. The fire department reports monthly water usage accordingly by hose size and pumpage of the hydrant.
10. Yes we are able to keep control of our water loss.
11. No we do not search for leaks at night. If the police notice water we will be notified.
12. Yes we can control our pressure surge.
13. No we do not have leak detection equipment
14. We will leave a note on the front door and/or call them.
15. Yes citizens will call or come to City Hall.
16. Water tampering or theft of water is against the law and prosecution would be done.
17. The most expense would be the electric for pumping and chemicals for treatment of water.
18. We will try to repair a leak, no matter what the cost.

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: City of Sunbright, Morgan County
Mayor: Dennis Reagan
Customers: 72 sewer

The City of Sunbright has been experiencing a negative change in net assets in its sewer system for two consecutive fiscal years according to the information contained in audited financial statements. The financial and rate history is attached.

When asked how the system got financially distressed, the Mayor stated that – for whatever reason – customers were being lost and the no grants had been received recently. The customer base ranges between 65 and 72 – the lowest since installation. A couple of business and the bank have closed. Thirty-five percent (35%) of the customers are renters and 33% of those have drug issues.

Plateau Utility District does the billing and collecting for the City.

This is a 22 year old collection system that is “held together by band-aids and duct tape.” Infiltration and inflow are major problems in the system.

Information provided in the attached letter identifies steps being taken by the City to correct the problem. Those steps amount to a total of \$13,055. (Typo in the city’s letter.) Part of the solution, however, is an annual general fund transfer of \$5,000. Grants funds are being applied for to replace broken lines within the system. Customer rates were increased by 6% effective July 1, 2013.

Staff recommends the Board endorse the actions of the City but suggest the City find other ways to generate revenue without the use of a general fund transfer. The City will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

CITY OF SUNBRIGHT				
HISTORY FILE				
	Audited	Audited	Audited	Audited
Fiscal Year 6/30	2009	2010	2011	2012
Sewer revenues	\$ 32,462	\$ 33,848	\$ 30,414	\$ 33,743
Other revenues				\$ -
Capital Contributions	\$ 48,630	\$ 411,713	\$ 20,000	
Total Operating Revenues	\$ 81,092	\$ 445,561	\$ 50,414	\$ 33,743
Total Operating Expenses	\$ 51,569	\$ 46,154	\$ 52,433	\$ 48,649
Operating Income	\$ 29,523	\$ 399,407	\$ (2,019)	\$ (14,906)
Interest Expense	\$ 456	\$ 360	\$ 276	\$ 192
Gen. Fund Transfer	\$ 10,000			
Change in Net Assets	\$ 39,067	\$ 399,047	\$ (2,295)	\$ (15,098)
<u>Supplemental Information</u>				
Principal payment		\$ 6,300	\$ 6,384	\$ 6,468
Depreciation	\$ 16,879	\$ 17,289	\$ 30,135	\$ 27,489
<u>Sewer rates</u>				
<u>Residential</u>				
First 2,000 gallons	\$ 23.00	\$ 23.00	\$ 23.00	\$ 23.00
All over	\$ 5.15	\$ 5.15	\$ 5.15	\$ 5.15
<u>Commercial</u>				
First 2,000 gallons	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00
All over	\$ 3.90	\$ 3.90	\$ 3.90	\$ 3.90
Tap fee	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00
Customers	70	75	75	72



CITY OF SUNBRIGHT

120 MELTON DRIVE • P.O. BOX 188
SUNBRIGHT, TENNESSEE 37872 • (423) 628-5260

Date: June 4, 2013

Ms. Joyce Welborn
Comptroller of Treasury
Division of local Government Audit
Suite 1500, James K. Polk Bldg.
505 Deaderick Street
Nashville, TN. 37243-1402

Dear Ms. Welborn,

Attached is a Profit & Lost Overview July 2014 – June 2015. Which shows a minus of \$14,825.68?

The following Service expenses will be deleted starting July 1, 2013.

Billing Services (PUD)	\$1,000.00
Contract Service	6,000.00

As we discussed pertaining to surface water infiltration. With the numbers we have, we are confident we can reduce Utility Bills for Wastewater Treatment Plant, the two (2) Wet Pump Stations for a 40% decrease.

Sewer Plant	\$2,472.00
(2) Pump Stations	1,558.00
Sewer Rate increase Of 6% per customer	2,025.00

The above 5 items total= 413,055.00

As projected pertaining to our SRF Loan will be closed out in 2014.

\$6,600.00 Savings annually.

We will input \$5,000.00 from General fund also.

We have spoken to our Grant Person today; we are applying for enough money to upgrade our Pump Stations and to replace the broken lines which will help very much on the utility billing as shown above... Minimum \$100,000.00.



CITY OF SUNBRIGHT

120 MELTON DRIVE • P.O. BOX 188

SUNBRIGHT, TENNESSEE 37872 • (423) 528-5200

spoke to our auditor and we cannot delete the old wastewater system just yet. She said we will take a huge hit in depreciation.

If this is not acceptable please contact me.

Respectively,

Dennis Reagan
Mayor of Sunbright
Cell- 423-539-2433

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Wartrace, Bedford County
Mayor: Ronald Stacy
Customers: 830 water; 325 sewer
Water loss: 46%

The Town of Wartrace has been experiencing a negative change in net assets in its water and sewer system for two consecutive fiscal years according to the information contained in audited financial statements.

The financial and rate history is attached.

When asked how the Town got in this shape, officials stated:

For many years, the sole source of water was gravity flow from a spring. The amount of water taken from that spring was metered but the water loss was not measured. When the water loss requirements were implemented by the State, the system discovered a very high percentage of water loss. Then it was determined that the spring had extreme turbidity (a measure of the degree to which the water loses its transparency or is cloudy due to the presence of suspended particulates.) The water system was installed in 1934 with cast iron pipe with lead joints. The sewer system was installed in 1960 with clay pipe. Fifty percent of the water meters in the Town are over ten years old. Until the mid 1990's expansion of the system was the priority – not rehabilitation.

The spring is no longer in use and all water is purchased from the City of Tullahoma for \$1.85 per thousand gallons. Water is also sold to the City of Bell Buckle for \$3.05 per thousand gallons. Since different chemicals were used with spring water than now being used with the Tullahoma water, the lines are being “eaten”, causing more leaks and extra flushing of the lines. Currently water loss is less than 40%. During May 2013, the water loss was 33.04%

A twelve-inch plastic trunk line covering four and one-half miles, installed in the mid 1990's, was not properly installed (bedded) and is a constant source of leaks. The cost to replace that line is estimated at \$1,100,000.

A \$500,000 Community Development Block Grant (CDBG) application has been submitted to replace the old water lines in the downtown area. That project is estimated to cost \$549,000.

The Town has been through four leak detection events with leaks being repaired as they are discovered. When one leak was repaired, a creek went dry. Most leaks are repaired by the staff of the Town which consists of two full-time and two part-time employees. Many times, repair of major leaks has to be contracted. A third full-time employee is

needed because the current operator is heavily involved in the day to day operations of the system and does not have the time needed to perform his administrative duties or to take time off.

Because of the clay pipes used in the sewer system and its age, the system has high infiltration and inflow. Although the lagoon itself is in fairly good shape, the Town is in the process of replacing the bar screen at the plant at a cost of \$208,320. The screen has been out for many months requiring special chemical to break down the solids. This has increased operating costs of the sewer system significantly. The lift station is seriously outdated but will cost approximately \$380,000 to correct. The pumps are also outdated.

When asked, the water superintendent stated that it is possible that some people are getting utility service without paying. Occasionally a service will be found that has been in place for many years and has not been billed. Also, a meter will be discovered that has long been buried in the area where a residence used to exist. This situation will continue until all of the old main lines are replaced.

Based on an MTAS rate study in October 2012, the Town adjusted its rate structure to a water base fee \$36.70, which covered operation costs, and \$3.70 per thousand gallons for water, and a sewer base fee of \$26.00 and \$5.00 per thousand gallons of sewer. However, the Town did vary slightly by allowing any use of less than 500 gallons to pay \$13.00 for water and \$7.50 for sewer.

Based on the needs shown above, the Town is discussing whether or not to refinance current outstanding debt of approximately \$1,600,000 while borrowing money to do much-needed projects within the water and sewer system. However, Town officials do not think the citizens can afford the extra burden of the needed rate increases.

Staff recommends the Board endorse the actions of the Town of Wartrace. The Town will remain under the oversight of the Board until an audit is received which reflects compliance with state law.

TOWN OF WARTRACE				
HISTORY FILE				
	Audited	Audited	Audited	
Fiscal Year 6/30	2010	2011	2012	
Water/sewer revenues	\$ 636,648	\$ 745,360	\$ 950,448	
Other revenues	\$ 31,352	\$ 23,332	\$ 30,880	
Capital Contributions	\$ 377,881	\$ 47,119	\$ 96,223	
State reimbursement		\$ 47,913		
Total Operating Revenues	\$ 1,045,881	\$ 863,724	\$ 1,077,551	
Total Operating Expenses	\$ 841,522	\$ 1,062,144	\$ 1,044,922	
Operating Income	\$ 204,359	\$ (198,420)	\$ 32,629	
Interest Expense	\$ 43,128	\$ 76,874	\$ 66,660	
Change in Net Assets	\$ 161,231	\$ (275,294)	\$ (34,031)	
<u>Supplemental Information</u>				
Principal payment	\$ 19,734	\$ 20,229	\$ 70,451	
Depreciation	\$ 198,002	\$ 222,614	\$ 215,465	
Water Rates				
Inside				10/1/2012
Minimum bill 0 - 500 gallons				\$ 13.05
over 500 gallons base fee				\$ 36.70
per thousand gallons				\$ 3.70
First 2,000 gallons	\$ 17.00	\$ 25.50	\$ 25.50	
All over	\$ 5.60	\$ 6.70	\$ 6.70	
Outside				
First 2,000 gallons	\$ 20.50	\$ 30.50	\$ 30.50	
All over	\$ 5.60	\$ 7.00	\$ 7.00	
Sewer Rates	100%			
Inside				
Minimum bill 0 - 500 gallons				\$ 7.50
501 to 5,000 gallon base fee				\$ 26.00
each additional 1,000 gallons				\$ 5.00
First 2,000 gallons		\$ 15.00	\$ 15.00	
All over		\$ 6.70	\$ 6.70	
Outside				
Minimum bill 0 - 500 gallons				\$ 20.55
Over 500 gallons base fee				\$ 50.20
per thousand gallons				\$ 3.70
First 2,000 gallons	\$ 20.50	\$ 30.50	\$ 30.50	
All over	\$ 5.60	\$ 7.00	\$ 7.00	
Water customers	829	830	830	
Sewer customers	324	325	325	
Water Loss	44.00%	48.00%	46.00%	

[?](#) Click to access definition

Water Audit Report for: **Town of Wartrace**

Reporting Year: **2012** 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	n/a	0.000	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	?	n/a		MG/Yr
Water imported:	?	8	192.130	MG/Yr
Water exported:	?	8	63.790	MG/Yr
WATER SUPPLIED:			128.341	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	?	7	39.620	MG/Yr
Billed unmetered:	?	n/a	0.000	MG/Yr
Unbilled metered:	?	n/a	0.000	MG/Yr
Unbilled unmetered:	?	5	4.293	MG/Yr
AUTHORIZED CONSUMPTION:	?		43.913	MG/Yr

Click here: [?](#) for help using option buttons below

Pcnt: Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) 84.427 MG/Yr

Apparent Losses

Unauthorized consumption:	?		0.321	MG/Yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed				
Customer metering inaccuracies:	?	7	4.159	MG/Yr
Systematic data handling errors:	?	5	0.015	MG/Yr
Apparent Losses:	?		4.495	

Pcnt: 0.25% Value:

9.50%

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		79.933	MG/Yr
WATER LOSSES:			84.427	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		88.720	MG/Yr
= Total Water Loss + Unbilled Metered + Unbilled Unmetered				

SYSTEM DATA

Length of mains:	?	7	30.0	miles
Number of active AND inactive service connections:	?	5	1,230	
Connection density:	?		41	conn./mile main
Average length of customer service line:	?	10	0.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	10	110.0	psi

COST DATA

Total annual cost of operating water system:	?	5	\$825,377	\$/Year
Customer retail unit cost (applied to Apparent Losses):	?	7	\$14.00	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	?	10	\$2,036.42	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	69.1%
Non-revenue water as percent by cost of operating system:	28.4%
Annual cost of Apparent Losses:	\$62,929
Annual cost of Real Losses:	\$162,776

Operational Efficiency Indicators

Apparent Losses per service connection per day:	10.01	gallons/connection/day
Real Losses per service connection per day*:	178.04	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	1.62	gallons/connection/day/psi

[?](#) Unavoidable Annual Real Losses (UARL): Not Valid

*** UARL cannot be calculated as either average pressure, number of connecions or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL): 79.93

[?](#) Infrastructure Leakage Index (ILI) [CARL/UARL]:

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Water imported
- 2: Total annual cost of operating water system
- 3: Billed metered

[For more information, click here to see the Grading Matrix worksheet](#)

THE WARTRACE WATER & SEWER SYSTEM

WHAT HAS AND IS BEING DONE TO ADDRESS OUR “FINANCIALLY STRESSED” CONDITION

Wartrace Waterworks and Sewer System’s “financially distressed “condition is directly related to and impacted by the high % of unaccounted for water loss and the fact that we are no longer getting our water from a spring, which was basically free, but are now buying water from Tullahoma Utilities.

Listed below is a chronological list of steps taken to improve the financial status of our system and to meet State regulations.

January 2011 until the present – We have continued to address the high percent water loss with installation of master meters and valves, use of leak detection consultants, replacement of old waterlines, customer education regarding the importance of reporting water leaks and making leak repairs a priority.

April 2012 – MTAS successfully completed a Water and Sewer System Review

June through September 2012 – Utilizing recommendations from the MTAS Review, a new rate schedule was implemented increasing rates by approximately 37%. The new rate structure was based on a base rate for water and a base rate for sewer which would cover individual operating costs for each service. Customers were then charged a rate per gallon for water used. These new rates were not implemented until passage of the Budget in September. Three months of FY’13 were at the old rate. The FY’14 budget will reflect 12 months at the new rates.

The FY’13 Budget was bare bones only allocating for those things determined absolutely necessary. The budget included many cost saving practices that were implemented with approval of the budget ordinance.

Currently – We are researching opportunities for additional cost savings and new revenue opportunities and continue to aggressively address the high percent water loss. Our FY’14 budget will include allocations for regular leak detection services, match dollars for the Wartrace City Limits Waterline Replacement Project and hopefully, debt service payments for a consolidation loan or stand-alone loan for replacement of the Bugscuffle Road main water line or matching dollars for a County CDBG to replace the Bugscuffle Road main line. We are also researching other sources of funding for our sewer rehabilitation projects; green grants, state revenue funding, etc. Our FY’14 budget also includes dollars for replacement water meters. We are upgrading to the Sensus Iperl digital meters. These meters measure low flow, are very accurate, are guaranteed for 20 years and can be read via drive-by meter reading. All new water projects, new service installations and meter replacements are utilizing the new digital meters. We will continue to monitor our day-to-day operational costs, doing only those things necessary. Leak repair will continue to be a major priority and we will continue to educate our customers regarding early reporting of leaks.

**TOWN OF WARTRACE, TENNESSEE
WATER AND SEWER SYSTEM
INITIAL CHECKLIST FOR ADDRESSING WATER LOSS
JUNE 24, 2013**

QUESTIONS AND ANSWERS:

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc.

Yes. We are currently billing for all general government water use.

2. Are you accounting for the water used by the water and/or sewer departments?

Yes.

3. Do you periodically check or inspect all 2" and larger meters?

Yes. We inspect 2" meters and replace registers when defective. We have an arrangement with Reed and Shows to check all 3, 4 and 6 inch meters annually.

4. Do you have a recalibration policy and procedure in place?

No. We replace meter parts (i.e. registers) or the meters when determined defective. We think this is cheaper than recalibration.

5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?

Yes. Meters are replaced after 1 million gallons are recorded and/or when meters are found to be bad or dead.

6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?

Yes. Anyone found to be in violation of the Theft of Service Policy will be subject to a Theft of Service Fee (\$75.00) and/or a Tampering Fee (\$250).

Service will not be restored until all payments for the following are received by the system:

- a. Adjusted payment for utility service.*
- b. Theft of service and/or Tampering Fee*
- c. Reconnection Fee and any other fees as deemed appropriate.*
- d. The cost of damages to system property to include labor, equipment, overhead and replacement parts.*

7. Do you have a leak detection program currently in place?

Yes. Our budget includes funding for annual leak detection services.

8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?

Yes.

9. Do you have authorized non-customer users (volunteer fire departments, etc.)? Do you account for the use? Do you have a method for the user to report water usage?

Yes, we have a volunteer fire department. The county volunteer fire services provides a monthly report of water usage.

10. Is your system “zoned” to isolate water loss?

Yes. Master meters and valves are strategically placed throughout our system to allow us the ability to locate and fix major water leaks. Additional valves will be added as funding is available.

11. Do you search for leaks at night when there is little traffic or small household usage?

Yes, when we have determined there is a major leak and we can't find it.

12. Do you or can you control pressure changes?

Yes. We have a 12" PRV in Normandy and a 6" PRV on Highway 64 towards Shelbyville.

13. Do you have or do you have access to leak detection equipment?

Yes. We own a listening device and we have access to leak detection services. Our budget includes funding for leak detection services.

14. What is your policy for notifying customers that they have a leak?

We contact customers via phone when we are made aware of a possible leak or their consumption appears high. If the customer is home when we are reading meters, we notify them at that time.

15. Do you have a public relations program to encourage citizens to report leaks?

Yes. The message “Water Leaks Are Very Costly. Please Report Leaks As Soon As Possible” is printed on our bills and posted in our office and at the Post Office.

16. Do you have a policy to prosecute water theft or meter tampering/damage?

Yes. We prosecute to the extent allowed under TCA 39-14-104 & TCA 39-14-408.

17. What is the monetary value of the lost water?

The eleven month average for FY'13 was \$14,082 per month.

18. Is the cost to repair the leak/leaks justified based on the amount of water being lost?

Yes, plus, we must repair the leaks to meet the state's water loss requirements.

Water and Wastewater Financing Board

Status Reports

July 2013

Alexandria

In January 2013, the WWFB requested assurance that all policies have been put in writing.

April 2013, information from Town stated “we are continuing adding policies as requested. This is taking more time than we hoped due to turn over on the board and getting the proper public hearings in place. We do have the fixed assets policy and the customer complaint policy in place. We should have all the policies in place by July 2013.”

Friendship

In March 2013, the WWFB voted to require the City to contact MTAS about a rate study, adopt and implement a meter replacement policy, and implement rate increases or expense reductions to be in compliance by June 2015. This is the response from the Mayor.

Please be advised that I have been working with the City Board to increase revenue in the water and sewer fund.

The City Board has approved the following rate increases that should bring us into compliance within the next couple of years:

September, 2012, water and sewer increased from \$4.00 per 1,000 gallons to \$5.00 per 1,000 gallons for every thousand gallons over the 3,000 gallon minimum.

July, 2013, the sewer maximum bill on residential users increased from \$29.50 to \$39.50.

September, 2013, the minimum bill on both water and sewer will increase by \$1.50 per month.

February, 2014, the minimum bill will increase another \$1.50 per month on both water and sewer.

February, 2014, water and sewer usage will increase from \$5.00 per 1,000 gallons to \$6.00 per 1,000 gallons.

I will continue to watch revenues closely and if we need to, we will increase rates again.

Grand Junction

In January 2013, the WWFB requested updates on the water loss and the 12% annual rate increases as promised.

Henning

In March 2013, the WWFB voted to:

1. Require that the Town contact MTAS for a rate study;
2. Prepare a leak detection study to determine the next step for water loss reduction;
3. Adopt a formal set of written policies;
4. Continue the replacement of two and six-inch water lines;
5. Revise the AWWA water loss reporting worksheet;
6. Develop a plan for future rate increases without the necessity for grant funds;
7. Develop and implement and mapping program; and,
8. Prepare a presentation for the Board at its July 11, 2013, meeting.

Although Town officials are not required to appear in July, evidence of completion of (or progress toward) the listed items should be submitted.

Staff recently learned that the Mayor was not re-elected. Staff will contact the new Mayor as soon as possible to make sure the plan is followed.

Aldermen

**Cecil Anderson
Linda Lay
David Lowe
Sharon Miller**

Town of Oneida

ONEIDA, TENNESSEE 37841

Jack E. Lay, Mayor

P. O. Box 4237

423-569-8300

423-569-4295

FAX 423-569-2990

Gateway to the



Big South Fork

June 17, 2013

Joyce Welborn
Board Coordinator
Water and Wastewater Financing Board

Dear Joyce;

Your letter of January 13, 2013 requested updates on financial reports, projected water rate increases, when the city will reach full compliance, growth of customers and status of reopening the hospital. To that end, we present the following:

1. Projected income statement and balance sheet for June 30, 2013.
2. Our water rate is currently set at an automatic 2% per year increase which will provide an increase of about \$ 45,000 per year.
3. We expect the city will be in full compliance ay the end of the next fiscal year of June 30, 2014.
4. There has been no significant change in the number of customers in the past few months.
5. The hospital is expected to reopen July 7, 2013 on a limited basis with about 45 to 60 employees and building to 95 by December 31, 2013.

There are other cost cutting measures that are happening completed since February 1, 2013, and they are:

1. The practice of purchasing water from neighboring utilities has been suspended and will not resume without great need. This would have saved 70,642 the past year.
2. The practice of paying employees for eight hours per night for to be on-call has been eliminated. The cutting of on call by wages will result in a savings of over \$67,500 per year.
3. The department employees pension was calculated at ten percent of normal wages. The other employees of the town were at 5%, therefore, this department will be cut to 5% and must pay 5% to get the match.
4. The retirement of the prior manager will result in a savings of around \$73,000 per year. The board of aldermen the (new water board) has hired the mayor and recorder treasurer of the Town to oversee the operations of the department in addition to their regular duties at the cost of \$37,500 annually with no additional benefits.
5. The water rate increase of 2% will result in an annual water increase of \$45,000 and other measures to upgrade tap fees and water and sewer line installation fees will provide an additional amount of revenues no increases for these projections have been made.
6. Also in these restatements, we have removed the effects of the CDBG Grant from the statement of operations.

The water and sewer balance sheet and income statement for 2013 have been restated to reflect these measures and are attached.

Respectively,

Jack E Lay, Mayor

**Oneida Water and Wastewater
Adjusting Journal Entries
May through June 2013**

<u>Date</u>	<u>Num</u>	<u>Memo</u>	<u>Account</u>	<u>Debit</u>	<u>Credit</u>
06/30/2013	JE113-44	To remove purchased water	4140001 · Purchased Water		70,642.26
		To remove purchased water	1010000 · First Trust Revenue Account	70,642.26	
				<u>70,642.26</u>	<u>70,642.26</u>
06/30/2013	JE113-45	To remove stand by time	1010000 · First Trust Revenue Account	67,500.00	
		To remove stand by time	5040000 · Labor 1		35,000.00
		To remove stand by time	5040001 · Labor 2		32,500.00
				<u>67,500.00</u>	<u>67,500.00</u>
06/30/2013	JE113-46	To remove 5% 1/2 from expenses	1010000 · First Trust Revenue Account	24,000.00	
		To remove 5% 1/2 from expenses	7090000 · Retirement		24,000.00
				<u>24,000.00</u>	<u>24,000.00</u>
06/30/2013	JE113-47	To remove secondary health policy for year	7040002 · Employee Insurance		30,000.00
		To remove secondary health policy for year	1010000 · First Trust Revenue Account	30,000.00	
				<u>30,000.00</u>	<u>30,000.00</u>
06/30/2013	JE113-48	To remove cost of manager	1010000 · First Trust Revenue Account	73,000.00	
		To remove cost of manager	7020000 · Office Salary		73,000.00
				<u>73,000.00</u>	<u>73,000.00</u>
06/30/2013	JE113-49	To add cost of new managers	7020000 · Office Salary	37,500.00	
		To add cost of new managers	1010000 · First Trust Revenue Account		37,500.00
				<u>37,500.00</u>	<u>37,500.00</u>
06/30/2013	JE113-50	To remove grant from forecast	3500000 · Grant Proceeds CDBG	151,341.07	
		To remove grant from forecast	201100 · Accounts Payable Grants	21,796.73	
		To remove grant from forecast	1340000 · Construction in Progress		173,137.80
				<u>173,137.80</u>	<u>173,137.80</u>
06/17/2013	JE113-51	To record increase in sales	1010000 · First Trust Revenue Account	45,000.00	
		To record increase in sales	3020000 · Sewer Sales		16,200.00
		To record increase in sales	3010000 · Water Sales		28,800.00
				<u>45,000.00</u>	<u>45,000.00</u>
TOTAL				<u><u>520,780.06</u></u>	<u><u>520,780.06</u></u>

3:00 PM
 06/17/13
 Accrual Basis

Oneida Water and Wastewater Balance Sheet As of June 30, 2013

	Jun 30, 13	Jun 30, 12
ASSETS		
Current Assets		
Checking/Savings		
1010000 · First Trust Revenue Account	304,942.13	16,570.76
1030000 · First Trust & Savings Bank	2,919.79	2,917.58
1040000 · First Trust & Savings Rural	17,919.35	15,962.33
1050000 · Citizens First	19,425.11	8,234.27
1060000 · First National Bank	9,603.67	6,029.89
1080000 · CDBG Grant I/I Project	576.27	576.27
1090000 · Cash on Hand	200.00	200.00
1100000 · 1st Natl. Bank	232,531.27	96,542.69
1100001 · Petty Cash	300.00	300.00
Total Checking/Savings	588,417.59	147,333.79
Other Current Assets		
0115000 · Accounts Receivable		
1150000 · Accounts Receivable	197,091.03	35,015.67
1150001 · Accounts Receivable-Reserve	-10,000.00	172,118.65
1160000 · Accounts Receivable (Other)	8,170.24	4,520.34
1170000 · Unbilled Receivables	197,559.29	231,678.57
11800 · Grant Receivable	21,796.73	0.00
Total 0115000 · Accounts Receivable	414,617.29	443,333.23
1400000 · Inventory Supplies	235,881.06	235,881.06
Total Other Current Assets	650,498.35	679,214.29
Total Current Assets	1,238,915.94	826,548.08
Fixed Assets		
120000 · Fixed Assets		
1210000 · Water Treatment Plant	934,366.86	934,366.86
1210001 · Water Treatment Plant (Land)	110,000.00	110,000.00
1210002 · Water Plant Expansion	4,391,453.65	4,391,453.65
1220000 · Water Distribution System	2,823,430.17	2,823,430.17
1230000 · Office Improvements	60,238.34	60,238.34
1240000 · Sewage System	567,361.96	567,361.96
1250000 · Water Storage (Lake & Dam)	147,914.72	147,914.72
1250001 · Lake Land (Marcum Property)	75,000.00	75,000.00
1260000 · Equipment	1,188,209.61	1,188,209.61
1270000 · Building	21,029.00	21,029.00
1270001 · New Shed at Wastewater Plant	15,800.00	15,800.00
1270002 · Metal Building at Water Plant	41,136.97	41,136.97
1280000 · New Treatment Plant	3,392,489.39	3,392,489.39
1290000 · New Sewer Plant (Land)	44,287.84	44,287.84
1300000 · New Sewer Expansion	4,529,660.52	4,602,701.13
1310000 · Sewer Line Rehabilitation	3,104,510.26	3,031,469.65
1320000 · South Oneida Sewer	862,620.86	862,620.86
1330000 · Winfield Sewer System	1,935,188.66	1,935,188.66
1340000 · Construction in Progress	60,023.42	81,391.58
1430000 · Water Supply Line Baker Lake	122,777.53	122,777.53
1450000 · Water Supply Line Park to Plant	638,681.54	638,681.54
1500000 · 1997 Waterline Improvement	190,386.74	190,386.74
1510000 · Graperough Water Tank	732,933.77	732,933.77
1520000 · Land-Graperough Water Tank	12,000.00	12,000.00
1550000 · Eli Lane Tank	478,207.10	478,207.10
1560000 · EDA Water Lines	1,538,504.05	1,538,504.05
Total 120000 · Fixed Assets	28,018,212.96	28,039,581.12
157 · Accumulated Depreciation		
1200000 · Reserve for Depreciation	-10,470,836.44	-10,056,497.01
157 · Accumulated Depreciation - Other	-138,113.19	0.00
Total 157 · Accumulated Depreciation	-10,608,949.63	-10,056,497.01
Total Fixed Assets	17,409,263.33	17,983,084.11

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 Accrual Basis

Oneida Water and Wastewater Profit & Loss July 2012 through June 2013

Jul '12 - Jun 13

Income	
30001 · Sewer Revenues	
3020000 · Sewer Sales	739,770.83
3030000 · Sewer Pump Surcharge	9,277.83
3040000 · Winfield Sewer Sales	70,231.00
3070000 · Tap Fee (Sewer)	2,025.00
Total 30001 · Sewer Revenues	821,304.66
30010 · Other Revenue	
3080000 · Installation Income	13,599.50
3090000 · Materials & Supplies Sales	19,839.61
3100000 · Miscellaneous Income	48,768.94
3150000 · Penalties	77,011.16
3200000 · Discounts Earned	201.81
3250000 · Land Lease Income	5,520.00
3300000 · Interest Income	49.67
3500000 · Grant Proceeds CDBG	0.00
Total 30010 · Other Revenue	164,990.69
300100 · Water Revenues	
3010000 · Water Sales	1,433,444.78
3060000 · Tap Fees (Water)	8,450.00
3140000 · Water Testing	3,622.50
Total 300100 · Water Revenues	1,445,517.28
Total Income	2,431,812.63
Expense	
4000000 · Procurement Treatment & Supply	
4010000 · Power	138,728.99
4020000 · Chemicals	80,597.80
4030000 · Materials & Supplies	15,777.74
4040000 · Labor	108,008.37
4050000 · Repairs & Maintenance	5,460.75
4060000 · Repairs & Maintenance-Lake Prop	682.38
4080000 · Equipment	3,593.20
4090000 · Equipment Main. & Repairs	24,198.29
4110000 · State Maintenance Fees	2,880.80
4120000 · Gas-Natural	6,715.00
4140001 · Purchased Water	0.00
4180000 · Mowing Equipment & Grounds	1,096.34
4190000 · Water Samples & Lab Testing	5,172.50
4230000 · School Expense	268.50
4240000 · Travel	547.00
4250000 · Unclassified	6,762.65
Total 4000000 · Procurement Treatment & Supply	400,490.31
4990000 · Depreciation Expense	552,452.62
5000000 · Transmission & Distribution	
5010000 · Power	27,990.23
5030000 · Materials & Supplies	50,725.18
5040000 · Labor 1	96,441.73
5040001 · Labor 2	62,522.02
5050000 · Repairs	0.00
5060000 · Sand Cut Pump Station	3,123.61
5060001 · Pine Hill Pump Station	823.92
5060014 · Terry Motors Pump	315.00
5080000 · Equipment	5,169.00
5090000 · Equipment, Maintenance & Repair	7,156.69
5110000 · State Maintenance Fees	2,880.80
5130000 · Meter Exchange Program	2,508.13
5150000 · New Line Installation	504.00
5250000 · Unclassified	473.00
5280000 · Pine Hill Water Tank	460.00
Total 5000000 · Transmission & Distribution	261,093.31

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 06/17/13
 Accrual Basis

**Oneida Water and Wastewater
 Profit & Loss
 July 2012 through June 2013**

Jul '12 - Jun 13

6000000 · Sewer Treatment	
6010000 · Power	79,598.00
6020000 · Chemicals	30,343.63
6030000 · Materials & Supplies	12,127.84
6040000 · Labor	112,280.38
6050000 · Repairs	70.00
6060000 · Maintenance	95.00
6070000 · Sludge Disposal	7,422.59
6090000 · Equipment	1,687.52
6100000 · Equipment, Maintenance & Repair	21,740.88
6110000 · State Maintenance Fees	3,480.38
6120000 · Gas-Natural	1,717.00
6180000 · Mowinf Equip. & Grounds Ca	1,263.10
6190000 · Lab Testing	7,588.50
6240000 · Travel	171.00
6250000 · Unclassified	270.00
	<hr/>
Total 6000000 · Sewer Treatment	279,855.82
7000000 · Administration and General	
7010000 · Superintendent Salary	33,341.90
7020000 · Office Salary	37,180.16
7030000 · Telephone	12,499.88
7040001 · Insurance (Casualty, Theft &	66,838.92
7040002 · Employee Insurance	236,167.62
7050000 · Office Supplies	5,039.76
7060000 · Dues & Subscriptions	3,594.34
7070000 · Payroll Tax	48,888.41
7080000 · TN Dept. of Employment Security	2,224.39
7090000 · Retirement	20,142.47
7120000 · Meter Reading (labor)	20,478.41
7130000 · Collections-Water	275.40
7130001 · Collection-Sewer	8,887.50
7140000 · Meter Reading Supplies	8,743.73
7150000 · Equipment	0.00
7160000 · Postage	4,638.78
7170000 · Administrative Expense	1,319.00
7170001 · Continuing Education	2,265.00
7190000 · Office Equip. (Repairs & Maint)	265.00
7200000 · Engineering	0.00
7210000 · Communications	1,007.50
7220000 · Employee Relations	9,340.48
7240000 · Travel	1,287.02
7250000 · Bank Service Charges	1,145.10
7260000 · Audit	14,500.00
7300000 · Other Expenses	
7360000 · 1997 Rural Dev. Bond Interest	12,951.31
7370000 · 2000 Rural Dev. Bond Interest	80,134.52
7380000 · EDA Interest	5,517.04
7390000 · 2005 Rural Dev. Bond Interest	49,470.69
	<hr/>
Total 7300000 · Other Expenses	148,073.56
7350000 · Computer	2,262.41
7350002 · Computer (Maintenance & Repair)	8,038.46
7500000 · Suspense Account	0.00
	<hr/>
Total 7000000 · Administration and General	698,445.20

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06/17/13
Accrual Basis

**Oneida Water and Wastewater
Profit & Loss
July 2012 through June 2013**

	Jul '12 - Jun 13
8000000 · Sewer Collection	
8010000 · Power	27,009.99
8030000 · Materials & Supplies	25,984.92
8040000 · Labor	53,163.41
8060000 · Repairs-Ponderosa Sewer Pump	65.00
8090000 · Equipment	600.00
8100000 · Equip., Maintenance & Repairs	57,637.40
8110000 · State Maintenance Fees	3,110.00
8150000 · New Line Installation	240.46
8320000 · I & I Project	70.00
Total 8000000 · Sewer Collection	167,881.18
9000000 · Motorpool	
9010000 · Grease & Oil	33,200.38
9020000 · Other Fluids	40.62
9050000 · Miscellaneous Hand Tools	662.35
9060000 · Miscellaneous Equipment	1,821.33
9230002 · Small Ditcher	1,313.49
9240002 · Big Ditch Witch	179.90
9260002 · Bobcat Loader Repairs	187.25
9270002 · Backhoe Repairs & Maintenance	308.51
9320000 · 1995 Chev. Service Truck	2,117.12
9340000 · 1998 Service Truck Repairs & Ma	91.88
9410000 · 2001 Ford Service Truck Repairs	4,666.62
9420000 · Repairs Service Truck	302.48
9430000 · 2008 Ford F150 #502	876.24
9440000 · 2008 Ford F150 #503	921.42
9450000 · 2008 Ford F150 #504	565.72
9460000 · 2008 Ford F150 #505	545.52
9470000 · 2008 Ford F150 #506	560.46
9480000 · 2008 Ford F150 #501	784.22
9490000 · 2008 F550 Service Truck #511	17.44
9500000 · 2008 F350 Dump Truck #508	242.14
9000000 · Motorpool - Other	3,972.81
Total 9000000 · Motorpool	53,377.90
Total Expense	2,413,596.34
Net Income	18,216.29

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 06/17/13
 Accrual Basis

**Oneida Water and Wastewater
 Balance Sheet
 As of June 30, 2013**

	Jun 30, 13	Jun 30, 12
Other Assets		
1360000 · Deposits	1,665.00	1,665.00
Total Other Assets	1,665.00	1,665.00
TOTAL ASSETS	18,649,844.27	18,811,297.19
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable	0.00	0.00
Other Current Liabilities		
2000000 · Accounts Payable	38,251.73	66,640.37
2010000 · Meter Deposits	21,334.32	25,860.00
2020000 · TN Sales Tax Payable	10,552.18	13,483.47
2070000 · Accrued Interest	7,453.43	5,954.31
2080000 · Accrued Salaries	10,792.40	11,282.81
2090000 · Accrued Vacation	26,207.84	32,799.16
2100000 · Engineering Payable	0.00	59,810.00
2640000 · State Unemployment Payable	0.00	571.22
2650000 · Aflac Insurance (pre-tax)	0.00	259.48
2670000 · Liberty National	0.00	418.80
2680000 · Colonial Life	0.00	62.76
2690001 · LIFE INSURANCE	0.00	47.72
2700000 · Retirement	0.10	1,586.62
2750000 · Conseco Health Insurance	0.00	287.56
Total Other Current Liabilities	114,592.00	219,064.28
Total Current Liabilities	114,592.00	219,064.28
Long Term Liabilities		
2400000 · Bonds Payable (1997) R	177,122.22	180,945.53
2410000 · Bonds Payable (1999) R	1,759,060.31	1,793,403.79
2420000 · 2005 Bond Payable-Rural Develop	1,126,336.67	1,142,350.49
2450000 · EDA Loan	98,459.43	120,792.75
Total Long Term Liabilities	3,160,978.63	3,237,492.56
Total Liabilities	3,275,570.63	3,456,556.84
Equity		
2500000 · Net Assets	15,356,057.35	15,633,038.20
32000 · Discounts Earned	0.00	-78,115.20
Net Income	18,216.29	-200,182.65
Total Equity	15,374,273.64	15,354,740.35
TOTAL LIABILITIES & EQUITY	18,649,844.27	18,811,297.19

**Oneida Water and Wastewater
 (Restated) Profit & Loss
 July 2012 through June 2013**

	<u>Jul '12 - Jun 13</u>
Income	
30001 · Sewer Revenues	
3020000 · Sewer Sales	755,970.83
3030000 · Sewer Pump Surcharge	9,277.83
3040000 · Winfield Sewer Sales	70,231.00
3070000 · Tap Fee (Sewer)	<u>2,025.00</u>
Total 30001 · Sewer Revenues	837,504.66
30010 · Other Revenue	
3080000 · Installation Income	13,599.50
3090000 · Materials & Supplies Sales	19,839.61
3100000 · Miscellaneous Income	48,768.94
3150000 · Penalties	77,011.16
3200000 · Discounts Earned	201.81
3250000 · Land Lease Income	5,520.00
3300000 · Interest Income	49.67
3500000 · Grant Proceeds CDBG	<u>0.00</u>
Total 30010 · Other Revenue	164,990.69
300100 · Water Revenues	
3010000 · Water Sales	1,462,244.78
3060000 · Tap Fees (Water)	8,450.00
3140000 · Water Testing	<u>3,622.50</u>
Total 300100 · Water Revenues	<u>1,474,317.28</u>
Total Income	2,476,812.63

Expense

4000000 · Procurement Treatment & Supply	
4010000 · Power	138,728.99
4020000 · Chemicals	80,597.80
4030000 · Materials & Supplies	15,777.74
4040000 · Labor	108,008.37
4050000 · Repairs & Maintenance	5,460.75
4060000 · Repairs & Maintenance-Lake Prop	682.38
4080000 · Equipment	3,593.20
4090000 · Equipment Main. & Repairs	24,198.29
4110000 · State Maintenance Fees	2,880.80
4120000 · Gas-Natural	6,715.00
4140001 · Purchased Water	0.00
4180000 · Mowing Equipment & Grounds	1,096.34

**Oneida Water and Wastewater
 (Restated) Profit & Loss
 July 2012 through June 2013**
Jul '12 - Jun '13

4190000 · Water Samples & Lab Testing	5,172.50
4230000 · School Expense	268.50
4240000 · Travel	547.00
4250000 · Unclassified	6,762.65
Total 4000000 · Procurement Treatment & Supply	400,490.31
4990000 · Depreciation Expense	552,452.62
5000000 · Transmission & Distribution	
5010000 · Power	27,990.23
5030000 · Materials & Supplies	50,725.18
5040000 · Labor 1	96,441.73
5040001 · Labor 2	62,522.02
5050000 · Repairs	0.00
5060000 · Sand Cut Pump Station	3,123.61
5060001 · Pine Hill Pump Station	823.92
5060014 · Terry Motors Pump	315.00
5080000 · Equipment	5,169.00
5090000 · Equipment, Maintenance & Repair	7,156.69
5110000 · State Maintenance Fees	2,880.80
5130000 · Meter Exchange Program	2,508.13
5150000 · New Line Installation	504.00
5250000 · Unclassified	473.00
5280000 · Pine Hill Water Tank	460.00
Total 5000000 · Transmission & Distribution	261,093.31
6000000 · Sewer Treatment	
6010000 · Power	79,598.00
6020000 · Chemicals	30,343.63
6030000 · Materials & Supplies	12,127.84
6040000 · Labor	112,280.38
6050000 · Repairs	70.00
6060000 · Maintenance	95.00
6070000 · Sludge Disposal	7,422.59
6090000 · Equipment	1,687.52
6100000 · Equipment, Maintenance & Repair	21,740.88
6110000 · State Maintenance Fees	3,480.38
6120000 · Gas-Natural	1,717.00
6180000 · Mowinf Equip. & Grounds Ca	1,263.10
6190000 · Lab Testing	7,588.50
6240000 · Travel	171.00
6250000 · Unclassified	270.00

**Oneida Water and Wastewater
 (Restated) Profit & Loss
 July 2012 through June 2013**
Jul '12 - Jun '13

Total 6000000 · Sewer Treatment	279,855.82
7000000 · Administration and General	
7010000 · Superintendent Salary	33,341.90
7020000 · Office Salary	37,180.16
7030000 · Telephone	12,499.88
7040001 · Insurance (Casualty, Theft &	66,838.92
7040002 · Employee Insurance	236,167.62
7050000 · Office Supplies	5,039.76
7060000 · Dues & Subscriptions	3,594.34
7070000 · Payroll Tax	48,888.41
7080000 · TN Dept. of Employment Security	2,224.39
7090000 · Retirement	20,142.47
7120000 · Meter Reading (labor)	20,478.41
7130000 · Collections-Water	275.40
7130001 · Collection-Sewer	8,887.50
7140000 · Meter Reading Supplies	8,743.73
7150000 · Equipment	0.00
7160000 · Postage	4,638.78
7170000 · Administrative Expense	1,319.00
7170001 · Continuing Education	2,265.00
7190000 · Office Equip. (Repairs & Maint)	265.00
7200000 · Engineering	0.00
7210000 · Communications	1,007.50
7220000 · Employee Relations	9,340.48
7240000 · Travel	1,287.02
7250000 · Bank Service Charges	1,145.10
7260000 · Audit	14,500.00
7300000 · Other Expenses	
7360000 · 1997 Rural Dev. Bond Interest	12,951.31
7370000 · 2000 Rural Dev. Bond Interest	80,134.52
7380000 · EDA Interest	5,517.04
7390000 · 2005 Rural Dev. Bond Interest	49,470.69
Total 7300000 · Other Expenses	<u>148,073.56</u>
7350000 · Computer	2,262.41
7350002 · Computer (Maintenance & Repair)	8,038.46
7500000 · Suspense Account	0.00
Total 7000000 · Administration and General	<u>698,445.20</u>
8000000 · Sewer Collection	

**Oneida Water and Wastewater
(Restated) Profit & Loss
July 2012 through June 2013**
Jul '12 - Jun '13

8010000 · Power	27,009.99
8030000 · Materials & Supplies	25,984.92
8040000 · Labor	53,163.41
8060000 · Repairs-Ponderosa Sewer Pump	65.00
8090000 · Equipment	600.00
8100000 · Equip., Maintenance & Repairs	57,637.40
8110000 · State Maintenance Fees	3,110.00
8150000 · New Line Installation	240.46
8320000 · I & I Project	70.00
Total 8000000 · Sewer Collection	167,881.18
9000000 · Motorpool	
9010000 · Grease & Oil	33,200.38
9020000 · Other Fluids	40.62
9050000 · Miscellaneous Hand Tools	662.35
9060000 · Miscellaneous Equipment	1,821.33
9230002 · Small Ditcher	1,313.49
9240002 · Big Ditch Witch	179.90
9260002 · Bobcat Loader Repairs	187.25
9270002 · Backhoe Repairs & Maintenance	308.51
9320000 · 1995 Chev. Service Truck	2,117.12
9340000 · 1998 Service Truck Repairs & Ma	91.88
9410000 · 2001 Ford Service Truck Repairs	4,666.62
9420000 · Repairs Service Truck	302.48
9430000 · 2008 Ford F150 #502	876.24
9440000 · 2008 Ford F150 #503	921.42
9450000 · 2008 Ford F150 #504	565.72
9460000 · 2008 Ford F150 #505	545.52
9470000 · 2008 Ford F150 #506	560.46
9480000 · 2008 Ford F150 #501	784.22
9490000 · 2008 F550 Service Truck #511	17.44
9500000 · 2008 F350 Dump Truck #508	242.14
9000000 · Motorpool - Other	3,972.81
Total 9000000 · Motorpool	53,377.90
Total Expense	2,413,596.34
Net Income	63,216.29

**Oneida Water and Wastewater
 (Restated) Balance Sheet
 As of June 30, 2013**

Jun 30, 13

ASSETS

Current Assets

Checking/Savings

1010000 · First Trust Revenue Account	349,942.13
1030000 · First Trust & Savings Bank	2,919.79
1040000 · First Trust & Savings Rural	17,919.35
1050000 · Citizens First	19,425.11
1060000 · First National Bank	9,603.67
1080000 · CDBG Grant I/I Project	576.27
1090000 · Cash on Hand	200.00
1100000 · 1st Natl. Bank	232,531.27
1100001 · Petty Cash	<u>300.00</u>
Total Checking/Savings	633,417.59

Other Current Assets

0115000 · Accounts Receivable	
1150000 · Accounts Receivable	197,091.03
1150001 · Accounts Receivable-Reserve	-10,000.00
1160000 · Accounts Receivable (Other)	8,170.24
1170000 · Unbilled Receivables	197,559.29
11800 · Grant Receivable	<u>21,796.73</u>
Total 0115000 · Accounts Receivable	414,617.29
1400000 · Inventory Supplies	<u>235,881.06</u>
Total Other Current Assets	650,498.35

Total Current Assets 1,283,915.94

Fixed Assets

120000 · Fixed Assets

1210000 · Water Treatment Plant	934,366.86
1210001 · Water Treatment Plant (Land)	110,000.00
1210002 · Water Plant Expansion	4,391,453.65
1220000 · Water Distribution System	2,823,430.17
1230000 · Office Improvements	60,238.34
1240000 · Sewage System	567,361.96
1250000 · Water Storage (Lake & Dam)	147,914.72
1250001 · Lake Land (Marcum Property)	75,000.00
1260000 · Equipment	1,188,209.61
1270000 · Buuilding	21,029.00
1270001 · New Shed at Wastewater Plant	15,800.00

Oneida Water and Wastewater (Restated) Balance Sheet

As of June 30, 2013
Jun 30, 13

1270002 · Metal Building at Water Plant	41,136.97
1280000 · New Treatment Plant	3,392,489.39
1290000 · New Sewer Plant (Land)	44,287.84
1300000 · New Sewer Expansion	4,529,660.52
1310000 · Sewer Line Rehabilitation	3,104,510.26
1320000 · South Oneida Sewer	862,620.86
1330000 · Winfield Sewer System	1,935,188.66
1340000 · Construction in Progress	60,023.42
1430000 · Water Supply Line Baker Lake	122,777.53
1450000 · Water Supply Line Park to Plant	638,681.54
1500000 · 1997 Waterline Improvement	190,386.74
1510000 · Graperough Water Tank	732,933.77
1520000 · Land-Graperough Water Tank	12,000.00
1550000 · Eli Lane Tank	478,207.10
1560000 · EDA Water Lines	<u>1,538,504.05</u>
Total 120000 · Fixed Assets	28,018,212.96
157 · Accumulated Depreciation	
1200000 · Reserve for Depreciation	-10,470,836.44
157 · Accumulated Depreciation - Other	<u>-138,113.19</u>
Total 157 · Accumulated Depreciation	<u>-10,608,949.63</u>
Total Fixed Assets	17,409,263.33
Other Assets	
1360000 · Deposits	<u>1,665.00</u>
Total Other Assets	<u>1,665.00</u>
TOTAL ASSETS	<u><u>18,694,844.27</u></u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
2000000 · Accounts Payable	38,251.73
2010000 · Meter Deposits	21,334.32
2020000 · TN Sales Tax Payable	10,552.18
2070000 · Accrued Interest	7,453.43
2080000 · Accrued Salaries	10,792.40
2090000 · Accrued Vacation	26,207.84
2700000 · Retirement	0.10

Oneida Water and Wastewater (Restated) Balance Sheet

As of June 30, 2013
Jun 30, 13

Total Other Current Liabilities	<u>114,592.00</u>
Total Current Liabilities	114,592.00
Long Term Liabilities	
2400000 · Bonds Payable (1997) R	177,122.22
2410000 · Bonds Payable (1999) R	1,759,060.31
2420000 · 2005 Bond Payable-Rural Develop	1,126,336.67
2450000 · EDA Loan	<u>98,459.43</u>
Total Long Term Liabilities	<u>3,160,978.63</u>
Total Liabilities	3,275,570.63
Equity	
2500000 · Net Assets	15,356,057.35
Net Income	<u>63,216.29</u>
Total Equity	<u>15,419,273.64</u>
TOTAL LIABILITIES & EQUITY	<u><u>18,694,844.27</u></u>

WATER AND WASTEWATER FINANCING BOARD
Status Report

Case: Town of Vonore, Blount and Monroe Counties
Mayor: Larry Summey
Customers: 325 sewer

The Town of Vonore last appeared before the Board in May 2010. Effective January 2013, the sewer minimum bill was increased from \$19.45 to \$21.00 for 2,000 gallons. For all usage over 2,000 gallons, the charge increased from \$6.50 to \$6.70.

Information in the audit reflected general fund transfers in FY 09 through FY 12. However, Town officials stated that the amount was actually transferred in order to repay the Tellico Area Services System (TASS) for back payments. All debts are now current. There is NO transfer planned for FY 13.

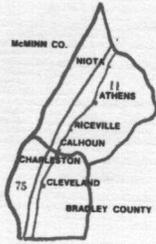
Because TASS now does all the billing and collecting of sewer fees for the Town, water is discontinued when sewer is not paid. The Town pays \$200 per month for those services.

There is a little growth in the area. One subdivision is under development, but the building is very slowly. Three customers have been added this year.

The system was installed in the early to mid 1980's and infiltration and inflow (I & I) continues to be a problem which must be addressed. Risers has been put on 135 manholes. Four other manholes have been sprayed with plastic. The plastic has a ten-year guarantee. A leak in the TASS water system flowed into the Town's sewer system for over a year before the repair was made. Progress is slow, but continuing. The budget for FY 14 will have more funds in it specifically to address I & I.

The Town is continuing to negotiate with TASS to take the entire sewer system. TASS, according to Town officials, appears to be reluctant until the I & I problem is resolved.

TOWN OF VONORE							
HISTORY FILE							
	Audited						
FYE June 30	2006	2007	2008	2009	2010	2011	2012
Sewer revenues	\$ 91,753	\$ 116,448	\$ 119,688	\$ 116,375	\$ 122,502	\$ 168,159	\$ 196,524
Other revenues	\$ 36,120	\$ 16,237	\$ 9,110	\$ 3,781	\$ 10,542	\$ 1,688	\$ 1,903
General Fund Transfer				\$ 41,414	\$ 48,700	\$ 70,000	\$ 34,093
Total Revenues	\$ 127,873	\$ 132,685	\$ 128,798	\$ 161,570	\$ 181,744	\$ 239,847	\$ 232,520
Total Expenses	\$ 200,633	\$ 194,864	\$ 196,270	\$ 214,559	\$ 213,900	\$ 258,880	\$ 259,353
Operating Income	\$ (72,760)	\$ (62,179)	\$ (67,472)	\$ (52,989)	\$ (32,156)	\$ (19,033)	\$ (26,833)
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change in net assets	\$ (72,760)	\$ (62,179)	\$ (67,472)	\$ (52,989)	\$ (32,156)	\$ (19,033)	\$ (26,833)
<u>Supplemental Information</u>							
Depreciation	\$ 69,038	\$ 69,459	\$ 54,983	\$ 45,711	\$ 45,711	\$ 45,711	\$ 45,711
<u>Sewer rates</u>							
First 2,000 gallons	\$ 8.60	\$ 8.60	\$ 10.75	\$ 10.75	\$ 10.75	\$ 10.75	\$ 19.45
Over 2,000 gallons	\$ 4.30	\$ 4.30	\$ 5.40	\$ 4.30	\$ 4.30	\$ 4.30	\$ 6.50
Well water flat rate	\$ 8.50	\$ 8.50	\$ 10.60	\$ 10.60	\$ 10.60	\$ 10.60	\$ 19.45
customers	327	330	350	327	327	327	325



HIWASSEE UTILITIES COMMISSION

3973 Chatata Valley Road
Charleston, TN 37310
Plant Phone 423.336.2861
Plant FAX 423.336.2000

April 11, 2013

Ms. Joyce Welborn, Board Coordinator
State of Tennessee
Water and Wastewater Financing Board
James K. Polk State Office Building
505 Deaderick Street, Suite 1500
Nashville, TN 37243-1402

APR 17 2013

RE: Hiwassee Utilities Commission

Dear Ms. Welborn:

The Hiwassee Utilities Commission (HUC) was designed and operates as a wholesaler of water to several large communities in eastern Tennessee. Because the HUC was established as a wholesaler of water only, the number of water meters is very limited. Specifically, two water meters register all production and six water meters register all water sold or used. The only pipeline that is owned and maintained by HUC is a 16" ductile iron transmission main running northward from our facility near Charleston to the City of Athens, TN. The structural integrity of this pipeline is excellent as evidenced each day when all pumps are turned off and pipeline pressures remain constant. Any leakage in this pipeline would show up immediately with pressure losses.

The question posed in your recent correspondence was "How can you have a negative water loss?".

Water loss in almost every potable water system is very common and at times can reach levels that are alarmingly high. However, in the case of HUC we know that the integrity of our single pipeline is excellent with no measureable leakage. Hence, this brings us to the only other logical explanation, water meter accuracy. Water meters are certainly critical devices to quantify all water produced and sold and to quantify all water purchased in a water system. The difference in readings between water produced and water sold can certainly be interpreted as water loss via leaks or other causes. It is a fact that all water meters have some inaccuracy in their readings. The American Water Works Association has very specific criteria for water meter accuracy. But, even the recommendations allow for a variance from 98% to 102% of the actual flow. Hence, a total variation of 4% could be seen if a production meter is reading 2% below the actual flow and a single sales meter is reading 2% above the actual flow. If this were the case, then a negative loss could be reported by the water purveyor even though all meters would be within their margin of error.

Because many water systems lose a significant amount of water through leaking joints and pipes the amount of water loss almost always exceeds the inaccuracy of water meters such that water loss is always a positive number. Because HUC has only one pipeline that is proven to be in excellent

Page 2

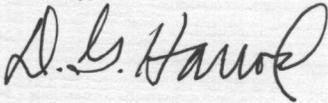
condition, any variation in meter readings can affect the loss of water making it either positive or negative. For the HUC system, a negative or positive loss of up to 4% should not be of concern.

All water meters owned and operated by HUC that are factors in the production and sale of water are routinely tested and calibrated. The larger 16" and 20" production meters are removed from service and shipped back to the factory approximately every two years for testing and calibration. Results of these tests show that the meters have been certified to as low as 98.26% to as high as 101.95% of actual flow, all within AWWA standards. Other meters used to register water sold to other water systems are tested in place and have been found at times to be reading in excess of the 102% limit established by AWWA. Efforts are currently underway to remove those meters so that they may be factory tested and calibrated.

While it may seem odd for any utility to report a "negative" water loss, the reality is that the -0.91% loss reported by the HUC simply reflects the highly accurate meters that have been calibrated routinely and the excellent condition of our single transmission main.

We sincerely hope and trust that this letter addresses your concerns about our "negative loss". We will gladly furnish any additional information that you might need.

Sincerely,

A handwritten signature in black ink, appearing to read "D. G. Harrod". The signature is written in a cursive style with a large, sweeping initial "D".

Doug Harrod
Hiwassee Utilities Commission, Chairman

HIWASSEE UTILITIES COMMISSION

Schedule of Unaccounted for Water

June 30, 2009

(All amounts in gallons)

A	Water Treated and Purchased:		
B	Water Pumped (potable)		
C	Water Purchased	2,042,289,500	
D	Total Water Treated and Purchased (Sum Lines B and C)	0	2,042,289,500
E	Accounted for Water:		
F	Water Sold		
G	Metered for Consumption (in house usage)	1,916,044,270	
H	Fire Department(s) Usage	65,426,200	
I	Flushing	0	
J	Tank Cleaning/Filling	210,000	
K	Street Cleaning	0	
L	Bulk Sales	0	
M	Water Bill Adjustments	0	
N	Total Accounted for Water (Sum Lines F thru M)	0	1,981,680,470
O	Unaccounted for Water (Line D minus Line N)		60,609,030
P	Percent Unaccounted for Water (Line O divided by Line D times 100)		2.968%
Q	Other (explain)	n/a	

All amounts included in this schedule are supported by documentation on file at the water system.
If no support is on file for a line item or if the line item is not applicable, a '0' is shown.

HIWASSEE UTILITIES COMMISSION

Schedule of Unaccounted for Water

June 30, 2010

(All amounts in gallons)

A Water Treated and Purchased:		
B	Water Pumped (potable)	2,338,680,000
C	Water Purchased	0
D	Total Water Treated and Purchased (Sum Lines B and C)	2,338,680,000
 E Accounted for Water:		
F	Water Sold	
G	Metered for Consumption (in house usage)	2,300,210,674
H	Fire Department(s) Usage	93,276,620
I	Flushing	0
J	Tank Cleaning/Filling	1,603,000
K	Street Cleaning	0
L	Bulk Sales	0
M	Water Bill Adjustments	0
N	Total Accounted for Water (Sum Lines B and C)	(8,785,185)
O	Unaccounted for Water (Line D minus Line N)	2,386,305,109
P	Percent Unaccounted for Water (Line O divided by Line D time 100)	(47,625,109)
Q	Other (explain)	-2.04%

See Below

Explain Other:

0

All amounts included in this schedule are supported by documentation on file at the water system.
If no support is on file for a line item or if the line item is not applicable, a "0" is shown.

HIWASSEE UTILITIES COMMISSION

Schedule of Unaccounted for Water

June 30, 2011

(All amounts in gallons)

A Water Treated and Purchased:			
B	Water Pumped (potable)	2,390,158,000	
C	Water Purchased	0	
D	Total Water Treated and Purchased		2,390,158,000
	(Sum Lines B and C)		
E Accounted for Water:			
F	Water Sold	2,332,813,140	
G	Metered for Consumption (in house usage)	75,120,860	
H	Fire Department(s) Usage	0	
I	Flushing	0	
J	Tank Cleaning/Filling	0	
K	Street Cleaning	0	
L	Bulk Sales	0	
M	Water Bill Adjustments	0	
N	Total Accounted for Water		2,407,934,000
	(Sum Lines B and C)		
O	Unaccounted for Water		(17,776,000)
	(Line D minus Line N)		
P	Percent Unaccounted for Water		-0.74%
	(Line O divided by Line D time 100)		
Q Other (explain)		See Below	
Explain Other:		<input type="text" value="0"/>	

All amounts included in this schedule are supported by documentation on file at the water system.
 If no support is on file for a line item or if the line item is not applicable, a "0" is shown.

HIWASSEE UTILITIES COMMISSION

Schedule of Unaccounted for Water

June 30, 2012

(All amounts in gallons)

A Water Treated and Purchased:			
B	Water Pumped (potable)		
C	Water Purchased	2,400,963,000	
D	Total Water Treated and Purchased	0	2,400,963,000
	(Sum Lines B and C)		
E Accounted for Water:			
F	Water Sold		
G	Metered for Consumption (in house usage)	2,339,559,770	
H	Fire Department(s) Usage	81,903,330	
I	Flushing	0	
J	Tank Cleaning/Filling	1,360,000	
K	Street Cleaning	0	
L	Bulk Sales	0	
M	Water Bill Adjustments	0	
N	Total Accounted for Water	0	2,422,823,100
	(Sum Lines B and C)		
O	Unaccounted for Water		(21,860,100)
	(Line D minus Line N)		
P	Percent Unaccounted for Water		-0.91%
	(Line O divided by Line D time 100)		
Q Other (explain)			

See Below

Explain Other:

0

All amounts included in this schedule are supported by documentation on file at the water system.
 If no support is on file for a line item or if the line item is not applicable, a "0" is shown.

INITIAL CHECK LIST FOR ADDRESSING WATER LOSS

1. We are billing all government department buildings. We are in the process of installing a six inch meter on the fire plug at the number one Fire Station to bill for water used for training purposes. We have come across a few water usages that were not billed in the past but will be in the near future.
2. We are accounting for water used in both water and sewer departments, each are being metered.
3. We read meters monthly and change if problems exist. We have contracted in the past years to test all compound meters but the **Union City** Water Plant will be testing the meters in the near future.
4. Currently we do not have a calibration policy in place other than contracting testing of all compound meter in the past years. We are going to start testing meters ourselves in the near future.
5. We change our meters out on both age and over one million gallons.
6. Our customers call if someone is pulling water from a fire plug without authorization due to low water pressure. Other city departments will also call us to report any unauthorized person. When a person is caught they are billed for water used and are informed not to be getting water unless they contact us and we give them authorization in a designated area.
7. The leak detection we have now is customers calling in with low pressure, leaks on mains or service lines. We also spot leaks on daily work activities.
8. We do have policies for billing adjustments. The adjustments are issued thru City Hall.
9. We do have authorized non-customers to contact us for water. We will install a meter on the fire plug for billing and water usage. The fire department sends a water usage report every month.
10. Our system at this time is not zoned for isolating water loss.
11. Currently we are not searching for leaks at night.
12. We have installed soft starts on our high service pumps at the Water Plant. In our high pressure areas we have installed pressure regulators.
13. We do have leak detection equipment that we use in our daily work.
14. City Hall mails customers a high consumption notice.
15. Currently our customers are keeping us informed of any leaks in our system. We will encourage our customers on the city's website to report leaks.
16. Our policy for water theft will not be tolerated and we will prosecute if anyone is caught.
17. According to AWWA water audit software, annual cost of real losses is \$57,358.
18. Our leaks are repaired regardless of the cost.

CITY OF UNION CITY, TENNESSEE

WATER LOSS SCHEDULE - UNAUDITED

For the Year Ended June 30, 2012

AWWA WLCC Free Water Audit Software: Reporting Worksheet				Back to Instructions
Copyright © 2010, American Water Works Association. All Rights Reserved. WAS v4.2				
Water Audit Report for: City of Union City				
Reporting Year: 2012 7/2011 - 6/2012				
Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades				
All volumes to be entered as: MILLION GALLONS (US) PER YEAR				
WATER SUPPLIED << Enter grading in column 'B'				
Master meter error adjustment (enter positive values):	Volume from own sources:	1,325.801	Million gallons (US)/yr (MG/Yr)	
Water imported:	under-registered:	6.620	MG/Yr	
Water exported:		0.000	MG/Yr	
		32.496	MG/Yr	
WATER SUPPLIED:		1,299.925	MG/Yr	
AUTHORIZED CONSUMPTION				
Billed metered:	1,019.847	MG/Yr		
Billed unmetered:	1.454	MG/Yr		
Unbilled metered:	12.821	MG/Yr		
Unbilled unmetered:	16.249	MG/Yr		
AUTHORIZED CONSUMPTION:		1,050.371	MG/Yr	
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed				
WATER LOSSES (Water Supplied - Authorized Consumption) 249.554 MG/Yr				
Apparent Losses				
Unauthorized consumption:	3.250	MG/Yr		
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed				
Customer metering inaccuracies:	31.938	MG/Yr		
Systematic data handling errors:	2.540	MG/Yr		
Apparent Losses:		37.728		
Real Losses (Current Annual Real Losses or CARL)				
Real Losses = Water Losses - Apparent Losses:		211.826	MG/Yr	
WATER LOSSES:		249.554	MG/Yr	
NON-REVENUE WATER				
NON-REVENUE WATER:		278.624	MG/Yr	
= Total Water Loss + Unbilled Metered + Unbilled Unmetered				
SYSTEM DATA				
Length of mains:	621.0	miles		
Number of active AND inactive service connections:	7,223			
Connection density:	12	conn./mile main		
Average length of customer service line:	0.0	ft.	(pipe length between curbstop and customer meter or property boundary)	
Average operating pressure:	65.0	psi		
COST DATA				
Total annual cost of operating water system:	\$3,115,380	\$/year		
Customer retail unit cost (applied to Apparent Losses):	\$4.06	\$/1000 gallons (US)		
Variable production cost (applied to Real Losses):	\$270.78	\$/Million gallons		
PERFORMANCE INDICATORS				
Financial Indicators				
Non-revenue water as percent by volume of Water Supplied:	21.4%			
Non-revenue water as percent by cost of operating system:	7.0%			
Annual cost of Apparent Losses:	\$153,176			
Annual cost of Real Losses:	\$57,358			
Operational Efficiency Indicators				
Apparent Losses per service connection per day:	14.31	gallons/connection/day		
Real Losses per service connection per day*:	N/A	gallons/connection/day		
Real Losses per length of main per day*:	934.53	gallons/mile/day		
Real Losses per service connection per day per psi pressure:		gallons/connection/day/psi		
Unavoidable Annual Real Losses (UARL):	105.41	million gallons/year		
From Above, Real Losses = Current Annual Real Losses (CARL):	211.83	million gallons/year		
Infrastructure Leakage Index (ILI) (CARL/UARL):	2.01			
* only the most applicable of these two indicators will be calculated				
WATER AUDIT DATA VALIDITY SCORE:				
*** YOUR SCORE IS: 71 out of 100 ***				
A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score				
PRIORITY AREAS FOR ATTENTION:				
Based on the information provided, audit accuracy can be improved by addressing the following components:				
1: Volume from own sources				
2: Water exported				
3: Master meter error adjustment				
For more information, click here to see the Grading Matrix worksheet				

See independent auditor's report



JUN 13 2013

P. O. BOX 471 • 122 PUBLIC SQUARE • WAYNESBORO • TENNESSEE • 38485
OFFICE (931) 722-5458 • FAX (931) 722-9109 • www.cityofwaynesboro.org

June 11, 2013

Mrs. Joyce Welborn
Water and Wastewater Financing Board
505 Deaderick Street Suite 1500
Nashville, TN 37234-1402

Dear Mrs. Welborn:

This response is in reference to your letter dated May 16, 2013 with regards to the "non-revenue water as percent by cost of operating system" pertaining to the City of Waynesboro being above the amount established by the Water & Wastewater board.

Please find the enclosed response to the questionnaire checklist as requested. Feel free to contact me shall you have any further questions or comments at the number listed above.

Sincerely,

John Hickman
Waynesboro City Manager

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.2

[Back to Instructions](#)

[?](#) Click to access definition

Water Audit Report for: **Waynesboro Water System**
 Reporting Year: **2011** / 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	<input type="text" value="9"/>	<input type="text" value="147.494"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="4"/>	<input type="text" value="0.100"/>	under-registered MG/Yr
Water imported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water exported:	<input type="text" value="8"/>	<input type="text" value="1.929"/>	MG/Yr
WATER SUPPLIED:		<input type="text" value="145.665"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="9"/>	<input type="text" value="97.313"/>	MG/Yr
Billed unmetered:	<input type="text" value="7"/>	<input type="text" value="0.112"/>	MG/Yr
Unbilled metered:	<input type="text" value="9"/>	<input type="text" value="9.751"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="8"/>	<input type="text" value="2.154"/>	MG/Yr
AUTHORIZED CONSUMPTION:		<input type="text" value="109.330"/>	MG/Yr

Click here: [?](#) for help using option buttons below

Pcmt: Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="text" value="9"/>	<input type="text" value="16.079"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="7"/>	<input type="text" value="5.130"/>	MG/Yr
Apparent Losses:		<input type="text" value="21.573"/>	

Pcmt: Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/Yr

WATER LOSSES: MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="7"/>	<input type="text" value="70.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="6"/>	<input type="text" value="1,592"/>	
Connection density:		<input type="text" value="23"/>	conn./mile main
Average length of customer service line:	<input type="text" value="10"/>	<input type="text" value="0.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="7"/>	<input type="text" value="67.5"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="9"/>	<input type="text" value="\$649,394"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="9"/>	<input type="text" value="\$6.85"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$986.25"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="33.1%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="26.8%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$147,776"/>
Annual cost of Real Losses:	<input type="text" value="\$14,558"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="37.13"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="N/A"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="577.74"/>	gallons/mile/day
Real Losses per service connection per day per psi pressure:	<input type="text" value="?"/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="15.21"/>	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	<input type="text" value="14.76"/>	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	<input type="text" value="0.97"/>	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 81 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Master meter error adjustment
- 2: Volume from own sources
- 3: Unauthorized consumption

For more information, click here to see the Grading Matrix worksheet

Initial Check List for Addressing Water Loss

1. At the present time we are billing for all general government water use.
2. Water used by Water & Waste Water Departments is metered on usage.
3. Meters are periodically checks by Tennessee Meter Company.
4. At the present time we do not have a recalibration procedure or policy in place.
5. A meter replacement policy is in place, once a meter reaches a certain number of gallons depending on the size of the line it is changed out with a new one.
6. We inspect for unauthorized consumption, visually. If one is found they are subject to citation and penalty through the court system.
7. The Waynesboro Water System currently has a leak detection program in place.
8. At the present time The Waynesboro Water System has a policy for billing adjustments and it's followed at all levels.
9. The Waynesboro Water System does have authorized non-customer users. At the present time we use an honor system hydrant with water meter attached and fill out water usage cards and are billed monthly.
10. The Waynesboro Water System is not currently zoned to isolate water loss, but does have several master meters in place to monitor water sold to other utilities.
11. Periodically when a possible leak is suspected a team will search for leaks during the night hours when there is little traffic and small household usage.
12. At this time The Waynesboro Water System cannot control pressure surges.
13. The City of Waynesboro Maintenance Department does have leak detection equipment available.
14. If there is a possible leak on a customer's tap they will be notified by City Hall after their meter has been read.
15. At the present time no public relations program is in place to encourage customers to report leaks.
16. Currently The Waynesboro Water System does have a policy in place to prosecute water theft or meter tampering.
17. The monetary value of the water loss in 2011-2012 is valued at \$147,776.00 according to the water loss report on AWWA Standards Worksheet.
18. The cost to repair the leak is reviewed and justified based on the amount of water being lost.

JUN 11 2013



Watauga River Water Authority

P.O. Box 908, Elizabethton, TN 37644

(423) 543-2700 (423) 543-2400 Fax (423) 543-8600

email: newcwater@embarqmail.com

May 14, 2013

Mrs. Joyce Welborn
Legislative Auditor Board Coordinator
Office of State and Local Finance
Suite 160
James K. Polk Office Building
505 Deadrick Street
Nashville, TN 37243-1402

RE: Corrective Action Plan and Accomplishments for Water Loss

Mrs. Welborn:

I would like to start by saying what a pleasure it was meeting with you earlier this month and that I am extremely appreciative of all the advice and expertise you had to offer concerning North Elizabethton Water Co-Ops water loss.

The staff of NEWC and the Watauga River Regional Water Authority have been working diligently over the past year and a half to recognize and repair sources of water loss within the distribution system. The biggest reduction in water loss achieved so far is a result of a water system rehabilitation study and water line replacement project performed by Vaughn & Melton engineers and funded by a Community Development Block Grant (CDBG).

The WRRWA acquired the distribution system formally known as North Elizabethton Water Co-Op in 2008. Most of the NEWC distribution system was constructed in the late 60's and early 70's with water lines consisting of thin walled PVC, that with age have become brittle and prone to split, and all service lines were comprised of an inexpensive and poor quality roll pipe. Unfortunately the poor quality of materials used, time and neglect have left the system in very poor condition.

In early 2012 the WRRWA and Vaughn & Melton engineers evaluated the respective cost and benefits of several options to reduce water loss. These options included a total system replacement, phased replacements and selected upgrades of the distribution system. After careful consideration we determined the best course of action was to replace the most problematic and deficient areas of the distribution system first. At that time funds were applied for and secured through First Tennessee Development District with a CDBG Grant totaling \$538,000.00, with the utility's matching contribution being \$38,000.00.

Vaughn & Melton engineers gathered background information on the NEWC distribution system through meetings with NEWC & WRRWA personnel, performing field investigations, consulting prior NEWC distribution system maps and GIS shape files (roadways, contours and streams) made available through the First Tennessee Development District. The hydraulic analysis was developed in Bentley Water GEMS v8i water modeling software and results were verified through manual calculations. Vaughn & Melton utilized county level GIS files and geographically referenced quad maps to locate roads within the service area. The existing lines were located and sized through a system map and field visits with NEWC & WRRWA personnel. Elevations were checked against quad maps, Google Earth and previously prepared engineering plans.

Based on information obtained through extensive research and discussions with NEWC & WRRWA personnel it was determined the best course of action was as follows: Replace 7,750 LF of high pressure mains on the following roads: Fitzsimmons Hills Rd., Dan Cole Rd., Shiloh Rd. and a cross county easement. Replace 155 of the old polyethylene plastic roll pipe service lines with cooper. Install twelve 6" gate valves to help isolate the system and reduce the number of customers affected during repairs and maintenance. Replace an old pressure reducing valve with a new one and install a new PRV on Cricket Lane. The addition of the PRV on Cricket lane will allow us to control the pressure in that section of the system.

The line rehabilitation project was completed the end of March 2013. We compared water usage from April 2012 to those from April 2013 from monthly operational reports supplied to TDEC to see what affect, if any, the line replacement project had on water loss. It was determined the system used 1,100,000 gallons less for the month of April 2013 than in April 2012. Only time will tell how much of a reduction in water loss this project has supplied but we will continue to track our monthly progress.

We recognize that there are steps that our staff can take to help maintain or reduce water loss. In April 2013 we implemented a Meter Replacement Program for meters with over 1 million gallons of usage or twelve years of age, making a commitment to replace at least four (4) residential meters per month. The amount of meters replaced per month was determined by what the Utility could afford.

Also, In October of 2011 we purchased a Fisher XL 30 leak detector and consistently use it when time is available. This has resulted in several leaks, mostly service lines, being located and repaired. Along with using the leak detector in "down" time, the distribution operators use it to inspect service lines every other month while reading meters. Now that NEWC is purchasing its water from its own water plant at a cheaper rate per thousand gallons it is my goal to hire more staff for the sole purpose of leak detection and repair.

In November 2011, the Utility Management Group from Pikeville, KY provided leak detection and PRV adjustment training to the distribution crew. Prior to this the distribution department had no idea the level of water loss the system had developed. Water loss is now at the forefront of all operators' job description. I, as director hold everyone accountable for searching and correcting any unaccounted for water, while it is my distribution managers' main responsibility to lower water loss and enforce the cross connection program.

Please find attached the Water Loss Check List, a copy of Policies & Procedures for Adjustments and Theft of Service and an AWWA Water Audit for fiscal year 2012. Also attached is a revised Water Audit that reflects our change in variable production cost due to the fact we no longer purchase water from the City of Elizabethton. As of February 2013 we purchase our water from our own plant and we have in place a new six inch Sensus master meter that will be calibrated annually. I hope that the content of this letter and its nature will convey to all how motivated our staff is to make this system run as effectively and efficiently as possible. Thank you again for the demands and accountability you and your office place on all utilities; we feel in the long run it benefits everyone.

Sincerely,

A handwritten signature in black ink, appearing to read "Bryon Trantham". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Bryon Trantham
Executive Director, WRRWA

North Elizabethton Water Loss Check List

1. Are we billing for all general government water use? *North Elizabethton Utility is 100% residential customer based, with no City Hall, Parks, etc.*
2. Are you accounting for the water used by the water and/or sewer department? *In the past North purchased all water from the city of Elizabethton, it now receives all its water from its own water plant that it owns jointly with Siam and South. All water used at the plant for filter flushing, etc. is accounted for. We have no sewer facility.*
3. Do you periodically check or inspect all 2" and larger meters? *We only have one 2" meter in the system; it is used to supply a small church. The meter is inspected once a month when read.*
4. Do you have a recalibration policy and procedure in place? *In December 2012 we started providing water to the city of Elizabethton, Siam, North and South utilities. They are served with 6" master meters. Our policy is to check calibration annually by outside vendor and have calibrated at that time if needed.*
5. Do you have a meter replacement program? *We started for the first time in April 2013 a meter replacement system. Our policy is to replace 4 meters per month that has a million gallons registered or that is twelve years or more use on them. Four is the number that the utility can afford at this time.*
6. Do you have a process to inspect for unauthorized consumption? What are the consequences of consumption is discovered? *Our process to check on unauthorized consumption is to read all meters including inactive accounts and see if there is any usage when their should not have been. On accounts that have been turn off for nonpayment the meter is locked and in some cases where there is the potential for theft or tampering the meter is pulled all together. Please see attached utility Policy and Procedures concerning theft.*
7. Do you have a leak detection program in place? *In October 2012 we purchased a Fisher XL 30 Leak detector. Distribution operators periodically walk all main lines in the system. Every other month when meters are read all service lines are inspected for leaks.*

8. Do you have written policies, including billing adjustments? Are the written policies followed correctly by all levels of staff? *Yes we have written and board approved policies for bill adjustments. It is clearly understood by all staff the procedure for bill adjustment. I have attached the policy and procedures document.*
9. Do you have authorized non-customer users? *In the North Elizabethton distribution system there are no hydrants for fire protection or volunteer fire departments to draw from or street departments to use water for street cleaning.*
10. Is your system zoned to isolate water loss? *We classified our system into high and higher pressure zones. We also have a master meter that covers only one large area of the system that its only use is to track water consumption in that area. It is read often to determine if use is up from possible leak.*
11. Do you search for leaks at night when there is little traffic and small household usage? *On several occasions the distribution operators have done leak detection between the hours of midnight till three in the morning. We also track historical trends of tank levels from midnight till six in the morning through scada software with mission communications. This allows us to track the amount of water leaving the tank at hours when there is little customer use.*
12. Do you or can u control pressure surges? *There is very little to no water hammer in North's system that could cause a pressure spike. We have one booster pump station with small 130 gpm. Pumps that are controlled with soft start and variable speed motors.*
13. Do you have access to leak detection equipment? *See question # 7.*
14. What is your policy of notifying customers they have a leak? *Customers whose meter reading is higher than normal, meter reading crews are asked to do a reread. If the reading is correct the customer is notified of a possible leak. Distribution personnel will assist the customer trouble shooting the source of the high monthly bill.*
15. Do you have a public relations program to encourage citizens to report leaks? *I am sad to say that at this time we have no such program in place. Now that this has been brought to the for front of my thinking, we have found room on our bills to encourage*

customers to report all leaks to insure keeping water rates as low as possible for everyone. We will continue to come up with ways to educate our customers the importance of reporting leaks.

16. Do you have a policy to prosecute water theft or meter tampering/damage? *Yes see attachment.*

17. What is the monetary value of the lost water? *Every thousand gallons that is not metered cost the utility \$2.10. This additional cost drives up the water bills for hard working families that are trying to make ends meet.*

18. Is the cost to repair the leak justified based on the amount of water lost? *We consider all leaks justified because more times than not what appears to be a small leak uncovered is more substantial than thought. Leaks always continue to get worse.*

NORTH ELIZABETHTON WATER CO-
POLICIES AND PROCEDURES

SUBJECT: ADJUSTMENTS TO BILLS/
LEAK ADJUSTMENTS BOARD AI
POLICY #: CS-105 APPROVEI
POLICY: Procedure for considering request for adjustment of bills.

Accounts cut-off for non-payment or discontinued accounts shall be

1. **Determination of need for adjustment:** The need to adjust customer complaint of excessive billing or evidence of leak meter.
2. **Notice of possible leaks:** It is the customer's responsibility good working order.
3. **Frequency of adjustments:** No customer shall receive more than one (1) calendar year.
4. **Improper meter reading:** The Utility will first determine if an investigation of the meter and meter records establishes that there was a failure of utility equipment, a new bill will be based on an average of the past twelve (12) months. If there is no penalty assessed in the event the adjustment proves to be a penalty date.

If an investigation of the meter and meter record establishes that there was no failure of utility equipment, the bill will be based on the current meter reading.
5. **Testing of customer meter and amount to be charged:** If the accuracy of the meter, he may pay the utility bill in question. \$75.00 (residential meters) or \$100.00 (commercial or industrial meters). The Utility will remove the meter and ship it to the manufacturer or have a technician test the meter on site. The Utility will pay all costs associated with the testing.

If the meter proves to be accurate within guidelines established by the American Water Works Association (AWWA), it is deemed to be accurate, the customer forfeits the meter testing deposit. If the meter does not meet accuracy standards, the Utility shall refund the meter testing deposit and repair or replace the meter.
6. **Calculation of billing adjustment:** If an adjustment of the amount of the bill will be determined based on an average for twelve (12) months billing plus one-half (½) of the overage.

7. **Adjustment not made on water bills:** To be adjusted, the leak must not be readily evident to a reasonable person (such as leaks that are underground, within walls or under floors) or the leak must occur while occupants are away from the premises.
- Adjustments on water bill will not be made on the following:
- (A) Routine dripping faucets, leaking commodes or any type of faulty customer plumbing;
 - (B) Premises left abandoned without reasonable care for the plumbing system;
 - (C) More than one (1) occurrence per calendar year;
 - (D) Filling of swimming pools; and
 - (E) Watering of lawns or gardens.
8. **Amount of time for adjustment:** The Utility shall not be obligated to make adjustments of any bills not contested within ninety (90) days from the billing date.
9. **Customer disputes:** The Utility shall be under no obligation to extend the discount or due date or the time for paying any bills because the customer disputes the amount of the bill.
10. **Requests for adjustments:** All requests for billing adjustments must be received by phone, in writing or in person at the business office of the Utility during regular business hours or official meetings of the Utility.
11. **Written report:** The Manager or his designee shall file a written report of the customer billing adjustment and the action of the staff regarding the adjustment.

NORTH ELIZABETHTON WATER COOPERATIVE, INC.

POLICIES AND PROCEDURES

SUBJECT: THEFT OF SERVICE & TAMPERING **BOARD ADOPTION:** 11/01/05

POLICY #: CS-107 **APPROVED BY:** LW

POLICY: A Policy to establish a procedure for dealing with cases of theft and tampering associated with the system.

1. **Theft Defined:** Tampering with utility equipment or stealing services will be grounds for discontinuance of utility service. Theft of service shall include, but not be limited to, the following:

- (A) Opening valves at the curb or meter that have been turned off by utility personnel;
- (B) Breaking, picking or damaging cut-off locks;
- (C) By-passing meters in any way;
- (D) Taking unmetered water from hydrants by anyone other than an authorized official of a recognized fire department; fire insurance company or utility for any purpose other than fire fighting, testing or flushing of hydrants;
- (E) Use of sprinkler system water service for any purpose other than fire protection;
- (F) Removing, disabling or adjusting meter registers;
- (G) Connecting to or intentionally damaging water lines, valves or other appurtenances for the purpose of stealing or damaging utility equipment;
- (H) Moving the meter or extending service without permission of the utility;
- (I) Any other intentional act of defacement, destruction or vandalism to utility property or act that affects utility property;
- (J) Any intentional blockage or obstruction of utility equipment.

2. **Notice of Violation:** A "notice of violation" may be mailed or otherwise delivered at the direction of the Utility Manager if:

- (A) Evidence suggests the possibility of theft of utility services at the customer's premises;

- (B) The violation does not constitute an immediate threat of safety or equipment integrity to the system.

The customer will be ordered to immediately cease any unlawful practice.

No "notice of violation" will be mailed or delivered and customer service is subject to immediate cut-off in any of the following situations:

- (A) In the opinion of the Utility Manager, theft of service is definitely evident on the customer's premises;
- (B) When in the opinion of the Manager a situation exists that may endanger public health.

3. **Fees, Adjustments, and Other Payments:** In addition, the customer will be subject to a \$100.00 violation payment as well as service call charges, labor, and replacement parts as detailed by the Utility.

4. **Bill Adjustments for Theft:** If the Utility determines theft of service has occurred, it reserves the right to adjust the customer's current bill and the bills for the past twelve (12) months usage. If the approximately amount of service that was stolen cannot be reasonably determined, the customer's usage will be set at two to four times the minimum bill, as set on a case-by-case basis by the governing board of the Utility according to the facts of each case.

5. **Restoration of Service:** Service will not be restored until all payments for the following are received by the Utility:

- (A) Adjusted payment for utility service;
- (B) Violation payment (see section 4 above);
- (C) All service call charges;
- (D) Labor;
- (E) Replacement parts;
- (F) Reinstatement of service charge.

Service will be reinstated only during regular working hours, Monday through Friday, except in case of an emergency.

6. **Customer Payment Liability:** Discontinuance of service by the Utility shall not release the customer from liability for payment of service already received or from liability from payments that thereafter become due under the minimum bill provisions or other provisions of the customer's contract.

7. **Cut-offs and Liability:** The Utility shall not be liable for any loss or damage resulting from the discontinuance of service.

8. **Customer Who Is Responsible:** The customer(s) whose name(s) appear(s) on the application for service is/are the customer(s) responsible for payment of all charges. That customer is also responsible for any rules or policy violations that occur regarding the utility service to that property. Personal participation by the customer in any such violation shall not be necessary to impose personal responsibility on the customer.

9. **Court and Attorney's Fees:** In the event any customer fails to pay any utility fee or charge, the customer shall pay all costs of collection, including court costs and reasonable attorney's fees, incurred by the Utility in collecting such sums.

10. **Utility May Refuse Service:** The Utility shall have the right to refuse to render service to an applicant or to any member of an applicant's household who is living at the same address whenever such person(s) is/are delinquent on any payment to the Utility or had his or her service discontinued because of a violation of the regulations or policies of the Utility.

In the event that the customer fails to pay said fees and charges as listed above, the Utility will prosecute the customer to the fullest extent of the law.

Water Audit Report for: **North Elizabethton Utility**
 Reporting Year: **2012** / 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water imported:	<input type="text" value="3"/>	<input type="text" value="65.587"/>	MG/Yr
Water exported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
WATER SUPPLIED:		<input type="text" value="65.587"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="6"/>	<input type="text" value="24.819"/>	MG/Yr	Pcnt: <input type="text" value="1.25%"/> Value: <input type="text"/> Use buttons to select percentage of water supplied OR value
Billed unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	
Unbilled metered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	
Unbilled unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.820"/>	MG/Yr	
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed				
AUTHORIZED CONSUMPTION:		<input type="text" value="25.639"/>	MG/Yr	

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption:	<input type="text" value="n/a"/>	<input type="text" value="0.164"/>	MG/Yr	Pcnt: <input type="text" value="0.25%"/> Value: <input type="text"/>
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed				
Customer metering inaccuracies:	<input type="text" value="7"/>	<input type="text" value="0.768"/>	MG/Yr	Pcnt: <input type="text" value="3.00%"/> Value: <input type="text"/>
Systematic data handling errors:	<input type="text" value="8"/>	<input type="text" value="0.998"/>	MG/Yr	
Apparent Losses:		<input type="text" value="1.930"/>		

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	<input type="text" value="n/a"/>	<input type="text" value="38.019"/>	MG/Yr
WATER LOSSES:		<input type="text" value="39.948"/>	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="5"/>	<input type="text" value="17.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="9"/>	<input type="text" value="657"/>	
Connection density:	<input type="text" value="n/a"/>	<input type="text" value="39"/>	conn./mile main
Average length of customer service line:	<input type="text" value="10"/>	<input type="text" value="0.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="4"/>	<input type="text" value="90.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="10"/>	<input type="text" value="\$500,995"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="10"/>	<input type="text" value="\$7.00"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$4,663.00"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="62.2%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="38.8%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$13,507"/>
Annual cost of Real Losses:	<input type="text" value="\$177,281"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="8.05"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="158.54"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.76"/>	gallons/connection/day/psi

*** UARL cannot be calculated as either average pressure, number of connections or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL):	<input type="text" value="38.02"/>
Infrastructure Leakage Index (ILI) [CARL/UARL]:	<input type="text"/>

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 64 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Water imported**
- 2: Billed metered**
- 3: Unauthorized consumption**

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.2

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Water Audit Report for: **projected North Elizabethton UD**
 Reporting Year: **2012** / **7/2011 - 6/2012**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water imported:	<input type="text" value="9"/>	<input type="text" value="65.587"/>	MG/Yr
Water exported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
WATER SUPPLIED:		<input type="text" value="65.587"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="6"/>	<input type="text" value="24.819"/>	MG/Yr
Billed unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="5"/>	<input type="text" value="0.820"/>	MG/Yr
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed			
AUTHORIZED CONSUMPTION:		<input type="text" value="25.639"/>	MG/Yr

Click here: for help using option buttons below

Pcnt: Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption:	<input type="text" value="5"/>	<input type="text" value="0.164"/>	MG/Yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed			
Customer metering inaccuracies:	<input type="text" value="7"/>	<input type="text" value="0.768"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="8"/>	<input type="text" value="0.998"/>	MG/Yr
Apparent Losses:		<input type="text" value="1.930"/>	

Pcnt: Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	<input type="text" value="5"/>	<input type="text" value="38.019"/>	MG/Yr
WATER LOSSES:		<input type="text" value="39.948"/>	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="5"/>	<input type="text" value="17.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="9"/>	<input type="text" value="657"/>	
Connection density:		<input type="text" value="39"/>	conn./mile main
Average length of customer service line:	<input type="text" value="10"/>	<input type="text" value="0.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="4"/>	<input type="text" value="90.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="10"/>	<input type="text" value="\$500,995"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="10"/>	<input type="text" value="\$7.00"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$2,200.00"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="62.2%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="19.8%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$13,507"/>
Annual cost of Real Losses:	<input type="text" value="\$83,641"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="8.05"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="158.54"/>	gallons/connection/day
Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.76"/>	gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL):

*** UARL cannot be calculated as either average pressure, number of connections or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL):

Infrastructure Leakage Index (ILI) [CARL/UARL]:

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 82 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Billed metered
- 2: Water imported
- 3: Unauthorized consumption

For more information, click here to see the Grading Matrix worksheet



CITY OF ELIZABETHTON
136 SOUTH SYCAMORE ST.
ELIZABETHTON, TN 37643
(423) 297-9128
Fax: (423) 542-1510



May 30, 2013

Ms. Joyce Welborn
Board Coordinator
Water and Wastewater Financing Board
505 Deaderick Street, Suite 1500
Nashville, TN 37243-1402

JUN 03 2013

Re: City of Elizabethton Water Loss Submittal

Dear Ms. Welborn:

Please see the following attachments:

1. Answers to check list questions
2. An updated water loss reduction plan
3. Summary page of the AWWA spreadsheet. We will submit an electronic copy by email.
4. A copy of the single reporting worksheet submitted as part of the City audit for the previous FY.

The following is an explanation why the City's water loss appeared to be getting larger:
The City of Elizabethton's reported percentage of unaccounted for water increased from FY 2010-2011 to FY 2011-2012 due to an improvement in the City's metering accuracy of its sources. The City is continuing to improve the accuracy of its water metering by replacing the existing bulk water meters at each of their water treatment plants with new magnetic flow meters, installing zone meters in their distribution system, and replacing aging and inaccurate customer water meters. These efforts will improve the accuracy of all the City's measurements of its water and will provide the City with reliable information to focus their efforts to reduce their unaccounted for water.

I trust that our reports reflect our commitment to improve our water loss. Please contact me if you need more information. My mobile phone number is (423) 895-0814 and my email address is jcoetzee@cityofelizabethton.org.

Sincerely,

Johann P. Coetzee
Director of Utilities

Copy to:

Jerome Kitchens	City Manager
Jim Roberts	Water Resources Construction Manager
Ed Mullins	Water Resources Facilities Manager
Ben Simerl P.E.	McGill Associates P.A.

Initial Check List for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc.

All general government uses within the City are metered, most are also billed. Presently the only metered non-billed water is for water used internally by the WWTP and a few other water/sewer accounts.

2. Are you accounting for the water used by the water and/or sewer department?

Yes.

3. Do you periodically check or inspect all 2" and larger meters?

Yes.

4. Do you have a recalibration policy and procedure in place?

Yes. The City currently inspects and tests all 6" and larger customer and process (WTP) meters bi-annually. Any meters failing the flow testing are re-calibrated, repaired or replaced as necessary.

5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?

The City is in the process of reviewing the usage on all its meters, and specifically targeting the largest meters first for replacement based on total gallons measured.

6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?

The City generates a "Go-Back" list every month using our service cut-off list for non-payment as a source. The Go-Back inspection happens within 7 to 10 days after the service was cut-off for the addresses where no payment was received to restore service. Staff inspects for cut locks and meter bypasses. Please see the attached City Code pages 18-5, 18-6 and 18-10 for consequences.

7. Do you have a leak detection program currently in place?

Yes.

8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?

Please see the attached City Code pages 18-10 and 18-11. The policies are followed rigorously.

9. Do you have authorized non-customer users (volunteer fire departments, etc.)? Do you account for the use? Do you have a method for the user to report water usage?

Yes. The City actively works with both the City Fire Department and the area volunteer fire departments to record and report authorized non-customer water usage.

10. Is your system "zoned" to isolate water loss?

The City is in the process of installing zone meters to allow for the tracking of water through their distribution system and isolate their water loss.

11. Do you search for leaks at night when there is little traffic or small household usage?

Yes.

12. Do you or can you control pressure surges?

Pressure surges are not a known significant problem characteristic of our water system. We have a surge relief valve at our Big Springs water plant. Seven of our ten water tanks act as a relief point for pressure surges. Three of the ten tanks have altitude valves and will provide pressure relief only if the altitude valve is open. We have installed variable frequency drives or soft starts at all of our larger pump stations and most of the smaller ones. This goes a long way towards avoiding surges on pump start-up.

13. Do you have or have access to leak detection equipment?

Yes.

14. What is your policy for notifying customers they have a leak?

Our billing software reports abnormally high consumption in an "Edit Report." Each reported address is checked for meter reading mistakes. If the high consumption is confirmed, a door hanger is placed notifying the customers of the possible leak. Staff also affixes door hangers if they notice a meter leak indicator moving too fast, or if they notice a water leak on the customer's side.

15. Do you have a public relations program to encourage citizens to report leaks?

Our water loss is well publicized in the local media and the 24-hour telephone number was mentioned in news reports. We also have a notice in our annual Consumer Confidence Report. Public participation is encouraged and rewarded by having staff follow up each incidence and by reporting back to the persons reporting (where possible). We found that the public is more apt to report leaks if they know that actual action will result from their report.

16. Do you have a policy to prosecute water theft or meter tampering/damage?

Please see attached City Code page 18-10.

17. What is the monetary value of the lost water?

**The following estimates apply to the FY11-12 reporting year:
Annual Cost of Apparent Losses = \$200,114 (metering inaccuracies)
Annual Cost of Real Losses = \$640,000 (pipe leakage)**

18. Is the cost to repair the leak justified based on the amount of water being lost?

The City repairs all leaks when they are found regardless of cost.

Worked Into Normal Work Schedule \$15.00 \$25.00 \$30.00
 The service installation fee applies to new services as well as when current customers transfer their water deposit from one location to another.

(b) Turn on (after cutoff) - customer's option

(i) The following fees shall be charged for the first time a customer requires restoration of service:

	Municipal	Regional	Incorporated
Same Day	\$35.00	\$45.00	\$70.00
Worked Into Normal Work Schedule	\$15.00	\$25.00	\$30.00

(ii) The following fees shall be charged for the second and any subsequent time a customer requires restoration of service within a twelve month period from the last restoration charge:

	Municipal	Regional	Incorporated
Same Day	\$35.00	\$45.00	\$70.00
Worked Into Normal Work Schedule	\$25.00	\$40.00	\$60.00

(c) Rereading meter, if previous reading is not in error

Service	Municipal	Regional	Incorporated
RE-Read Meter	\$15.00	\$25.00	\$35.00

(d) Relocation of meter at customer's request shall be the actual cost not to exceed the cost of a new tap fee.

(e) Inhibiting access to meter by placing junk, refuse, trash, debris or other items over the meter or by blocking access to meter by fencing or other means such as parking a vehicle over the meter to prevent READING access

(i) First time - Warning Tag - ESTIMATED BILL

(ii) Second time - \$50.00 fee added to estimated bill

(iii) Third time - \$100 fee added to estimated bill

(iv) Fourth time - Obstruction removed at customer's expense plus \$100 fee assessed.

(v) Fifth time - Meter Removed - New meter (tap) fee required to reinstate customer's service.

(f) Inhibiting access to meter - preventing meter cut-off for non-payment.

(i) First time - \$50 fee assessed ESTIMATED BILL, TAG LEFT.

(ii) Second time within 12 months--Obstruction removed at customer's expense, \$100.00 fee assessed and water turned off.

(iii) Third time within 12 months--Obstruction removed at customer's expense, meter removed, new meter and tap fee required to reinstate customer's service.

(g) Cut-lock fee. When service is discontinued or cut-off, the meter reader turns-off the meter and locks it to prevent unauthorized use. It is a violation of Tennessee Code Annotated, § 39-14-101 for any

one other than city authorized personnel to remove the lock. If any meter lock is cut-off the meter, the following cut lock fees will apply.

Service	Municipal	Regional	Incorporated
Replace Cut Lock (First Time)	\$50.00	\$50.00	\$50.00
Replace Cut Lock (Second or More)	\$100.00	\$100.00	\$100.00

Criminal prosecution may also be pursued in accordance with Tennessee Code Annotated, § 39-14-101.

(h) Turn-off due to sewage or any other contamination around water meter. If it is determined that sewage or any other contamination is seeping into the water meter box, water service will immediately be turned off until the property owner has corrected the problem. After the problem has been corrected, the meter box will be inspected by city water department personnel to verify correction has been completed satisfactorily. A turn-on fee will then be assessed in accordance with (b) (first time) above. (1982 Code, § 13-102, as amended by Ord. #33-18, Nov. 1997; Ord. #36-6, June 2000; Ord. #37-9, June 2001; and replaced by Ord. #39-2, Jan. 2003, Ord. #40-9, June 2004, and amended by Ord. #43-19, Dec. 2007, Ord. #44-11, June 2008, and Ord. #44-14, July 2008)

18-103. Sprinkler systems and private fire hydrants. (1) Sprinkler systems shall be installed at the expense of the user and charges for all non-metered service connections shall be made monthly at the following rates:

<u>No. Sprinkler Heads</u>	<u>Municipal</u>	<u>Regional</u>	<u>Incorporated</u>
Minimum rates	\$4.50	\$6.75	\$10.15
1-150	\$4.50	\$6.75	\$10.15
151-250	\$5.15	\$7.85	\$11.80
251-350	\$6.25	\$9.35	\$14.05
351-550	\$8.00	\$12.00	\$18.00
551-750	\$9.75	\$14.60	\$21.95
751-950	\$11.50	\$17.25	\$25.85
951-1,150	\$13.25	\$19.85	\$29.80
1,151-1,350	\$15.00	\$22.50	\$33.75
1,351-1,550	\$16.75	\$25.10	\$37.65
*All over 1,500/100	\$1.00/100	\$1.50/100	\$2.25/100

*rounded to the nearest 100 heads.

(2) Sprinkler systems. Sprinkler systems installed by the owner on **METERED SERVICE** lines shall not have any additional monthly service charge.

(3) Fire hydrants. Fire hydrants installed on **METERED LINES** shall not be charged any additional monthly fees.

placement has been approved in advance by the public works director and the city has been provided a formal utility easement to access such meters. In instances where water meters have been improperly installed outside of a public right-of-way, such meter(s) shall be relocated by the municipal water system within the public right-of-way. The city is responsible for providing a continuous required pressure (20 psi) to the meter. The water customer is responsible for the repair, maintenance, and replacement of lateral service lines connecting from the meter to the point of use. (as added by Ord. #37-9, June 2001, and replaced by Ord. #39-2, Jan. 2003, and Ord. #40-9, June 2004)

18-106. Unauthorized water service connection or tampering. No unauthorized person shall cover, uncover, make any connections with or opening into use, alter, or destroy any public water main, tap, hydrant, appurtenances thereof, without first obtaining a written permit from the public works director. Costs associated with such activity and corrective action required by the city as a result of such activity shall be assessed to the unauthorized user. In addition to direct costs incurred (labor, lab tests, and material), a 25% indirect cost fee will be assessed with the minimum assessment being \$50.00. Criminal prosecution may also be pursued in accordance with Tennessee Code Annotated, § 39-14-101. (as added by Ord. #37-9, June 2001, and replaced by Ord. #39-2, Jan. 2003, and Ord. #40-9, June 2004)

18-107. Adjustments to water bills due to leaks. This section applies to verifiable leaks on the customer's side of the meter which have been corrected by the customer. The city reserves the right to refuse adjustments deemed frequent, unnecessary, questionable, or unreasonable based on facts available in each case.

(1) Line maintenance on the customer's side of the meter is totally an individual's responsibility. The city has no legal obligation to adjust billing for any such problem.

(2) If a verifiable leak has been discovered by the customer or by city employees which is on the customer's side of the meter and which has resulted in a significant increase in billing (20% higher or more), then the customer may request an adjustment in billing of 50% of the amount over ordinary usage in accordance with the following provisions:

(a) The request is made by the customer in writing, including a description of the problem, dates the problem first occurred, what was done to correct the problem, when it was corrected, and copies or receipts or other evidence acceptable to city utility billing personnel showing the problem existed and has been corrected.

(b) If deemed necessary, additional information may be requested by utility billing personnel. After utility billing personnel have adequate documentation, they are authorized to adjust the billing in accordance with the following provisions:

(i) If the customer has one year or more billing history, use the average GALLONS usage of the same quarter the previous year. If there is not one year's usage history, use the average usage for the immediate prior three months.

(ii) Subtract the average usage obtained in the above calculation from the current bill usage. Multiply the difference or overage by 50%.

(iii) Add the 50% overage amount back to the average bill. Apply the current rate structure to the gallons computed to derive the adjusted bill amount.

(c) Only one adjustment will be allowed for an account in a six-month period. That adjustment can include one or two consecutive months within the six-month period.

(d) If an additional leak occurs during the six month time frame covered by the first leak adjustment; AND the billing for the second leak is MORE than the first leak; AND the customer has a good payment history with no cut-offs for non-payment of bill, then the adjustment may be applied to the larger of the two bills, with the customer paying 100% of the lesser bill and the adjustment for the larger bill.

(e) Adjustments do NOT apply in the following or similar situations:

(i) Seasonal usage.

(ii) Faucets accidentally or maliciously left on or turned on (inside or outside).

(iii) Cut-off's that are turned back on when faucets have been left on.

(iv) Customers filling pools. (as added by Ord. #39-2, Jan. 2003, and replaced by Ord. #40-9, June 2004)

Water Loss Reduction Program

City of Elizabethton, Tennessee

The City has created a Water Loss Reduction Program to reduce the unaccounted for water in the City's distribution system. The Elizabethton water system currently uses approximately 5.2 million gallons per day and is located in upper East Tennessee in Carter County, Tennessee, and serves a population of approximately 24,000 people. The Water Loss Reduction Program consists of the detailed evaluation of the City's water losses and provides a specific plan for reducing the City's water losses as quickly and economically as possible.

The Water Loss Reduction Program has the following components. All of the progress reports given below are as of the end of October 2012:

1. Improving organizational efficiency
2. Establishment of a standing Water Loss Committee
3. Water line replacement program
4. Water meter program
5. Leakage detection program
6. Leak repair program
7. Mapping program

1. Improving organizational efficiency

City management recognized that a Water Loss Reduction program has to be a permanent endeavor inextricably woven into the management culture of the City's water operations. This is only possible if the organizational structure can support the required efficiencies. With this in mind, the City Manager created a unified Utilities Department under the direct supervision of a Utilities Director in October 2011. This introduced a dedicated senior management position tasked to oversee daily utility operations. Previously the utility operations (water, wastewater and electrical) reported directly to the City Manager in competition with all the other City departments and programs.

Progress – The separately managed water and wastewater operations were combined in the newly created Water Resources Division on July 3, 2012. This is especially important to the Water Loss Reduction Program because of the benefit of combined construction assets. The City is seeing significantly improved productivity in the areas of leak repair etc. Before October 2011, the standing number of unrepaired known water leaks at any time was around 300. The number of unrepaired known water leaks is 15 as of June 30, 2013.

2. Establishment of a standing Water Loss Committee

Management identified a need to create a Water Loss Committee made up out of key staff members. The purpose of the committee is to foster division-wide ownership of the permanent water loss reduction program and to serve as an advisory body to the Director of Utilities. The water loss reduction program elements detailed in this document were identified and analyzed by the committee. The committee has access to the City's consulting engineer, McGill Associates, P.A. The following staff was selected to serve on the committee:

- | | |
|------------------------------|--------------------------------------|
| 1. Johann Coetzee (Chairman) | Director of Utilities |
| 2. Jim Roberts | Water Resources Construction Manager |
| 3. Ed Mullins | Water Resources Facilities Manager |

- | | |
|------------------------|------------------------------|
| 4. Doug Cornett | Water Treatment Manager |
| 5. George Harrison | Water Maintenance Supervisor |
| 6. Sharon Banner-Droke | Administrative Assistant |
| 7. Joey Hilbert | Meter Reader Supervisor |

Progress – The Committee is now established and functioning. To date, the meetings are scheduled on an as needed basis with a follow-up meeting identified at the end of each session. Joey Hilbert, the City's Meter Reader Supervisor, was added as a committee member in January 2013.

3. Water line replacement program

The City's water line replacement program has two components; In-house Construction and Capital Projects.

3.1 In-House Construction

The City increased a Water Capital Improvement fee to \$10 per household in the previous financial year. The increased revenue allowed the City to hire, equip and train a permanent dedicated four person Water Line Replacement Crew. The initial phase of the water line replacement program will replace approximately 30,000 linear feet (LF) of aged galvanized steel water lines. An experimental productivity target of replacing 1,000 feet of galvanized line per month was set. This number will be adjusted up or down as we learn and gain experience. The actual replacement of the galvanized line takes less labor and time than the subsequent reconnection of service lines and repairs to streets, sidewalks and customer yards. The line replacement crew also evaluates and replaces water meters as part of the line replacement exercise.

Progress – The crew was hired, equipped and trained and started replacing water lines four months ago. The primary focus is the replacement of galvanized lines, but the crew occasionally focuses on other water loss related projects like zone meter installations. A project has been completed to replace leaky joints in a 12" line suspended under the Gilbert Peters Bridge on HWY 19 E.

Productivity figures related to galvanized lines from August 1, 2012 to May 30, 2013 are as follows:

- | | |
|-----------------|--|
| 3,953 LF | Galvanized line replaced. |
| 3,348 LF | Galvanized line taken out of service by connecting customers to existing lines on the opposite side of the street. |

The average monthly productivity for the last 10 months now stands at 730 LF. The City does not want to adjust the experimental 1,000 LF monthly target. We experimented with contracted horizontal bore pipe installation and found that the productivity is greatly enhanced, at a cost savings, because the need to repair trench cuts through roads, driveways and sidewalks are significantly reduced. The City funded the purchase of boring equipment in the next FY budget to the amount of \$240,000. We expect to have equipment purchased and staff trained by July 1, 2014.

3.2 Capital Projects

A project to replace approximately one mile of the hundred year old lead jointed 14 inch Hampton Main Line is underway. The project value is \$1 million and is funded by a SRLF loan. This project will be completed in July 2013.

The City applied for and has been awarded \$650,000 in grant and loan funding to perform improvements in the Eastside community to reduce unaccounted for water. The Eastside community is an older section of the City that has been identified, due to the recent installation of a zone flow meter at the Lynn Mountain Booster Pump Station, as having an unaccounted for water rate of approximately 75%, (20% higher than the City's average).

However, the increased activity and water loss reduction expenditures have the effect of putting pressure on the water/wastewater operational fund during what is still a difficult economy. The City may be forced to postpone or reduce the scope of the Eastside project if the Hampton project runs over budget.

Progress – The Hampton main line replacement project is 70% complete and approximately \$18,000 over budget as of the end of May 2013.

4. Water meter program

The Water Loss Committee identified several components of the water meter program and the program is underway.

4.1 Installation of zone bulk meters

The committee, with the assistance of our engineers, re-evaluated the intended locations of 15 large zone meters, purchased by the City during the previous FY. The zone meters will gather data to provide more information on water usage and losses in specific areas of the City. The meters are equipped with 4-20 mA outputs and have radio read capability. (4-20 mA signal output componentry is necessary for automated data collection.) The committee is presently investigating the feasibility of integrating zone meters into our SCADA system to obtain real time flow measurements.

Progress -- Crews started building the meter and valve assemblies during bad weather days when normal construction activities are not practicable. The vaults will be ordered a few at a time and delivered to site to avoid double handling. A manufacturing defect was discovered in the City's zone meters prior to their installation and all were returned to the factory for repair/re-calibration in March 2013. The repaired zone meters are expected to be returned to the City by July 1, 2013. The City's line replacement crew will begin installation of the zone meters as soon as the meters are returned to the City.

4.2 Bulk water meter improvements

The Water Loss Committee and engineers completed a first analysis of bulk water meters at the three treatment plants. The following deficiencies were identified:

1. Calibrations on some meters were limited to the 4-20 mA signaling components, and did not include factory calibration of the actual meter.
2. The City needs to improve meter redundancy at the plants to make it possible to remove a meter for repairs or factory testing without violating operational requirements.
3. Some of the older meters' installation geometry did not meet manufacturer's specifications.

Progress – Three of the magnetic flow meters purchased with the zone meters will be installed at the City's water treatment plants to increase the level of accuracy for measuring these bulk sources. Two concrete vaults are on order and delivery is expected by June 30, 2013. The third meter vault will be purchased in the next FY.

4.3 Meter testing

The City completed an initial round of residential water meter testing to gather information on the accuracy of some aging water meters. Meters were randomly removed and sent to a testing specialist for evaluation. The results were not as conclusive as was hoped. Staff was set an additional target for this FY of removing and testing and additional 50 known old meters, instead of a randomly selected sample.

Progress – The removal of old meters is underway. We will store removed meters until we have accumulated fifty meters of the target population and then send them off for off-site independent testing. The next round of residential water meter testing is planned for June 2013.

4.4 Replacement of large customer standard meters with compound meters

The committee identified that it is highly likely that we under measure off-peak water usage by larger customers, like apartment complexes and trailer parks, who still have standard larger meters. These meters need to be evaluated and replaced with compound meters designed to measure smaller off-peak flows. Also, staff is looking into the feasibility of adding signaling capability to make it possible to integrate these meters with an automated system in the future.

Progress – The City is selectively reviewing its customer meter records and replacing 2" turbine meter that have been installed for apartment buildings with 2" compound meters. The selective replacement of 2 – 2" meters at apartment buildings in the Eastside neighborhood revealed that the old 2" turbine meters were under recording low flow water usage. The City is presently monitoring the new meter measurements over several months to establish a loss reduction baseline.

The City is currently reviewing its water usage and customer records for other 2" turbine meters in similar installations for replacement.

4.5 Data gathering and analysis

The City is working closely with engineers to implement and structure metered consumption/flow data gathering and analysis. Data analysis is important, especially in identifying priorities for leak elimination and line replacement. The Water Loss Committee identified the need for a software reporting module to interact with our customer information system (CIS). The purpose is to specifically quantify revenue recovery and water loss reduction related to our meter replacement program. The City is also aware that the eventual implementation of automated meter reading (AMR) is a necessary future component of the water loss reduction program. The City does not presently have the funds to implement an AMR system. However, AMR will feature as a component of our long term CIP.

Progress – To date, all the data submitted to our engineers were collected from our CIS. Alternate/additional methods for data collection are in the early planning/feasibility stage. We are presently only purchasing and installing large meters (compound and zone) of a design that can be integrated in a future AMR system.

The City's utility departments (water, sewer, and electric) are also collaborating on the development of a City-wide fiber optic network that will allow for improved SCADA services, including data collection and reporting.

4.6 Residential meter replacement

The City expanded the program of residential meter replacement. As previously mentioned, the Water Line Replacement Crew replaces meters as necessary when they tie customers on to newly replaced lines. Also, we have increased the number of meter replacements expected from our meter maintenance staff.

Progress – Work is underway to develop productivity targets and assess resource requirements for enhanced meter replacement by our meter staff. The City's meter staff have identified and replaced 382 residential water meters in FY 2012-2013 to date.

5. Leakage detection program

The City enhanced the leakage detection program by hiring a retired supervisor (40 years' experience) on a part-time basis to assist our staff member who is currently dedicated to leak detection. The Water Loss Committee identified that the City's leak detection equipment must be upgraded.

Progress – Staff compared the performance of the City's equipment to brand new equipment used by neighboring utility. It was determined that our older equipment performs on par. We are sending two staff members to the KY-TN Water Professionals Conference in July 2013 to specifically research leak detection equipment.

6. Leak repair program

Additional to the newly established line replacement crew, the City has three (three person) water construction crews in the field. Initial assessment after the restructuring of the organization revealed that the three crews' leak repair productivity was much lower than expected. The construction equipment and tools allocated to the crews were found to be old, inadequate and in disrepair. The division immediately started replacing and augmenting hand tools, pneumatic and gasoline powered construction equipment, as well as safety equipment. It was also found that our service trucks were too small with the result that not enough equipment could be carried to each job site. Return trips for more equipment and parts unreasonably stretched out jobs. A zone system was established by the Water Resources Construction Manager. Each crew was allocated a zone in the service area and became responsible for repairing leak work orders only in that zone. Crew productivity is recorded and regularly examined by supervisors.

Progress – The zone system had a surprisingly positive effect on crew productivity; most probably because of reduced travel time between jobs and the concept of ownership of a particular zone. The City specified and purchased a larger specially built service truck. This truck is currently under evaluation. If the performance is satisfactory the City will embark on a program to gradually replace all the smaller service trucks. The City funded a service truck, a backhoe and a dump truck for the next FY. The new equipment will be allocated to the leak repair crews.

7. Mapping program

The City identified that the maps of the water system were inadequate and paper based. A start was made several years ago to buy GPS survey equipment and start building a rudimentary GIS data base. This program is in the process of being improved and expanded, because proper asset management records are essential to the long term efficiency of a water loss reduction program. The division had a lot of unprocessed GPS field data that needed to be added to the mapping program.

Progress – The GIS computer was replaced and all the software updated. Training of staff to operate the mapping software is now complete.

The City Water Department is actively working with the City Fire Department to improve the quality of the City's mapping by GPS locating all fire hydrants in the water system. This data will be combined with other mapping improvements in the sewer and electric departments in the City's GIS and will ultimately be used in the creation of a water system hydraulic model.

Summary statement

It is the City's desire that the Water Loss Reduction program as described above will be foundational to a permanent effective solution. The program is designed to be live, responsive and flexible. The City's goal remains to achieve a water loss of 35% or better in the shortest possible time at the least possible cost to our rate payers.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WASv4.2

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Water Audit Report for: **City of Elizabethton**
 Reporting Year: **2012** 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED << Enter grading in column 'E'

Volume from own sources:	8	1,939.525	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	3		MG/Yr
Water imported:	2	0.002	MG/Yr
Water exported:	n/a		MG/Yr
WATER SUPPLIED:		1,939.527	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	7	834.312	MG/Yr
Billed unmetered:	n/a		MG/Yr
Unbilled metered:	9	4.135	MG/Yr
Unbilled unmetered:		24.244	MG/Yr
AUTHORIZED CONSUMPTION:		862.691	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

WATER LOSSES (Water Supplied - Authorized Consumption) 1,076.835 MG/Yr

Apparent Losses

Unauthorized consumption:		4.849	MG/Yr
Customer metering inaccuracies:	6	34.935	MG/Yr
Systematic data handling errors:		0.000	MG/Yr
Apparent Losses:		39.784	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Systematic data handling errors are likely, please enter a non-zero value; otherwise grade = 5

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		1,037.051	MG/Yr
WATER LOSSES:		1,076.835	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:		1,105.215	MG/Yr
--------------------	--	-----------	-------

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	4	330.0	miles
Number of active AND inactive service connections:	8	11,546	
Connection density:		35	conn./mile main
Average length of customer service line:	10	0.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	6	100.0	psi

COST DATA

Total annual cost of operating water system:	10	\$4,322,127	\$/Year
Customer retail unit cost (applied to Apparent Losses):	9	\$5.03	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	9	\$617.65	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	57.0%
Non-revenue water as percent by cost of operating system:	19.9%
Annual cost of Apparent Losses:	\$200,114
Annual cost of Real Losses:	\$640,535

Operational Efficiency Indicators

Apparent Losses per service connection per day:	9.44	gallons/connection/day
Real Losses per service connection per day*:	246.08	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	2.46	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	128.38	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	1,037.05	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	8.08	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 71 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Water imported
- 2: Volume from own sources
- 3: Billed metered

For more information, click here to see the Grading Matrix worksheet

CITY OF ELIZABETHTON, TENNESSEE
 SCHEDULE OF UNACCOUNTED FOR WATER (UNAUDITED)
 For the Fiscal Year Ended June 30, 2012

(All amounts in gallons)

A	Water Treated and Purchased:		
B	Water Pumped (potable)	1,939,525,000	
C	Water Purchased	1,600	
D	Total Water Treated and Purchased		1,939,526,600
	(Sum Lines B and C)		
E	Accounted for Water:		
F	Water Sold	834,311,800	
G	Metered for Consumption (in house usage)	18,681,200	
H	Fire Department(s) Usage	225,305	
I	Flushing	2,027,916	
J	Tank Cleaning/Filling	72,000	
K	Street Cleaning	50,300	
L	Bulk Sales	0	
M	Water Bill Adjustments/plus(minus)	4,297,219	
N	Total Accounted for Water		859,665,740
	(Sum Lines F thru M)		
O	Unaccounted for Water		1,079,860,860
	(Line D minus Line N)		
P	Percent Unaccounted for Water		55.677%
	(Line O divided by Line D times 100)		
Q	Other (explain)	See Below	

Explain Other:

Missing a large part of Fire Departments usage, and limited meters at other facilities. Flushing also includes flushing for repairs and new lines. Street Cleaning includes cleaning of sidewalks, etc.

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.

See Independent Auditors' Report.



200 DEPOT STREET
P.O. BOX 449
LENOIR CITY, TENNESSEE 37771
TELEPHONE (865) 986-6591
WWW.LCUB.COM

April 5, 2013

Joyce Welborn
James K. Polk Office Building
505 Deaderick Street, Suite 1500
Nashville, Tennessee 37423-1402

Re: Water Loss

Dear Ms. Wellborn:

Lenoir City Utilities Board (LCUB) appreciates the Utility Management Review Boards assistance with our lack of compliance in water loss. The Board, thru Ms. Welborn, has requested information from LCUB. We feel the information contained herein will satisfy the request.

The Board requested a copy of the LCUB Leak Detection Program. We have confidence the written program provided will illustrate the gravity we place on the situation. LCUB is a utility with a customer base of 8,500 water, 4,800 wastewater and 5,000 gas customers. The departments share 13 field personnel. LCUB is preparing purposing to place one individual to perform full time leak detection activities. LCUB researched the idea of using a contracted service for leak detection but found the expense prohibitive. Further, LCUB intends to make a large capital expenditure for the leak detection equipment.

Another request of the Board was for unwritten policies to be placed in writing. This request was made because LCUB answered question number eight (8) of the Initial Check List for Addressing Water Loss as follows:

We do not at this time have written policies for our water use. We do however have an unwritten policy that we don't make water adjustments unless the use was a result of a problem with the utilities meter or appurtenances. All levels of staff know the policy and adhere to it.

After research, we have found that in 1997 Lenoir City's Council voted in a Municipal Code that contains Title 18 WATER and SEWERS. While that Code does not specifically address the water adjustments for leaks, another document dated March 20, 2006, does contain the following:

Joyce Welborn
Page 2
April 5, 2013

Lenoir City Utilities Board does not make adjustments on water bills unless the registered usage is the result of a leak on the utilities assets.

LCUB is now in the process of incorporating all the policies into a single document and updating the policies that relate to water on the LCUB Water System. We feel we have demonstrated how important this issue is to LCUB and that we will strive to reach compliance in the very near future.

Thank you for your time and attention to this matter.

Sincerely,



M. Shamon Littleton
General Manager

MSL:gv



LEAK DETECTION PROGRAM

2013

Adopted 03/25/13

Section 1 – Declaration of Purpose and Intent

Lenoir City Utilities Board (LCUB) is a municipal utility of approximately 8,500 customers with approximately 9,300 service connections. LCUB understands the fundamental need to make efficient use of the limited and valuable water resource under its stewardship. In order to provide an adequate supply of water at the necessary pressures to allow our customers to live and do business in our service territory we must protect the integrity of our distribution system. This document establishes a plan and procedure for finding, evaluating and repairing water leaks.

Section 2 – Definition of Terms

For the purposes of this plan, the following definitions will apply:

Customer: Any person, company, or organization using finished water owned or supplied by LCUB.

Leak: The escape of water from a pipe or fitting.

Main: A pipe of sufficient diameter to allow the transfer of large quantities of water from one place to another.

Service: A pipe or tubing of small diameter to purvey water from a main to a meter and meter to house.

Tap: Opening in the water main allowing water to be passed into the service line.

Water Distribution System: The network of water mains and related appurtenances.

Section 3 – Leak Detection

3.1 Introduction

To ensure that LCUB adequately manages its water system an organized plan is necessary for system operation and reliability, proper communications, effective coordination, and the ultimate allocation of personnel. Prior planning will help make sure the limited assets are used for the best outcome for LCUB.

3.2 Designation of a Leak Investigation Representative

Administering a leak detection program requires a particular skill set. The individual LCUB assigns to the program will be a serviceman who is familiar with the water system, has experience in locating utility infrastructure and possess the aptitude to learn and use the equipment needed to perform leak investigations.

3.3 Description of Water Distribution System

LCUB currently serves approximately 8,500 water customers, of which 3,100 are located within the City of Lenoir City which is a grid system and approximately 5,300 are located outside the city in a tree type system. The mean sea level elevations (MSL) range from a low of 760 feet MSL on Watts Bar Lake to a high of 1,100 feet MSL on Chestnut Ridge. The water system consists of two water intakes one on the Tennessee River and one at Allen Fine Spring. There are two water plants one at Nelson Street and one at Muddy Creek Road. There are seven water storage tanks at six sites with overflow elevations ranging from 1037 to 1220, and two metered connections from First Utility District (FUD) originating from a tank elevation of 1234. During normal operation there are five pressure zones.

3.4 Pressure Zone Analysis

To make wiser decisions concerning use of time and assets the system will be temporarily divided into smaller zones. Houses will then be counted in each zone to determine the anticipated late night demand for each zone. Watching tank levels drop with the system in a static state should help us ascertain where we need to look for leaks first. This will allow us to make better decisions on how to use our resources.

3.5 Sound Logging

The primary focus of the investigations will be achieved thru the use of sound loggers. The loggers will be deployed in the water system in such a way as to concentrate in small areas. Loggers will be placed on main line valves, fire hydrants valves and in some instances meter valves on long side services. The information gleaned will then be used to determine if there are leaks present and where is the most likely area to perform a more comprehensive investigation.

3.6 Ground Microphone

The next phase of the leak investigation will be performed with a ground microphone. By systematically listening to the area where logging has identified the possibility of a leak an area of manageable size will be identified for excavation.

3.7 Records

A record will be kept of all areas surveyed. A not to scale drawing will be made of all areas where additional investigations are made with a ground microphone. Leaks will be graded on a scale of one to ten with one being the smallest and ten being the largest leaks. This grading will be done as objectively as possible using the equipment readings. If interference sounds are heard a note will be made delineating the suspected cause. Any additional use of technology to identify and map existing and repaired leak will also be

used when available.

3.8 Reporting

Every leak on LCUB lines will have an LCUB leak report generated. These reports will be given to the water department engineering office daily. The leak report will have a not to scale print of the leaking area with the approximate locations of mains, valves, hydrants, taps and meters noted. The small leaks will be passed to the General Foreman to be placed in a queue for repair. If a leak is graded as significant, above five, the General Foreman will be notified and the leak will be repaired that day. Leaks found on customer's service lines will be notated and the customer will be notified in person or their door will be tagged. A courtesy phone call will also be attempted if LCUB has proper contact information.

Section 4 - Effective Date and References

- 4.1** The effective date for this document shall be March 25, 2013 and made an official policy of the LCUB Board.

LAWRENCE C. KEEBLE
Mayor
(423) 727-7928

Aldermen
BUD CROSSWHITE
BOB MORRISON
KENNY ICENHOUR
JERRY JORDAN

SHEILA SHAW
City Recorder

BOB ELLER
Public Works Director



MAR 27 2013

210 SOUTH CHURCH STREET
MOUNTAIN CITY, TENNESSEE 37683
TELEPHONE (423) 727-8005 • FAX (423) 727-2925

ANDY GARLAND
Water Plants Manager

JERRY HORNE
Collection-Distribution
Superintendent

FLO BELLAMY
Parks & Recreation
Director

DENVER CHURCH
Chief of Police

GARY STOUT
Fire Chief

DANNY SIMS
Wastewater Plant
Manager

**SUMMARY & PLAN OF ACTION
TO REDUCE THE PERCENTAGE OF WATER LOSS
FOR THE TOWN OF MOUNTAIN CITY**

SUMMARY: The Town of Mountain City operates a distribution system in Johnson County of some 250 miles of water transmission lines which consists of various sizes and materials which could be approximately up to 100 years old. In 1981 the Town of Mountain City took over the operation of the Pleasant Valley Utility district which was in very poor condition financially as well as the day to day operations. The system as of today has 10 storage reservoirs, 13 PRV stations, 12 booster stations and 3 water plants with a design capacity of 4.0 MGD. Over the past 20+ years the Town of Mountain City has obtained approximately six million dollars in grants and loans for the upgrade and replacement of lines, tanks, plants, PRV stations and water booster stations. Even with all these investments and improvements the water loss from time to time exceeds the 35% set by the comptroller's office that we must operate our system under.

Our plan of action is to reduce the percentage of water loss as follows:

1. To obtain funding for an automated meter reading system with 100% meter replacement. This was accomplished in 2012.
2. The installation of meters on tank overflows as needed. This was completed in 2012 by city crew.
3. Work a constant leak detection program. We now utilize 4 to 5 employees approximately 60% of the time.
4. Repair all leaks located. This is done daily.
5. Have the 3 water plants flow meters calibrated annually. This is now done annually.
6. Have all the 2" and larger meters in the distribution system tested and calibrated every 3 years. These were replaced in 2012-2013.
7. We have purchased and are installing flow meters to divide our system in 8 parts to compare pumping to sales, to be able to work a more constant leak detection program.
8. To obtain funding for more line replacement.

Jerry Horne, Superintendent Collection – Distribution
Town of Mountain City
March 22, 2013

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.2

[Back to Instructions](#)

[Click to access definition](#)

Water Audit Report for: **Town of Mountain City**
 Reporting Year: **2012** | 1/2012 - 12/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED << Enter grading in column 'E'

Volume from own sources:	?	8	554.078	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	?	8	0.005	under-registered MG/Yr
Water imported:	?	n/a	0.000	MG/Yr
Water exported:	?	8	9.075	MG/Yr
WATER SUPPLIED:			545.008	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	?	8	316.410	MG/Yr
Billed unmetered:	?	8	0.000	MG/Yr
Unbilled metered:	?	6	0.700	MG/Yr
Unbilled unmetered:	?		6.813	MG/Yr
AUTHORIZED CONSUMPTION:	?		323.923	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Pcnt: 1.25% Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) 221.085 MG/Yr

Apparent Losses

Unauthorized consumption:	?		1.363	MG/Yr
Customer metering inaccuracies:	?	6	1.594	MG/Yr
Systematic data handling errors:	?	4	0.100	MG/Yr
Apparent Losses:	?		3.056	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Pcnt: 0.25% Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		218.029	MG/Yr
WATER LOSSES:			221.085	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		228.598	MG/Yr
---------------------------	---	--	---------	-------

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	5	250.0	miles
Number of active AND inactive service connections:	?	4	3,800	
Connection density:			15	conn./mile main
Average length of customer service line:	?	4	50.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	2	120.0	psi

COST DATA

Total annual cost of operating water system:	?	8	\$1,974,044	\$/Year
Customer retail unit cost (applied to Apparent Losses):	?	7	\$4.80	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	?	7	\$1,000.00	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	41.9%
Non-revenue water as percent by cost of operating system:	12.2%
Annual cost of Apparent Losses:	\$14,669
Annual cost of Real Losses:	\$218,029

Operational Efficiency Indicators

Apparent Losses per service connection per day:	2.20	gallons/connection/day
Real Losses per service connection per day*:	N/A	gallons/connection/day
Real Losses per length of main per day*:	2,389.36	gallons/mile/day
Real Losses per service connection per day per psi pressure:		gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	96.03	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	218.03	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.27	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 70 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Unbilled metered
- 3: Customer metering inaccuracies

[For more information, click here to see the Grading Matrix worksheet](#)

Spencer Utility Dept.

P.O. BOX 187 • SPENCER, TENNESSEE 38585
931-946-2351 • FAX 931-946-2349



March 7, 2013

Water and Wastewater Financing Board
James K. Polk Office Building
505 Deadrick Street, Suite 1600
Nashville, TN 37243-1402

MAR 12 2013

Dear Board

For an update of our current water loss situation I have enclosed a copy of our leak survey report dated October 2012 and the water use difference that our system has began to experience. I have enclosed the last three months of water usage and the same months from the previous year's audit to show the difference in usage.

We have finally finished our CDBG project which was all emphasized on leak detection and loss. This project consisted of installing four in-line flow meters, a full system leak survey, two main line replacements, and multiple service line replacements. As shown on our water loss reports these steps have made a considerable difference in our water loss from last year. Also TDOT has finished up with their Hwy 111 project which included a large utility relocation project for the Utility Department. The TDOT project caused multiple existing line damage for us and in itself caused a lot of water loss.

The next years full AWWA water Audit will show the full benefits of our CDBG project. With the in-line flow meters in place we will be able to detect changes in our systems flow almost immediately and be able to more promptly take care of future problems. At any time you may contact me about any questions that you have.

Sincerely

A handwritten signature in cursive script that reads "Jason Hale".

Jason Hale
Utility Superintendent

SPENCER UTILITY DEPARTMENT
 Schedule of Unaccounted For Water

Dec 2012

(All amounts in gallons)

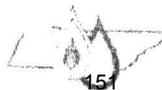
A Water Treated and Purchased		
B Water Pumped (potable)	<u>11,234,100</u>	
C Water Purchased		
D Total Water Treated and Purchased		<u>11,234,100</u>
(Sum Lines B and C)		
E Accounted for Water:		
F Water Sold	<u>7,226,100</u>	5,525,400
G Metered for Consumption (in house usage)		
H Fire Department(s) Usage		
I Flushing	<u>129,450</u>	
J Tank Cleaning/Filling		
K Street Cleaning		
L Bulk Sales		
M Water Bill Adjustments		
N Total Accounted for Water		<u>7,355,550</u>
(Sum Lines F thru M)		
O Unaccounted for Water		<u>3,878,550</u>
(Line D minus Line N)		
P Percent Unaccounted for Water		<u>34.5%</u>
(Line O divided by Line D times 100)		

Q Other (explain)

See Below

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



14,615,700

SPENCER UTILITY DEPARTMENT
Schedule of Unaccounted For Water

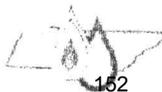
Jan 2013

(All amounts in gallons)

A	Water Treated and Purchased		
B	Water Pumped (potable)	<u>10,816,000</u>	
C	Water Purchased		
D	Total Water Treated and Purchased		<u>10,816,000</u>
	(Sum Lines B and C)		
E	Accounted for Water:		
F	Water Sold	<u>5,600,700</u>	
G	Metered for Consumption (in house usage)		<u>5,761,700</u>
H	Fire Department(s) Usage		
I	Flushing	<u>917,900</u>	
J	Tank Cleaning/Filling		
K	Street Cleaning		
L	Bulk Sales		
M	Water Bill Adjustments		
N	Total Accounted for Water		<u>6,518,600</u>
	(Sum Lines F thru M)		
O	Unaccounted for Water		<u>4,297,400</u>
	(Line D minus Line N)		
P	Percent Unaccounted for Water		<u>39.7%</u>
	(Line O divided by Line D times 100)		
Q	Other (explain)	See Below	

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



13,334,200

SPENCER UTILITY DEPARTMENT
Schedule of Unaccounted For Water

Feb 2013

(All amounts in gallons)

A Water Treated and Purchased

B Water Pumped (potable)

11,197,700

C Water Purchased

0

D Total Water Treated and Purchased
(Sum Lines B and C)

11,197,700

E Accounted for Water:

F Water Sold

6,540,500

5798,900

G Metered for Consumption (in house usage)

H Fire Department(s) Usage

I Flushing

9,000

J Tank Cleaning/Filling

K Street Cleaning

L Bulk Sales

M Water Bill Adjustments

N Total Accounted for Water
(Sum Lines F thru M)

6,549,500

O Unaccounted for Water
(Line D minus Line N)

4,648,200

P Percent Unaccounted for Water
(Line O divided by Line D times 100)

41.5%

Q Other (explain)

See Below

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



SPENCER UTILITY DEPARTMENT
 Schedule of Unaccounted For Water
 December 2011

(All amounts in gallons)

A Water Treated and Purchased		
B Water Pumped (potable)	12,780,400	
C Water Purchased	<u>0</u>	
D Total Water Treated and Purchased		<u>12,780,400</u>
(Sum Lines B and C)		
E Accounted for Water:		
F Water Sold	5,525,400	
G Metered for Consumption (in house usage)	<u>0</u>	
H Fire Department(s) Usage	<u>0</u>	
I Flushing	<u>236,500</u>	
J Tank Cleaning/Filling	<u>0</u>	
K Street Cleaning	<u>0</u>	
L Bulk Sales	<u>9,000</u>	
M Water Bill Adjustments	<u>0</u>	
N Total Accounted for Water		<u>5,770,900</u>
(Sum Lines F thru M)		
O Unaccounted for Water		<u>7,009,500</u>
(Line D minus Line N)		
P Percent Unaccounted for Water		<u>54.846%</u>
(Line O divided by Line D times 100)		

Q Other (explain)

See Below

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



SPENCER UTILITY DEPARTMENT

Schedule of Unaccounted For Water

January ~~2011~~ ~~2011~~ 2012

(All amounts in gallons)

A Water Treated and Purchased		
B	Water Pumped (potable)	14,615,700
C	Water Purchased	<u>0</u>
D	Total Water Treated and Purchased	<u>14,615,700</u>
	(Sum Lines B and C)	
E Accounted for Water:		
F	Water Sold	5,761,700
G	Metered for Consumption (in house usage)	<u>0</u>
H	Fire Department(s) Usage	<u>0</u>
I	Flushing	<u>1,001,000</u>
J	Tank Cleaning/Filling	<u>0</u>
K	Street Cleaning	<u>0</u>
L	Bulk Sales	<u>0</u>
M	Water Bill Adjustments	<u>0</u>
N	Total Accounted for Water	<u>6,762,700</u>
	(Sum Lines F thru M)	
O	Unaccounted for Water	<u>7,853,000</u>
	(Line D minus Line N)	
P	Percent Unaccounted for Water	<u>53.730%</u>
	(Line O divided by Line D times 100)	

Q Other (explain)

See Below

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



SPENCER UTILITY DEPARTMENT
 Schedule of Unaccounted For Water
 February 2012

(All amounts in gallons)

A Water Treated and Purchased		
B Water Pumped (potable)	13,334,200	
C Water Purchased	<u>0</u>	
D Total Water Treated and Purchased	<u>13,334,200</u>	
	(Sum Lines B and C)	<u>13,334,200</u>
E Accounted for Water:		
F Water Sold	5,798,900	
G Metered for Consumption (in house usage)	<u>0</u>	
H Fire Department(s) Usage	<u>0</u>	
I Flushing	<u>8,000</u>	
J Tank Cleaning/Filling	<u>0</u>	
K Street Cleaning	<u>0</u>	
L Bulk Sales	<u>0</u>	
M Water Bill Adjustments	<u>0</u>	
N Total Accounted for Water	<u>5,806,900</u>	
	(Sum Lines F thru M)	
O Unaccounted for Water		<u>7,527,300</u>
	(Line D minus Line N)	
P Percent Unaccounted for Water		<u>56.451%</u>
	(Line O divided by Line D times 100)	

Q Other (explain)

See Below

Explain Other:

All amounts included in this schedule are supported by documentation on file at the water system. If no support is on file for a line item or if line item is not applicable, a "0" is shown.



AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS 442

Click to access definition

Water Audit Report for: **City of Spencer**

Reporting Year: **2012** / 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Master meter error: Million gallons (US)/yr (MG/Yr)

Water imported: MG/Yr

Water exported: MG/Yr

AUTHORIZED CONSUMPTION

Billed unmetered: MG/Yr

Unbilled metered: MG/Yr

Unbilled unmetered: MG/Yr

Click here: for help using option buttons below

Pcnt: Value:

AUTHORIZED CONSUMPTION: MG/Yr

Use buttons to select percentage of water supplied

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Pcnt: Value:

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: MG/Yr

Systematic data handling errors: MG/Yr

Pcnt: Value:

Systematic data handling errors are likely, please enter a non-zero value; otherwise grade = 5

Apparent Losses:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/Yr

WATER LOSSES: MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: miles

Number of active AND inactive service connections:

Connection density: conn./mile main

Average length of customer service line: ft (pipe length between curbstop and customer meter or property boundary)

Average operating pressure: psi

COST DATA

Total annual cost of operating water system: \$/Year

Customer retail unit cost (applied to Apparent Losses): \$/1000 gallons (US)

Variable production cost (applied to Real Losses): \$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:

Non-revenue water as percent by cost of operating system:

Annual cost of Apparent Losses:

Annual cost of Real Losses:

Operational Efficiency Indicators

Apparent Losses per service connection per day: gallons/connection/day

Real Losses per service connection per day*: gallons/connection/day

Real Losses per length of main per day*: gallons/mile/day

Real Losses per service connection per day per psi pressure: gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL): million gallons/year

From Above, Real Losses = Current Annual Real Losses (CARL): million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

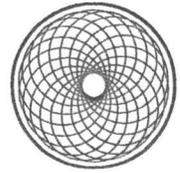
*** YOUR SCORE IS: 76 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Unauthorized consumption



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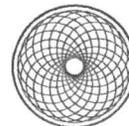
2012 Leak Survey Report

Observations and Recommendations.

Prepared for: Jason Hale, Manager and the board of the **City of Spencer-Water Dept.**

Prepared by: Joe Richards, Owner Richards LMC

October 8, 2012



Richards Leak Management
Consultants

System Overview / Water Loss

Overview

Richards LMC has finished conducting a leak survey on the of the distribution system of roughly one hundred thirty plus (130+) miles of main. Over a month period, I located approximately seventeen (17) leaks for repair.

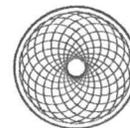
This amounted to a considerable amount of recovered water loss. It is very difficult to determine the amount of water recovered but it would be estimated between 49 to 70 GPM. Once again, the important point is, at present, you are producing and pumping less water now, than before I came. But, most important, you are not having to pay for the water, that you gain no revenue on.

This was the first time I conducted a leak survey for the City of Spencer. It was conducted in part due to a grant administered by J.C. Hailey company on behalf of the City of Spencer. Jason Hale, manager of the water sytem, estimated, on average, they lose roughly 50,000 gallons per day (or 34.7 gpm). That is not a lot of water loss but could be, depending on costs of producing and transporting water to your customers.

As board members, I ask you the question; Do you know where your mains (piping) are located?

Some of your lines lay as much as 100 feet off the road. In areas of rock, across corn fields, pastures, and thick brush and small trees. Areas where it all but impossible to locate small leaks. Luckily, approximately 70% of your water lines are within 6-8 feet of the roadbed making it economical to conduct leak surveys with desirable results.

One of the factors attributing to your water loss, may be small gasket leaks, on the joints of your piping. They may leak more when you are pumping, contributing to your loss. There is nothing you can do, which is



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economically feasible, about this matter. It is an inherited problem that will be with you always. With luck, in the future, they may develop into a leak which surfaces, enabling a repair. Most of your main leaks are of short duration and surface relatively fast, which is probably due to lines that are buried rather shallow.

Goals

To continue to reduce your water losses as much as economically feasible.

This goal, which would be in the range of 20% is achievable, but below that, would not appear to be within your limited resources.

Present Circumstances

I believe, that achieving a desirable percentage of water loss is conceivable but tempered by economical factors. Does it pay to invest \$50,000, to find unaccounted for water loss, that is only costing you \$45,000 a year.

Solution

Continue an annual leak survey anytime your water loss exceeds 35% or higher. Remain diligent in hunting and locating leaks throughout the year. **Which I believe, your employees are doing with determination and effort.**

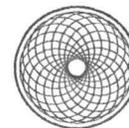
Main breaks/service taps

Presently

You have quite a few main breaks throughout the year. **But most of your breaks on mains surface, most of the time, fairly quick.** You are replacing deficient service lines as you find them. No need for wholesale replacement. The battle to keep your water loss at a level you can live with is an ongoing battle with no quick fix. Inherited problems are not going to be rectified anytime, in the near future.

Supply

You transport raw water from your source to your plant and have a sufficient and stable supply for your needs. Most of your costs are due, to the power you purchase, to pump water to where it is needed. Related costs (chemicals, salaries, etc.) to producing a K (1000 gallons of potable water) is not known and attributes to overall costs.



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Flow monitoring

You have certain areas of your distribution system that may benefit from flow monitoring. Creating zones which establish flows into that area could give you an insight as to losses into that zone. This could be done on a limited basis.

Permanent monitors into areas or temporary ports, to attach insertable monitors. **I believe Jason mentioned that a permanent monitor on Hwy 111 to Sparta is in the process of being implemented.** This would improve realtime flow data into that area exponentially, enabling you to discern major leaks rather quickly before they generate considerable water loss.

Blow-offs

Your blow-offs are in very fine shape and the continuity of them make your flushing program much more efficient.

Meters

Some of your meters may not be registering low flows accurately. But, at this time, I wouldn't look into installing a AMR (automatic meter reading) system. Until your water loss is stabilized and the cost to benefit ratio becomes more attainable.

Your team

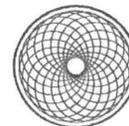
The water and sewer Dept. work hard at supplying the needs of your community. It does no good to place blame on them or yourselves about present problems regarding water loss or other factors running the system. They, along with yourselves, have inherited a lot of decisions that have contributed to where you are today. It does no good to dwell on it, but look for solutions, that you can implement and are achievable.

Cost of Survey/Justification

The cost of the survey was \$130 per mile of main for a total of 130 miles or \$16,900.00.

Discount taken was \$18,200.00. (Based on \$270 per mile of main.)

* As to value: I believe my closest competitor bid somewhere around \$220 per mile of main (on a system with over 400 miles of main) for one of my clients, close to you. But the last time they placed a bid, with a utility about your size, it was in the range of \$70,000.



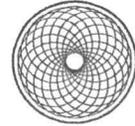
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As you can see the rebate/ discount Richards LMC awards are of considerable monetary value. The added value of my 27 years of experience in the field of leak management is difficult to set a price to.

Richards LMC has given back over, an estimated, one and half million dollars in direct rebates since it's inception. Not including the money saved reducing the amount of water produced or purchased. We will continue this program while it is economically feasible.

Recommendations/Opinions

- 1. I would recommend placing flow monitors on your system converting it into three sectors monitored separately, if feasible.**
- 2. Conduct a leak survey annually, if there is a need. Anytime your water loss exceeds 35%.**
- 3. Investigate the possibility of reducing pressure into some areas by using in line reducers. This would decrease the amount of water lost to leakage. A pressure study would highlight areas this could be implemented**
- 4. Meters are your revenue stream. I observed approximately ten meters that appeared to not register low flows or considerably less than they should. I always say you get what you pay for. Which is why I recommend, either Neptune or Badger meters, to most of my clients.**
- 5. Have meter readers increase vigilance when reading meters. It is will help pick up small leaks that become bigger, enabling you to repair them, in a timely manner, before they get bigger.**
- 6. If you have not already raised your rates; do so. Water/Sewer is a commodity that is a necessity for life, not a luxury. But the costs of bringing it to the tap is getting more expensive every year along with treating the waste. People have**



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to get used to this fact. They have no problem with a \$100 plus cable or cell phone bill but complain about their water bill. The days of cheap water are over.

7. Your water tank near Fall Creak Falls Park area has no security surrounding it and I was informed of an ongoing legal matter, with the owner. I suggested to your City Recorder that it is in severe violation, of Homeland Security Directives, concerning securing public drinking water facilities; in effect, subject to serious fines.

Conclusion

I have been in the Leak Management business for over 27 years. I have worked on rehabilitating large metropolitan gas and water systems. I have trained countless people in this field over my career, have been a Casual Factor Investigator for major insurance firms, and have made many recommendations on operations for a large amount of utilities similar to yours. But one thing I know is that a limited number of individuals have what it takes to become a leak man. Most importantly, leak management is an everyday job. **There is no quick fix. Your employees have enough to deal with daily to be badgered about this aspect of your operations.**

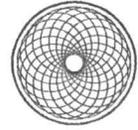
You as board members and your employees have been dealt a hand that you have to play. Decisions over the years have piled up to lead you to where you are today. Your lucky, to have employees who truly care about their system. But you have to give them the support and praise they deserve. **Because the job they and you do is hard.**

I really enjoy working for small utilities helping them solve a small part of their everyday problems. It has been a pleasure working for the City of Spencer. I want to thank Jason and the whole crew for their energetic assistance during my time with them. I especially want to thank Layton for squiring me around the whole time I was there; with enthusiasm and general congeniality. It was a pleasure working for the City of Spencer and their community.

With regards,

Joe Richards

Richards Leak Management Consultants



Richards Leak Management
Consultants

Compliance - July 2013

TOWN OF BAILEYTON, TENNESSEE
STATEMENT OF REVENUES, EXPENSES, & CHANGES IN FUND NET ASSETS
PROPRIETARY FUND
June 30, 2012

	<u>Sewer Fund</u>
Operating Revenue	
Sewer Charges (net of \$0 bad debts)	\$ 247,056
Sewer Tap Fees	-
Miscellaneous	-
Connection Fees	1,075
Total Operating Revenue	<u>248,131</u>
Operating Expenses	
Salaries	64,720
Employee Benefits	8,789
Legal/Engineering Fees	8,591
Water	5,565
Electricity	32,457
Repairs & Maintenance	49,690
Operating Supplies	979
Depreciation	84,336
Auto Expense	4,990
Data Processing	3,000
Contract Services	-
Telephone	816
Office Expense	100
Miscellaneous	1,786
Total Operating Expense	<u>265,819</u>
Income (Loss) from Operations	<u>(17,688)</u>
Non-operating Revenue (Expense)	
Interest Income	228
Gain on Sale of Equipment	-
Capital Grants	323,500
Interest Expense	(19,143)
Total Non-operating Revenue (Expense)	<u>304,585</u>
Change in Net Assets	<u>286,897</u>
NET ASSETS - BEGINNING	<u>1,782,725</u>
NET ASSETS - ENDING	<u><u>\$ 2,069,622</u></u>

The accompanying notes to financial statements are an integral part of this statement.

Compliance July
2013

CITY OF DRESDEN, TENNESSEE
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND NET ASSETS
WATER AND SEWER FUND
For the Year Ended June 30, 2012

Operating revenues	
Metered water sales	\$ 314,220
Sewer use fees	361,743
Installation charges	19,668
Forfeited discounts	20,461
Other revenue	3,534
Total revenues	<u>719,626</u>
Operating expenses	
Salaries and wages	169,037
Utilities and telephone	93,782
Repair and maintenance	77,354
Payroll taxes	12,008
Insurance	77,960
Retirement	18,770
Professional fees	4,225
Supplies	2,952
Dues and subscriptions	9,416
Gasoline and oil	13,862
Office expense	5,681
Depreciation and amortization	181,420
Chemicals	28,798
Miscellaneous	1,638
Total operating expenses	<u>696,903</u>
Operating income (loss)	22,723
Non-operating revenues (expenses)	
Interest income	5,143
Interest expense	(23,923)
Total non-operating revenues (expenses)	<u>(18,780)</u>
Change in net assets	3,943
Net assets - July 1, 2011	<u>4,016,428</u>
Net assets - June 30, 2012	<u>\$ 4,020,371</u>

The accompanying notes are an integral part of these financial statements.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

[Back to Instructions](#)

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WAS 34.2

[Click to access definition](#)

Water Audit Report for: **CITY OF BRIDGEVIEW**
Reporting Year: **2012** **7/30/11 - 6/30/13**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: **MILLION GALLONS (US) PER YEAR**

WATER SUPPLIED << Enter grading in column 'E'

Volume from own sources:	?	?	175.901	Million gallons (US)/yr (MG/yr)
Master meter error adjustment (enter positive value):	?	?	1.500	under-registered MG/yr
Water imported:	?	N/A	0.000	MG/yr
Water exported:	?	N/A	0.000	MG/yr
WATER SUPPLIED:			178.401	MG/yr

AUTHORIZED CONSUMPTION

Billed metered:	?	?	102.216	MG/yr
Billed unmetered:	?	N/A	0.000	MG/yr
Unbilled metered:	?	?	4.583	MG/yr
Unbilled unmetered:	?	?	2.230	MG/yr
AUTHORIZED CONSUMPTION:			109.029	MG/yr

Default option selected for Unbilled unmetered - a grading of 3 is applied but not displayed

Click here: [for help using option buttons below](#)

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) 69.372 MG/yr

Apparent Losses

Unauthorized consumption:	?	?	0.446	MG/yr
Customer metering inaccuracies:	?	?	5.621	MG/yr
Systematic data handling errors:	?	?	0.096	MG/yr
Apparent Losses:			6.163	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?	?	63.209	MG/yr
WATER LOSSES:			69.372	MG/yr

NON-REVENUE WATER

NON-REVENUE WATER:	?	?	76.185	MG/yr
--------------------	---	---	--------	-------

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	?	47.0	miles
Number of active AND inactive service connections:	?	?	1,543	
Connection density:	?	?	33	conn./mile main
Average length of customer service line:	?	?	0.0	ft (pipe length between curbstop and customer water or property boundary)
Average operating pressure:	?	?	47.0	psi

COST DATA

Total annual cost of operating water system:	?	?	\$482,030	\$/year
Customer retail unit cost (applied to Apparent Losses):	?	?	\$3.07	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	?	?	\$324.84	\$/million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	42.7%
Non-revenue water as percent by cost of operating system:	8.6%
Annual cost of Apparent Losses:	\$18,920
Annual cost of Real Losses:	\$20,333

Operational Efficiency Indicators

Apparent Losses per service connection per day:	10.93	gallons/connection/day
Real Losses per service connection per day*:	112.09	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	2.38	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	8.34	million gallons/year
From Above, Real Losses - Current Annual Real Losses (CARL):	63.21	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	7.58	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 71 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Master meter error adjustment
- 3: Billed metered

For more information, click here to see the Grading Matrix worksheet

*Compliance
July 2013*

CITY OF ETOWAH, TENNESSEE
Proprietary Funds
Statement of Revenues, Expenses and Changes in Net Assets
Year Ended June 30, 2012

	Electric Department	Gas Department	Water Department	Sewer Department	Total
Operating revenues:					
Sales of electrical power:					
Residential sales	\$ 6,280,366	\$ -	\$ -	\$ -	\$ 6,280,366
Small lighting and power	1,058,998	-	-	-	1,058,998
Large lighting and power	9,835,411	-	-	-	9,835,411
Outdoor lighting	97,639	-	-	-	97,639
Street and athletic lighting	184,102	-	-	-	184,102
Sales of gas, water and sewer service charges:					
Residential sales	-	541,868	1,287,759	312,074	2,141,701
Commercial and industrial	-	1,005,134	1,146,952	469,758	2,621,844
Interruptible	-	302,574	-	-	302,574
Other	709,282	4,431,507	83,070	79,353	5,303,212
Grants	-	-	232,984	463,060	696,044
Total operating revenues	<u>18,165,798</u>	<u>6,281,083</u>	<u>2,750,765</u>	<u>1,324,245</u>	<u>28,521,891</u>
Operating expenses:					
Purchased power	14,654,140	-	-	-	14,654,140
Purchased gas	-	4,927,723	-	-	4,927,723
Distribution and collection	224,905	125,130	651,782	366,474	1,368,291
Customer accounts	219,152	36,170	105,792	17,083	378,197
Administration and general	995,089	572,180	425,298	165,158	2,157,725
Maintenance	633,960	248,160	230,050	123,246	1,235,416
Depreciation	561,758	151,051	734,783	110,229	1,557,821
Amortization	1,238	7,845	38,411	4,385	51,879
Total operating expenses	<u>17,290,242</u>	<u>6,068,259</u>	<u>2,186,116</u>	<u>786,575</u>	<u>26,331,192</u>
Operating income	<u>875,556</u>	<u>212,824</u>	<u>564,649</u>	<u>537,670</u>	<u>2,190,699</u>
Non-operating revenues (expenses):					
Interest income	8,794	2,729	923	1,027	13,473
Interest expense	(62,405)	(76,676)	(532,719)	(23,250)	(695,050)
Total non-operating expenses	<u>(53,611)</u>	<u>(73,947)</u>	<u>(531,796)</u>	<u>(22,223)</u>	<u>(681,577)</u>
Transfers					
Taxes and tax equivalents (out)	(318,818)	(100,530)	-	-	(419,348)
Capital contributions:					
Customers	-	3,029	7,800	3,125	13,954
Change in net position	503,127	41,376	40,653	518,572	1,103,728
Net position at the beginning of the year	<u>7,709,105</u>	<u>7,544,384</u>	<u>9,031,639</u>	<u>4,698,739</u>	<u>28,983,867</u>
Net position at the end of the year	<u>\$ 8,212,232</u>	<u>\$ 7,585,760</u>	<u>\$ 9,072,292</u>	<u>\$ 5,217,311</u>	<u>\$ 30,087,595</u>

See notes to financial statements.

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Compliance
July 2013

CITY OF MCEWEN, TENNESSEE

Statement of Revenues, Expenses and Changes in Net Assets

Proprietary Fund

For the Year Ended June 30, 2012

Operating Revenues:	
Customer charges	\$ 528,826
Tap fees	4,550
Fire hydrant rental	18,900
Other	25,182
Total Operating Revenues	<u>577,458</u>
Operating Expenses:	
Salaries	135,046
Employee benefits	82,170
Materials and supplies	55,425
Utilities	113,379
Insurance	12,343
Repair and maintenance	3,933
Fuel	15,328
State testing	20,738
Depreciation	110,349
Other	24,979
Total Operating Expenses	<u>573,690</u>
Operating Income (loss)	<u>3,768</u>
Nonoperating Revenues (Expenses):	
Interest income	356
Interest expense	(20,909)
Nonoperating Revenues (Expenses), Net	<u>(20,553)</u>
Net Loss before Contributions	(16,785)
Contributions:	
Capital grant revenue	<u>137,517</u>
Total Contributions	<u>137,517</u>
Net Change	120,732
Net Assets, Beginning of Year	<u>2,732,065</u>
Net Assets, End of Year	\$ <u><u>2,852,797</u></u>

See accompanying notes to financial statements.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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Water Audit Report for: **MCEWEN WATERWORKS**

Reporting Year: **2012** | **7/2011 - 6/2012**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: **MILLION GALLONS (US) PER YEAR**

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	9	116.377	Million gallons (US)/yr. (MG/Yr)
Master meter error adjustment (enter positive value):	?	7	1.164	under-registered MG/Yr
Water imported:	?	n/a	0.000	MG/Yr
Water exported:	?	n/a	0.000	MG/Yr
WATER SUPPLIED:			117.541	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	?	7	64.541	MG/Yr
Billed unmetered:	?	n/a	0.000	MG/Yr
Unbilled metered:	?	7	3.844	MG/Yr
Unbilled unmetered:	?		1.469	MG/Yr
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed				
AUTHORIZED CONSUMPTION:	?		69.854	MG/Yr

Click here: [?](#) for help using option buttons below

Pcnt: 1.25% Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

47.687 MG/Yr

Apparent Losses

Unauthorized consumption:	?		0.294	MG/Yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed				
Customer metering inaccuracies:	?	7	5.147	MG/Yr
Systematic data handling errors:	?	6	0.645	MG/Yr
Apparent Losses:	?		6.086	

Pcnt: 0.25% Value:

7.00% Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		41.600	MG/Yr
WATER LOSSES:			47.687	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 53.000 MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	7	31.4	miles
Number of active AND inactive service connections:	?	7	1,167	
Connection density:	?		37	conn./mile main
Average length of customer service line:	?	10	0.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	7	70.0	psi

COST DATA

Total annual cost of operating water system:	?	7	\$241,192	\$/Year
Customer retail unit cost (applied to Apparent Losses):	?	8	\$5.69	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	?	5	\$219.47	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	45.1%
Non-revenue water as percent by cost of operating system:	18.6%
Annual cost of Apparent Losses:	\$34,630
Annual cost of Real Losses:	\$9,130

Operational Efficiency Indicators

Apparent Losses per service connection per day:	14.29	gallons/connection/day
Real Losses per service connection per day*:	97.66	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	1.40	gallons/connection/day/psi

Unavoidable Annual Real Losses (UARL): Not Valid

*** UARL cannot be calculated as either average pressure, number of connections or length of mains is too small: SEE UARL DEFINITION ***

From Above, Real Losses = Current Annual Real Losses (CARL): 41.60

Infrastructure Leakage Index (ILI) (CARL/UARL):

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score.

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Variable production cost (applied to Real Losses)
- 2: Master meter error adjustment
- 3: Billed metered

For more information, click here to see the Grading Matrix worksheet

Compliance
July 2013

TOWN OF MOSCOW, TENNESSEE
STATEMENT OF REVENUES, EXPENSES, AND
CHANGES IN NET ASSETS
PROPRIETARY FUND- WATER AND SEWER
YEAR ENDED JUNE 30, 2012

OPERATING REVENUES:	
Water charges	\$ 96,636
Sewer charges	93,313
Miscellaneous	<u>13,534</u>
	<u>203,483</u>
OPERATING EXPENSES:	
Salaries and related expenses	85,001
Depreciation	65,822
Repairs and maintenance	41,500
Insurance	13,322
Utilities	11,801
Professional and technical fees	9,690
Office and miscellaneous	<u>8,888</u>
	<u>236,024</u>
Operating income (loss)	<u>(32,541)</u>
NON-OPERATING INCOME (EXPENSES):	
Interest income	68
Interest expense	<u>(10,064)</u>
	<u>(9,996)</u>
Income(loss) before contributions	(42,537)
CAPITAL CONTRIBUTIONS:	
Grants	<u>81,342</u>
CHANGE IN NET ASSETS	38,805
NET ASSETS, July 1, 2011	<u>1,141,813</u>
NET ASSETS, June 30, 2012	<u><u>\$ 1,180,618</u></u>

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See accompanying notes to financial statements.

Compliance July 2013

CITY OF MOUNT PLEASANT, TENNESSEE

Statement of Revenues, Expenses
and Changes in Net Assets

Enterprise Funds

For the Year Ended June 30, 2012

	Water and Sewer Fund	Natural Gas Fund	Sanitation Fund	Power System	Total
Operating Revenues:					
Service fees	\$2,351,897	\$2,147,524	\$356,247	\$11,409,485	\$16,265,153
Tap and connection fees	17,841	8,793	0	0	26,634
Other income	23,920	354	0	132,791	157,065
Total Operating Revenues	2,393,658	2,156,671	356,247	11,542,276	16,448,852
Operating Expenses:					
Salaries	422,713	306,647	132,515	0	861,875
Employee benefits	182,089	147,687	54,766	0	384,542
Landfill services	0	0	52,047	0	52,047
Fees	0	11,954	0	0	11,954
Utilities	190,880	19,500	4,691	0	215,071
Professional services	146,895	65,563	1,425	0	213,883
Gas purchased	0	1,278,940	0	0	1,278,940
Insurance	11,030	10,206	6,321	0	27,557
Repair and maintenance	324,477	45,634	12,217	0	382,328
Supplies	162,700	34,127	10,562	0	207,389
Rent	0	30,000	0	0	30,000
Office expense	39,011	15,337	0	0	54,348
Vehicle expense	22,122	10,761	15,644	0	48,527
Miscellaneous	6,142	1,936	752	0	8,830
Purchased power	0	0	0	8,463,714	8,463,714
Operations	0	0	0	1,500,283	1,500,283
Maintenance	0	0	0	318,537	318,537
Other operating expenses	0	0	0	735,170	735,170
Depreciation and amortization	412,148	61,321	6,804	0	480,273
Total Operating Expenses	1,920,207	2,039,613	297,744	11,017,704	15,275,268
Operating income (loss)	473,451	117,058	58,503	524,572	1,173,584
Nonoperating Revenues (Expenses):					
Interest expense	(194,817)	0	0	(17,502)	(212,319)
Interest income	1,189	5,324	0	15,144	21,657
Total Nonoperating Revenues (Expenses)	(193,628)	5,324	0	(2,358)	(190,662)
Transfer - in lieu of taxes	0	0	0	(335,835)	(335,835)
Capital contribution	396,832	0	0	0	396,832
Net change in assets	676,655	122,382	58,503	186,379	1,043,919
Net Assets, July 1, 2011	3,875,877	3,752,503	97,778	10,217,791	17,943,949
Net Assets, June 30, 2012	\$4,552,532	\$3,874,885	\$156,281	\$10,404,170	\$18,987,868

The notes accompanying the financial statements are an integral part of these financial statements.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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Water Audit Report for: **City of Mount Pleasant**
 Reporting Year: **2011** / **7/2011 - 6/2012**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades.

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED << Enter grading in column 'E'

Volume from own sources:	<input type="text" value="6"/>	<input type="text" value="364.837"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="2"/>	<input type="text" value="0.000"/>	enter: registers MG/Yr
Water imported:	<input type="text" value="10"/>	<input type="text" value="1.070"/>	MG/Yr
Water exported:	<input type="text" value="10"/>	<input type="text" value="0.000"/>	MG/Yr
WATER SUPPLIED:		365.907	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="7"/>	<input type="text" value="199.830"/>	MG/Yr
Billed unmetered:	<input type="text" value="10"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="text" value="10"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="7"/>	<input type="text" value="7.110"/>	MG/Yr
AUTHORIZED CONSUMPTION:		206.940	MG/Yr

Click here: for help using option buttons below

Pcnt: Value:

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) MG/Yr

Apparent Losses

Unauthorized consumption: MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="text" value="1"/>	<input type="text" value="10.517"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="7"/>	<input type="text" value="3.659"/>	MG/Yr
Apparent Losses:		15.091	

Pcnt: Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/Yr

WATER LOSSES: MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="4"/>	<input type="text" value="87.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="10"/>	<input type="text" value="2,900"/>	
Connection density:		<input type="text" value="33"/>	conn./mile main
AVERAGE length of customer service line:	<input type="text" value="10"/>	<input type="text" value="25.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="5"/>	<input type="text" value="85.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="10"/>	<input type="text" value="\$1,265,263"/>	\$/year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="5"/>	<input type="text" value="\$5.11"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$321.84"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="45.4%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="9.8%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$77,116"/>
Annual cost of Real Losses:	<input type="text" value="\$46,305"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="14.26"/>	gallons/connection/day
Real Losses per service connection per day:	<input type="text" value="135.92"/>	gallons/connection/day
Real Losses per length of main per day:	<input type="text" value="N/A"/>	
Real Losses per service connection per day per psi pressure:	<input type="text" value="1.60"/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="31.29"/>	million gallons/year
From Above, Real Losses - Current Annual Real Losses (CARL):	<input type="text" value="143.88"/>	million gallons/year
Infrastructure Leakage Index (ILI) (CARL/UARL):	<input type="text" value="4.60"/>	

only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 86 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Billed metered
- 2: Volume from own sources
- 3: Unauthorized consumption

For more information, click here to see the Grading Matrix worksheet

Compliance
July 2013

CITY OF PIKEVILLE, TENNESSEE
Proprietary Funds
Statement of Revenues, Expenses and Changes in Net Assets
Year Ended June 30, 2012

	Enterprise		Total
	Water and Sewer Fund	Natural Gas Fund	
OPERATING REVENUES			
Charges for services	\$ 1,061,141	\$ 620,203	\$ 1,681,344
Customer penalties	30,248	-	30,248
Connection fees	14,079	11,179	25,258
Other operating	-	2,501	2,501
Total operating revenues	<u>1,105,468</u>	<u>633,883</u>	<u>1,739,351</u>
OPERATING EXPENSES			
Purchased gas	-	279,659	279,659
Transmission and distribution	496,208	91,110	587,318
Sewer collection, treatment and disposal	249,124	-	249,124
Administration	182,059	187,261	369,320
Depreciation	305,531	50,227	355,758
Total operating expenses	<u>1,232,922</u>	<u>608,257</u>	<u>1,841,179</u>
Operating income (loss)	<u>(127,454)</u>	<u>25,626</u>	<u>(101,828)</u>
NON-OPERATING REVENUES (EXPENSES)			
Interest revenue	860	7,128	7,988
Intergovernmental	2,671,252	-	2,671,252
Miscellaneous revenue	13,022	770	13,792
Interest and amortization expense	<u>(61,856)</u>	<u>(37,983)</u>	<u>(99,839)</u>
Total non-operating revenues (expenses)	<u>2,623,278</u>	<u>(30,085)</u>	<u>2,593,193</u>
Changes in net assets	2,495,824	(4,459)	2,491,365
Net assets - beginning	<u>7,401,506</u>	<u>1,345,296</u>	<u>8,746,802</u>
Net assets - end	<u>\$ 9,897,330</u>	<u>\$ 1,340,837</u>	<u>\$ 11,238,167</u>

The accompanying notes are an integral part of the financial statements.

CITY OF PIKEVILLE, TENNESSEE
Validity Score Reporting Worksheet
 June 30, 2012

AWWA WLCC Free Water Audit Software: Reporting Worksheet

Water Audit Report for: **City of Pikeville, TN**
 Reporting Year: **2012** **7/2011 - 6/2012**

All volumes to be entered as: **MILLION GALLONS (US) PER YEAR**

WATER SUPPLIED ** Enter grading in column 'D'

Volume from own sources:	<input type="text" value="4"/>	<input type="text" value="187.166"/>	Million gallons (MG)/yr (MG/yr)
Wasted meter error adjustment (enter positive value):	<input type="text" value="7"/>	<input type="text" value="0.010"/>	under-registered MG/yr
Water imported:	<input type="text" value="10"/>	<input type="text" value="6.514"/>	MG/yr
Water exported:	<input type="text" value="5"/>	<input type="text" value="0.010"/>	MG/yr
WATER SUPPLIED:		<input type="text" value="193.680"/>	MG/yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="5"/>	<input type="text" value="97.921"/>	MG/yr
Billed unmetered:	<input type="text" value="m/a"/>	<input type="text" value="0.000"/>	MG/yr
Unbilled metered:	<input type="text" value="7"/>	<input type="text" value="2.608"/>	MG/yr
Unbilled unmetered:		<input type="text" value="2.471"/>	MG/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: MG/yr

WATER LOSSES (Water Supplied - Authorized Consumption) MG/yr

Apparent Losses

Unauthorized consumption:	<input type="text" value="2"/>	<input type="text" value="0.424"/>	MG/yr	Prct: <input type="text" value="0.46"/>	Value: <input type="text" value=""/>
---------------------------	--------------------------------	------------------------------------	-------	---	--------------------------------------

Default option selected for unauthorized consumption - a grading of 3 is applied but not displayed

Customer metering inaccuracies:	<input type="text" value="2"/>	<input type="text" value="10.000"/>	MG/yr	<input type="text" value=""/>	<input type="text" value="10.000"/>
Systematic data handling errors:	<input type="text" value="10"/>	<input type="text" value="2.693"/>	MG/yr	<input type="text" value=""/>	<input type="text" value=""/>

Apparent Losses: MG/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/yr

WATER LOSSES: MG/yr

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

NON-REVENUE WATER

NON-REVENUE WATER: MG/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="text" value="3"/>	<input type="text" value="50.0"/>	miles
Number of active & inactive service connections:	<input type="text" value="3"/>	<input type="text" value="1,829"/>	
Connection Density:		<input type="text" value="75"/>	conn./mile main
Average length of customer service line:	<input type="text" value="8"/>	<input type="text" value="12.0"/>	ft
Average operating pressure:	<input type="text" value="1"/>	<input type="text" value="80.0"/>	ps.

COST DATA

Total annual cost of operating water system:	<input type="text" value="7"/>	<input type="text" value="\$863,045"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="8"/>	<input type="text" value="\$6.43"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="7"/>	<input type="text" value="\$600.00"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="49.4"/>	-15.6%
Non-revenue water as percent by cost of operating system:	<input type="text" value="15.4"/>	
Annual cost of Apparent Losses:	<input type="text" value="\$59,731"/>	
Annual cost of Real Losses:	<input type="text" value="\$46,411"/>	

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="23.67"/>	gallons/connection/day
Real Losses per service connection per day:	<input type="text" value="N/A"/>	gallons/connection/day
Real Losses per length of main per day:	<input type="text" value="1,537.05"/>	gallons/mile/day
Real Losses per service connection per day per psi pressure:	<input type="text" value=""/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="26.92"/>	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	<input type="text" value="77.41"/>	million gallons/year
Infrastructure Leakage Index (ILI) (CARL/UARL):	<input type="text" value="2.87"/>	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 68 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Customer metering inaccuracies
- 2: Volume from own sources
- 3: Water exported

*Compliance
July 2013*

ROCKWOOD WATER, WASTEWATER AND NATURAL GAS SYSTEMS

STATEMENT OF REVENUE, EXPENSES AND CHANGE IN NET ASSETS

(continued)

Year Ended June 30, 2012

	<u>Water and Wastewater System</u>	<u>Natural Gas System</u>	<u>Totals</u>
OTHER INCOME (EXPENSE)			
Interest income	196	0	196
Interest expense	(107,902)	0	(107,902)
Amortization expense	(6,111)	0	(6,111)
Gain on disposal of assets	980	480	1,460
	<u>(112,836)</u>	<u>480</u>	<u>(112,356)</u>
INCOME BEFORE CAPITAL CONTRIBUTIONS	820,790	84,023	904,813
CAPITAL CONTRIBUTIONS	<u>1,016,973</u>	<u>0</u>	<u>1,016,973</u>
CHANGE IN NET ASSETS	1,837,763	84,023	1,921,786
NET ASSETS AT THE BEGINNING OF THE YEAR	<u>5,958,502</u>	<u>6,022,272</u>	<u>11,980,774</u>
NET ASSETS AT THE END OF THE YEAR	<u>\$ 7,796,265</u>	<u>\$ 6,106,295</u>	<u>\$ 13,902,560</u>

See the accompanying notes to the financial statements.

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.2

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[Click to access definition](#)

Water Audit Report for: **Rockwood Water Sewer and Gas**
 Reporting Year: **2012** / 7/2011 - 6/2012

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	10	873.890	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	8	0.000	MG/Yr
Water imported:	n/a	0.000	MG/Yr
Water exported:	7	151.399	MG/Yr
WATER SUPPLIED:		722.491	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	8	382.597	MG/Yr
Billed unmetered:	n/a	0.000	MG/Yr
Unbilled metered:	9	20.039	MG/Yr
Unbilled unmetered:	7	9.031	MG/Yr
AUTHORIZED CONSUMPTION:		411.667	MG/Yr

Click here: [?](#) for help using option buttons below

Pcnt: 1.25% Value:

Use buttons to select percentage of water supplied OR value

WATER SUPPLIED - AUTHORIZED CONSUMPTION: 310.824 MG/Yr

Apparent Losses

Unauthorized consumption:	7	1.806	MG/Yr
Customer metering inaccuracies:	9	21.191	MG/Yr
Systematic data handling errors:	8	5.000	MG/Yr
Apparent Losses:		27.998	

Pcnt: 0.25% Value:

Pcnt: 5.00% Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	7	282.826	MG/Yr
WATER LOSSES:		310.824	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	7	339.894	MG/Yr
--------------------	---	---------	-------

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	177.0	miles
Number of active AND inactive service connections:	8	4,250	
Connection density:		24	conn./mile main
Average length of customer service line:	8	20.0	ft
Average operating pressure:	4	100.0	psi

(pipe length between curbstop and customer meter or property boundary)

COST DATA

Total annual cost of operating water system:	10	\$2,483,181	\$/Year
Customer retail unit cost (applied to Apparent Losses):	4	\$6.80	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	9	\$559.00	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	47.0%
Non-revenue water as percent by cost of operating system:	14.7%
Annual cost of Apparent Losses:	\$190,384
Annual cost of Real Losses:	\$158,100

Operational Efficiency Indicators

Apparent Losses per service connection per day:	18.05	gallons/connection/day
Real Losses per service connection per day*:	N/A	gallons/connection/day
Real Losses per length of main per day*:	4,377.78	gallons/mile/day
Real Losses per service connection per day per psi pressure:		gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	62.63	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	282.83	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	4.52	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 83 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Customer retail unit cost (applied to Apparent Losses)
- 2: Water exported
- 3: Unauthorized consumption

For more information, click here to see the Grading Matrix worksheet

Systems under the WWFB July 2013		
SYSTEM	COUNTY	LAST AUDIT
Town of Alexandria	DeKalb	2012
City of Ashland City WL	Cheatham	2012
Town of Atwood	Carroll	2012
Town of Big Sandy	Benton	2012
Town of Carthage	Smith	2012
Coffee County WTA	Coffee	2012
City of Collinwood	Wayne	2010
City of Cowan	Franklin	2012
Town of Cumberland Gap WL	Claiborne	2012
Town of Decaturville WL	Decatur	2012
City of Decherd WL	Franklin	2011
City of Dunlap WL	Sequatchie	2012
City of Elizabethton WL	Carter	2012
Town of Englewood	McMinn	2012
City of Erin	Houston	2012
City of Friendship	Crockett	2012
City of Friendsville WL	Blount	2012
City of Grand Junction	Fayette	2012
Town of Greeneville	Greene	2012
Town of Halls	Lauderdale	2012
City of Harriman WL	Morgan	2012
Town of Henning	Lauderdale	2012
City of Henry	Henry	2012
Hiwassee Utili Commission	Bradley/McMinn	2012
City of Hohenwald WL	Lewis	2012
Town of Hollow Rock WL	Carroll	2012
Town of Hornbeak	Obion	2012
Town of Hornsby	Hardeman	2012
Humphreys County	Humphreys	2012
Town of Huntsville	Scott	2012
Town of Jasper	Marion	2012
City of Jellico WL	Campbell	2012
Town of Jonesborough	Washington	2012
City of Kenton WL	Gibson/Obion	2011
Town of Kimball	Marion	2012
City of Lake City WL	Anderson/Campbell	2011
City of Lakeland	Shelby	2012
City of Lenoir City WL	Loudon	2012
Lincoln County WL	Lincoln	2012
City of Lobelville WL	Perry	2012
City of McKenzie WL	Carroll	2012
City of Michie	McNairy	2012
City of Middleton	Hardeman	2012
Town of Monterey	Putnam	2012
Town of Mosheim	Greene	2012
Town of Mountain City WL	Johnson	2012
City of Niota	McMinn	2010
Town of Obion	Obion	2012
Town of Oliver Springs	Anderson/Morgan/Rc	2012
Town of Oneida	Scott	2012
City of Puryear	Henry	2012
City of Ramer	McNairy	2012

City of Red Boiling Springs		Macon	2012
Town of Sardis		Henderson	2012
Scott County Sewer System		Scott	2012
Town of Sharon		Weakley	2012
City of Spencer	WL	Van Buren	2012
City of Springfield	WL	Robertson	2012
City of Sunbright		Morgan	2012
Town of Tellico Plains	WL	Monroe	2012
Town of Trezevant	WL	Carroll	2012
City of Union City	WL	Obion	2012
Town of Vonore		Blount/Monroe	2012
City of Wartburg		Morgan	2012
Town of Wartrace		Bedford	2012
Watauga River Reg WA	WL	Carter	2012
City of Watertown	WL	Wilson	2010
City of Waverly	WL	Humphreys	2012
City of Waynesboro	WL	Wayne	2012
City of Westmoreland	WL	Sumner	2012
Town of Whiteville		Hardeman	2012
Town of Woodbury	WL	Cannon	2012

WATER LOSS STATUS								
<u>Utility system</u>	<u>original referral %</u>	<u>original audit referral date</u>	<u>subsequent review %</u>	<u>subsequent review date</u>	<u>subsequent review %</u>	<u>subsequent review date</u>	<u>subsequent review %</u>	<u>subsequent review date</u>
Ashland City	37.00%	6/30/2011	35.09	6/30/2012				
Collinwood	45.96%	6/30/2009						
Cowan	37.75%	6/30/2012						
Cumberland Gap	47.00%	6/30/2010	35.00%	6/30/2011	66/42.3%	6/30/2012		
Decaturville	35.09%	6/30/2009	34.77%	6/30/2010	43.43%	6/30/2011	44.72%	6/30/2012
Decherd	40.935%	6/30/2010	40.50%	6/30/2011				
Dunlap	54/NA	6/30/2012						
Elizabethton	49.99%	6/30/2010	54.92%	6/30/2011	55.68%	6/30/2012		
Erin	51.00%	6/30/2010	49.76%	6/30/2011	42.54%	6/30/2012		
Friendsville	40.35%	6/30/2010	38.05%	6/30/2011	62/28.4%	6/30/2012		
Grand Junction	45.55%	6/30/2010	not included	6/30/2011	not included	6/30/2012		
Halls	35.10%	6/30/2011	36.67%	6/30/2012				
Harriman	54.30%	6/30/2010	56.18%	6/30/2011	53.04	6/30/2012		
Henning	54.584%	6/30/2010	50.50%	6/30/2011	42/1.3%	6/30/2012		
Hohenwald	46.00%	6/30/2010	36.00%	6/30/2011	36.00%	6/30/2012		
Hollow Rock	58/1.1	6/30/2012						
Jellico	43.76%	6/30/2010	40.25%	6/30/2011	38.96%	6/30/2012		
Jonesborough	56.11%	6/30/2010	56.54%	6/30/2011	55.60%	6/30/2012		
Kenton	48.80%	6/30/2010	46.40%	6/30/2011				
Lake City	46.07%	6/30/2010	39.83%	6/30/2011				
Lenior City	34.62%	6/30/2010	37.70%	6/30/2011	38.60%	6/30/2012		
Lincoln County	38.76%	6/30/2010	38.95%	6/30/2011	36.66%	6/30/2012		
Lobelville	48.00%	6/30/2011	47.00%	6/30/2012				
McKenzie	54.02%	6/30/2010	53.28%	6/30/2011	47.00%	6/30/2012		
Mosheim	36.08%	6/30/2012						
Mountain City	42.67%	6/30/2010	45.23%	6/30/2011	38.10%	6/30/2012		
Oliver Springs	53.364%	6/30/2010	49.56%	6/30/2011	49.88%	6/30/2012		
Sharon	32.10%	6/30/2010	47.20%	6/30/2011	47.10%	6/30/2012		
Spencer	39.84%	6/30/2010	41.61%	6/30/2011	41.98%	6/30/2012		
Springfield	38.10%	6/30/2010	38.03%	6/30/2011	39.30%	6/30/2012		

Tellico Plains	52.88%	6/30/2010	51.24%	6/30/2011	46.33%	6/30/2012		
Trezevant	48.30%	6/30/2007	57.41%	6/30/2010	52.82%	6/30/2011	43.99%	6/30/2012
Union City	57/5.9	6/30/2012						
Wartrace	44.00%	6/30/2010	48.00%	6/30/2011	46.00%	6/30/2012		
Watauga River Regional	60.07%	6/30/2009	59.47%	6/30/2010	58.43%	6/30/2011	59.39%	6/30/2012
Watertown	40.88%	6/30/2008	48.69%	6/30/2009	58.14%	6/30/2010		
Waverly	47.64%	6/30/2010	52.00%	6/30/2011	51.06%	6/30/2012		
Waynesboro	86/37.2	6/30/2012						
Westmoreland	42.00%	6/30/2010	46.00%	6/30/2011	40.00%	6/30/2012		
Woodbury	46.00%	6/30/2010	44.06	6/30/2011	36.00%	6/30/2012		

Sunset Public Hearing Questions for
Water and Wastewater Financing Board
Created by Section 68-221-1008, *Tennessee Code Annotated*
(Sunset termination June 2014)

1. Provide a brief introduction to the Water and Wastewater Financing Board, including information about its purpose, statutory duties, staff and administrative attachment.

The Wastewater Facilities Act of 1987 created a Wastewater Financing Board within the Department of Environment and Conservation. Chapter 483 of the Public Acts of 1997 changed the Board to the Water and Wastewater Financing Board and included water systems within its jurisdiction. The Board determines and ensures the financial integrity of certain water systems and wastewater facilities by effecting reasonable user rates or system efficiencies, including negotiated consolidation, of certain water systems and wastewater facilities.

TCA Section 68-221-1009 establishes the statutory duties of the Board to:

- *Adopt, modify, repeal, and promulgate rules in accordance with the Uniform Administrative Procedures Act and, after due notice, to enforce rules and regulations which the Board deems necessary for proper administration;*
- *Investigate and determine the financial condition of water systems and wastewater facilities under its jurisdiction;*
- *To investigate public water systems which are considered to have excessive water loss;*
- *Effect the adoption of user rates necessary for the self-sufficient operation of certain water systems and wastewater facilities and to negotiate the consolidation of certain water systems and wastewater facilities;*
- *In the case of public water systems, investigate, with the assistance of the Department of Environment and Conservation and the Comptroller of the Treasury, and determine the financial, technical, and managerial capacity of the systems to comply with the requirements of the federal and state acts; and to require systems to take appropriate action to correct any deficiencies in such areas, including, but not limited to, changes in ownership, management, accounting, rates, maintenance, consolidation, alternative water supply, or other procedures.*

The Board is authorized to act only as to those water systems and wastewater facilities brought before it upon recommendation of the Comptroller of the Treasury as provided in TCA Section 68-221-1010.

Public Acts of 2007, Chapter 86, changed the administrative attachment of the Board from the Department of Environment and Conservation to the Comptroller of the Treasury. Staff to the Board consists of:

Jim Arnette, Director, Division of Local Government Audit

*Joyce Welborn, Legislative Auditor 4, Board Coordinator
Rachel Newton, Assistant General Counsel to the Comptroller of the Treasury*

2. Provide a list of current board members and describe how membership complies with Section 68-221-1008, *Tennessee Code Annotated*. Who appoints members? Are there any vacancies on the board? If so, what steps have been taken to fill the vacancies?

The Board consists of the Comptroller of the Treasury or his designee, who serves as Chairman, the Commissioner of the Department of Environment and Conservation or his designee, and seven members appointed by the Governor to three-year terms expiring on June 30 of the appropriate year.

Member

*Ann Butterworth, Chairman
Tom Moss
Vacant by resignation
Drexel Heidel
Ben Bolton
Kenneth Wiggins
Betsy Crossley
Tamika Parker
Randy Wilkins*

Representing

*Comptroller of the Treasury
Dept of Environment and Conservation
Government Finance/Minority Citizens
Active Employee/Utility Districts
Manufacturing Interests
Active Employee/Municipal Water System
Municipalities
Tennessee Environmental Council
Utility Districts*

3. Does membership include a member who is sixty years of age or older? A member who is a racial minority? A member who is female?

The Board has three (3) female members, one (1) minority member, and no members sixty or older.

4. What per diem or travel reimbursement do members receive? How much was paid to board members during fiscal years 2011 and 2012?

Board members are reimbursed based upon the State Comprehensive Travel Regulations, Board Member Reimbursement Rate schedule. Travel expenditures for FY 11 were \$2,858.37; for FY 12, travel expenditures were \$1,700.50.

5. What were the board's revenues (by source) and expenditures (by object) for fiscal years 2011 and 2012?

There are no revenues directly attributed to the Board. Expenditures relative to the Board for FY11 and FY 12 were charged to the Comptroller of the Treasury, Office of State and Local Finance. Staff to the Board was transferred to the Division of Local Government Audit in January 2012. Subsequent expenses are funded by that Division.

6. How many times did the board meet in fiscal years 2011 and 2012, and how many members were present at each meeting?

During FY 11, the Board held five (5) meetings with membership attendance of 7, 8, 8, 7, and 5. During FY 12, there were four (4) meetings with attendance of 7, 7, 9, and 6.

7. Is the board subject to Sunshine law requirements (Section 8-44-101 et seq., *Tennessee Code Annotated*) for public notice of meetings, prompt and full recording of minutes and public access to minutes? If so, what procedures does the board have for informing the public of its meetings, who keeps the official minutes of board meetings and what steps are taken to make the minutes available to the public?

The Board is subject to the requirements of the Sunshine law. The Board has its own website under the general website of the Comptroller of the Treasury: <http://www.comptroller.tn.gov/WWFB>. All meeting notices are posted in advance of the meeting, usually one calendar year at a time, on that website. The minutes of the Board are maintained in the Division of Local Government Audit. Minutes are furnished on request in accordance with the Tennessee Public Records Act.

8. What were the major accomplishments of the board during fiscal years 2011 and 2012? Specifically describe the nature and extent of the board's activities as they relate to each of the board's duties and responsibilities set out in Section 68-221-1009, *Tennessee Code Annotated*.

In October 2010 and again in June 2012, the Board voted to adopt American Water Works Water Loss reporting format. This puts Tennessee as one of the leaders in the nation for water accountability. Although still in its "learning stage," the accountability will allow the monitoring of one of the state's most valuable resources – water. During the two-year period under review, the Board approved 51 compliance reports. This reflects that actions taken by the various utility systems, under the guidance of the Board, are in compliance with state law. Most of the other utility systems have plans in place to reach compliance. Those without plans have not yet appeared before the Board.

9. Has the board promulgated rules as authorized at Section 68-221-1009(a)(1), *Tennessee Code Annotated*? If so please cite the reference.

Yes, the rules are in Chapter 1740-01.

10. What reports does the board prepare on its operations, activities and accomplishments and who receives the reports? Please attach copies of all such reports issued during fiscal years 2011 and 2012.

Until the 2013 Legislative session, there was no statutory requirement for preparing such a report; however, the Board has consistently submitted a report to the Governor at the beginning of each calendar year. Attached is a copy of the annual reports for 2011 and 2012.

11. How many water systems and wastewater facilities were brought before the board during fiscal years 2011 and 2012, upon recommendation of the Comptroller of the Treasury? Briefly summarize the board's orders and determinations in those cases. Were all hearings scheduled within 60 days from the receipt of the audit report as required by Section 68-221-1010, *Tennessee Code Annotated*?

All the information included in the annual report to the Governor is done based on a calendar year, therefore, information reflected here is by calendar year. During 2011, the Board heard 54 cases, 28 status reports and 14 compliance reports. During 2012, the Board heard 34 cases, 10 status reports, and 37 compliance reports.

The resolution to the cases mostly involved rate increases, but also included plans involving meter change out and rate or fee restructuring, reduction of expenses, or receipt of grant funds

All cases were scheduled within 60 days of receipt of the audit report

12. How many reviews of board decisions were held during fiscal years 2011 and 2012 and who conducted the hearings (the board, one or more board members, or an administrative judge)? How many decisions were reversed? Upheld? Amended?

There were no reviews of Board decisions.

13. How many cases did the board refer to chancery court during the last two years because facilities failed to adhere to the board's final orders? What was the outcome of those cases?

There were no cases referred to Chancery Court.

14. Describe the board's process for investigating and determining the financial condition of wastewater facilities.

Upon receipt of the audited financial statements from the Division of Local Government Audit Review Team (which constitutes the referral by the Comptroller of the Treasury), the municipality is notified and a hearing date is set. Staff, sometimes with the assistance of Municipal Technical Advisory Service (MTAS), will work with the municipality to develop a plan for addressing the situation. A visit is made to meet with city staff or even the entire city council or board. A plan is developed that will eliminate the "financially distressed" or excessive water loss condition within the

guidelines previously established by the Board. The Board then endorses or rejects the plan as adopted by the municipality.

15. Does the board have any policies in place to address potential conflicts of interest by board members, board employees, or other state employees who work with the board in any capacity?

The Comptroller of the Treasury requires that the members sign conflict of interest forms. There are no policies in place regarding conflicts of interest.

16. Describe any items related to the board that require legislative attention and your proposed legislative changes.

There are no proposed changes or items that require legislative attention at this time.

17. Should the board be continued? To what extent and in what ways would the absence of the board endanger the public health, safety or welfare?

Yes, the Board should continue. The Board has addressed the “financially distressed” condition of 222 entities in its twenty-six year history. There are various statutes in the Tennessee Code Annotated which require municipalities to have sufficient rates or revenues to cover expenses, including debt payments, depreciation, operations, etc. This board is the “enforcement arm” that has authority through Chancery Court to force a municipality to comply with such statutes. There are currently 75 municipalities, counties or authorities under the jurisdiction of the Board.

Without the Board in place to require the utility systems to adjust rates, many would fall into serious debt issues or states of disrepair which could jeopardize the health and well-being of the citizens of Tennessee.

18. Please list all board programs or activities that receive federal financial assistance and, therefore are required to comply with Title VI of the Civil Rights Act of 1964. Include the amount of federal funding received by program/activity.

[Federal financial assistance includes:

- (1) Grants and loans of Federal funds,
- (2) The grant or donation of Federal Property and interests in property,
- (3) The detail of Federal personnel,
- (4) The sale and lease of, and the permission to use (on other than a casual or transient basis), Federal property or any interest in such property without consideration or at a nominal consideration, or at a consideration which is reduced for

the purpose of assisting the recipient, or in recognition of the public interest to be served by such sale or lease to the recipient, and

(5) Any federal agreement, arrangement, or other contract which has as one of its purposes the provision of assistance.

28 C.F.R. Sec. 42.102(c)]

[The term recipient means any State, political subdivision of any State, or instrumentality of any State or political subdivision, any public or private agency, institution, or organization, or other entity, or any individual, in any State, to whom Federal financial assistance is extended, directly or through another recipient, for any program, including any successor, assign, or transferee thereof, but such term does not include any ultimate beneficiary under any such program.

28 C.F.R. Sec. 42.102(f)]

The Board receives no federal monies, nor does the Office of the Comptroller of the Treasury. The Board operates within the general administration budget of the Division of Local Government Audit within the Office of the Comptroller of the Treasury.

If the board does receive federal assistance, please answer questions 19 through 26. If the board does not receive federal assistance, proceed directly to question 25.

19. Does your board prepare a Title VI plan? If yes, please provide a copy of the most recent plan.
20. Does your board have a Title VI coordinator? If yes, please provide the Title VI coordinator's name and phone number and a brief description of his/her duties. If not, provide the name and phone number of the person responsible for dealing with Title VI issues.
21. To which state or federal agency (if any) does your board report concerning Title VI? Please describe the information your board submits to the state or federal government and/or provide a copy of the most recent report submitted.
22. Describe your board's actions to ensure that board staff and clients/program participants understand the requirements of Title VI.
23. Describe your board's actions to ensure it is meeting Title VI requirements. Specifically, describe any board monitoring or tracking activities related to Title VI, and how frequently these activities occur.
24. Please describe the board's procedures for handling Title VI complaints. Has your board received any Title VI-related complaints during the past two years? If yes,

please describe each complaint, how each complaint was investigated, and how each complaint was resolved (or, if not yet resolved, the complaint's current status).

25. Please provide a breakdown of current board staff by title, ethnicity, and gender.

The Director is a white male, the Legal Counsel is a white female, and the Board Coordinator is a white female.

26. Please list all board contracts, detailing each contractor, the services provided, the amount of the contract, and the ethnicity of the contractor/business owner.

The Comptroller of the Treasury has no contracts for assistance.

Water and Wastewater Financing Board				
Members: 7 appointed by the Governor and 2 Ex-officio (Comptroller/designee & Commissioner/Environment & Conservation/designee)				
Terms: 3 years		Meeting frequency: meets bimonthly or as necessary		
MEMBERS & ADDRESSES	PHONE	E-MAIL	REPRESENTING	TERM ENDS
Ann Butterworth James K. Polk Building, 17th Flr Nashville, TN 37243-1402 resigned	615-401-7910	Ann.Butterworth@cot.tn.gov	Comptroller's Designee Government Finance	No Expiration 6/30/2014
Drexel Heidel Manager/Engineer West Knox Utility District PO Box 51370 Knoxville, TN 37950-1370	865-862-6701	WKUDdrex@aol.com	Active employee of a utility district	6/30/2015
Ben Bolton EnSafe 220 Athens Way, Suite 410 Nashville, TN 37228	615-587-5700	bbolton@ensafe.com	Manufacturing Interests	6/30/2012
Tom Moss TN Dept of Environment & Conservation 401 Church Street L & C Tower, 6th Floor Nashville, TN 37243	615-532-0191	Tom.Moss@tn.gov	TN Dept. of Enviroment and Conservation Comissioner Designee	No Expiration
Tamika Parker 5685 Old Hickory Blvd. Nashville, TN 37218	615-942-6988	tparkerpe@gmail.com	Environmental Interests	6/30/2015
Kenneth Wiggins City of Alcoa 725 Universal St Alcoa, TN 37701	865-380-4802	kwiggins@cityofalcoa-tn.gov	Active employee of a municipal water system	6/30/2015
Randy Wilkins East Montgomery Utilty District 5195 Highway 41A S Clarksville, TN 37043-7101	931-368-1921	rwilkins@emud.us	Utility Districts	6/30/2016
Betsy Crossley 276 Stratton Court Brentwood, TN 37027	615-370-0629	crossleyb@brentwood-tn.org	Municipalities	6/30/2014